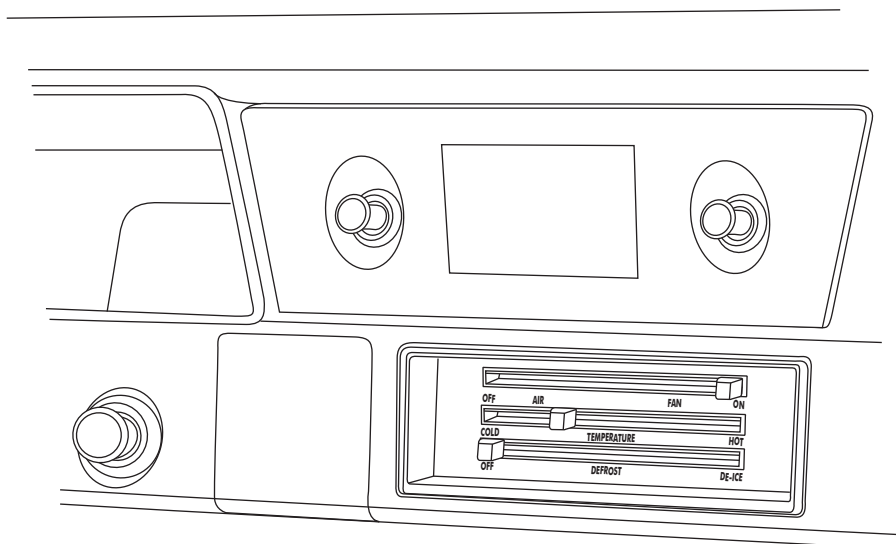




an ISO 9001: 2008 Registered Company

# 1966-67 NOVA

CONTROL PANEL  
CONVERSION KIT  
473062



18865 GOLL ST. - SAN ANTONIO, TX. - 78266 ph.210-654-7171 - fax 210-654-3113



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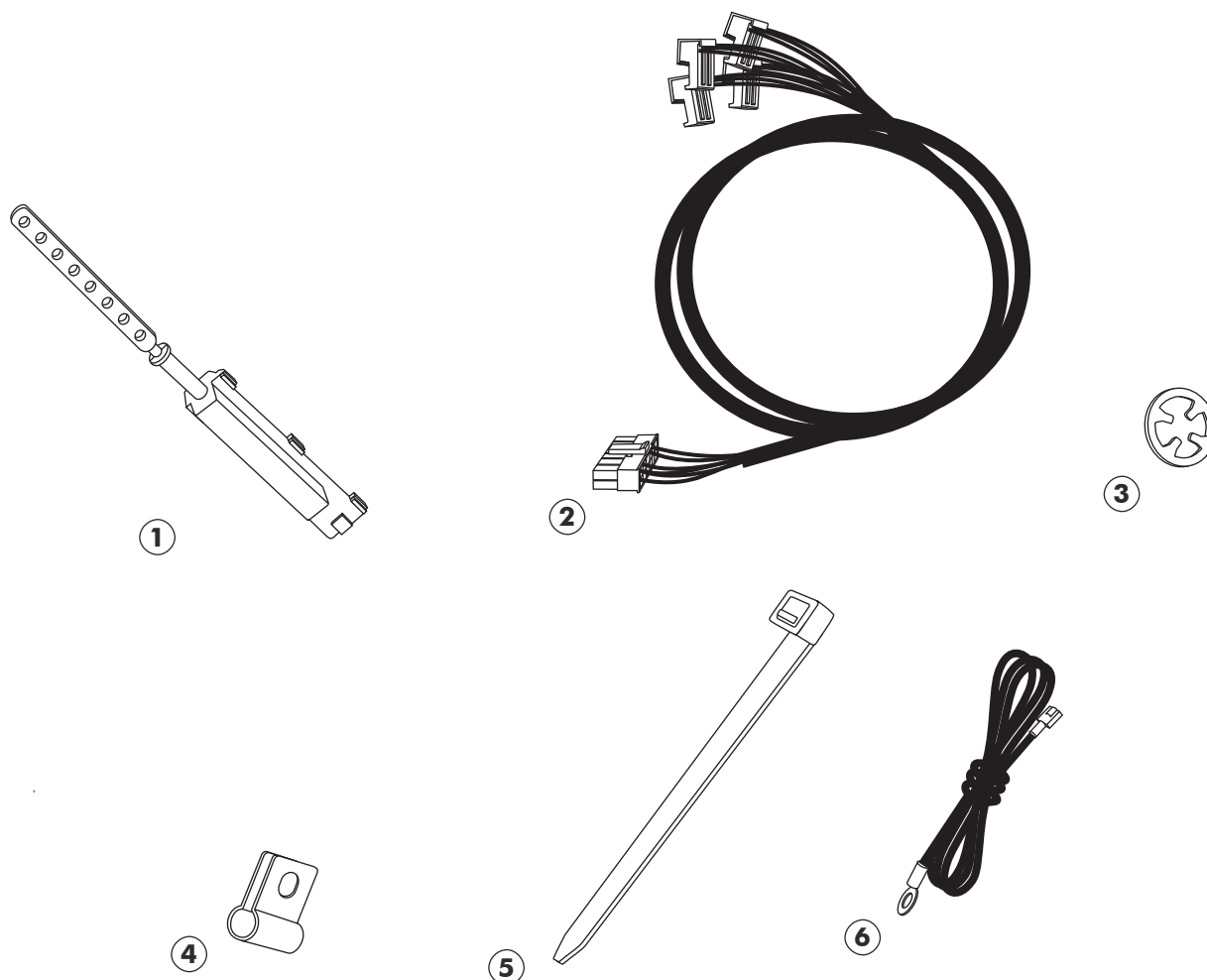
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**CONTROL KIT  
473062**

No	QTY	PART No.	DESCRIPTION
1.	3	112002-SUA	SLIDE POT ASM
2.	1	232002-VUA	GEN IV UNIVERSAL CONTROL HARNESS
3.	3	65976-VUE	3/16" PUSH-ON RING
4.	3	491010-VUR	SLIDE POT CLAMP
5.	5	21301-VUP	4" TIE WRAP
6.	1	231520	GROUND WIRE

**\*\* 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.**



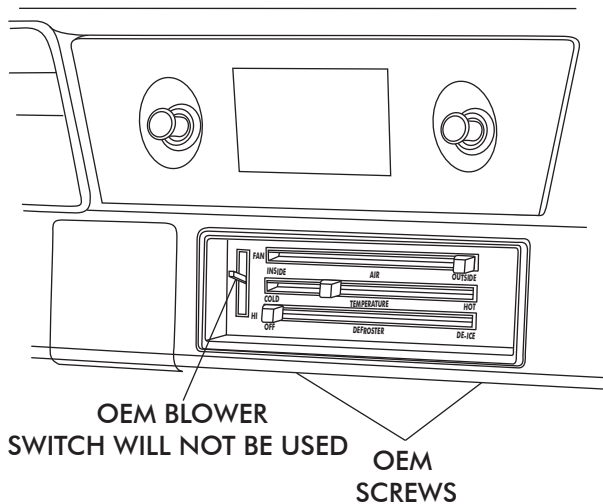


## CONTROL PANEL CONVERSION INSTRUCTIONS FOR 1966-67 NOVA

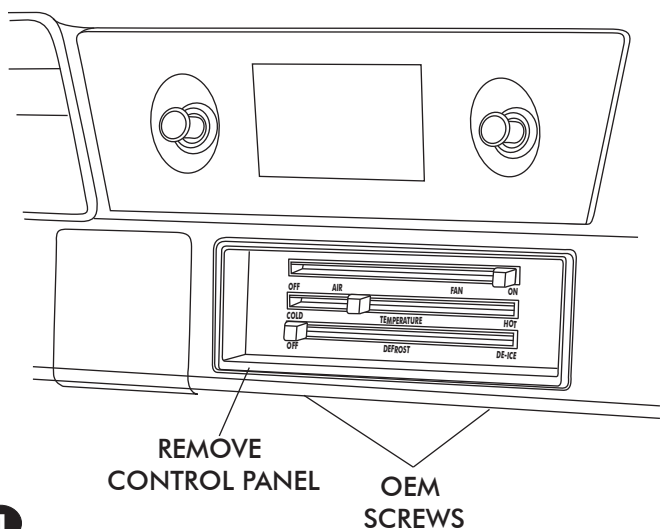
### REMOVING OEM CONTROL PANEL

- REMOVE (2) OEM MOUNTING SCREWS FROM BOTTOM OF DASH (RETAIN SCREWS). SEE FIGURE 1 BELOW.
- DISCONNECT CABLES, WIRES FROM BACK OF CONTROL PANEL.
- REMOVE THE CONTROL PANEL.
- REMOVE OEM BLOWER SWITCH AS SHOWN IN FIGURE 1a. (NON AC CONTROL PANEL)

**66-67 NOVA  
w AC SHOWN**

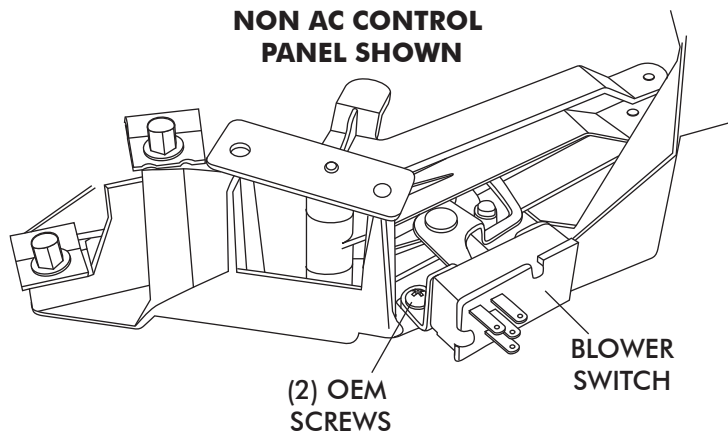


**66-67 NOVA  
wo AC SHOWN**



**FIGURE 1**

**NON AC CONTROL  
PANEL SHOWN**

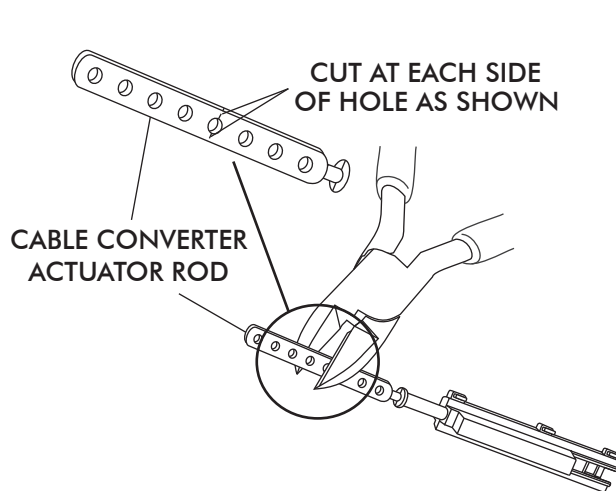


**FIGURE 1a**

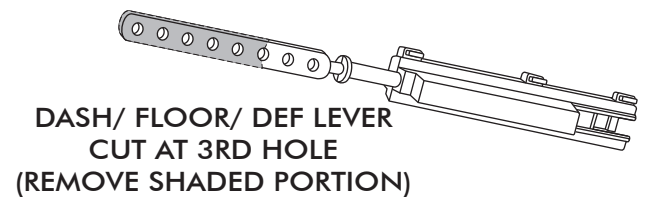
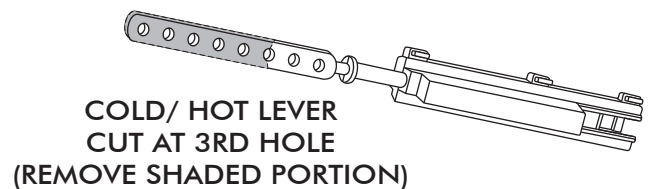
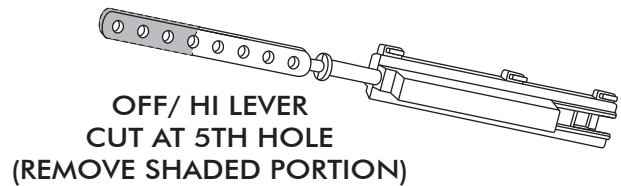


## CABLE CONVERTER ASSEMBLY MODIFICATIONS

- LOCATE THE (3) CABLE CONVERTER ASSEMBLIES, AND USING A PAIR OF WIRE CUTTERS, CUT CABLE CONVERTER ACTUATOR RODS AS SHOWN IN FIGURE 2 BELOW.

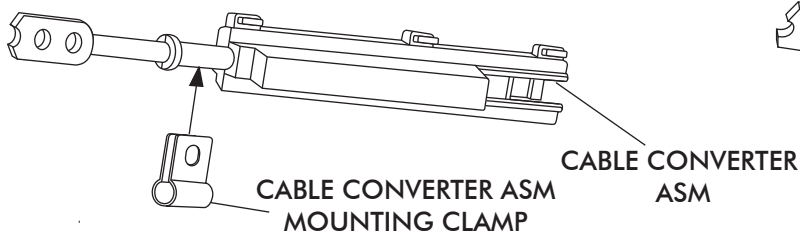


**FIGURE 2**

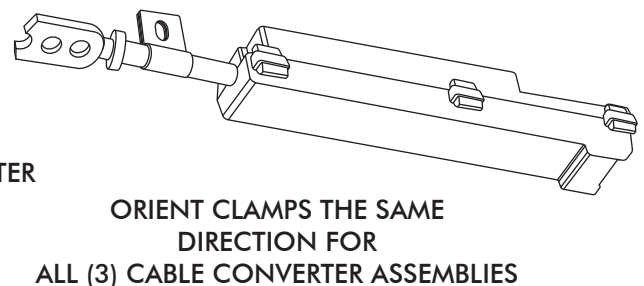


## CABLE CONVERTER ASSEMBLY MOUNTING CLAMP INSTALLATION

- INSTALL CABLE CONVERTER ASM MOUNTING CLAMPS, SEE FIGURE 3 BELOW



**FIGURE 3**



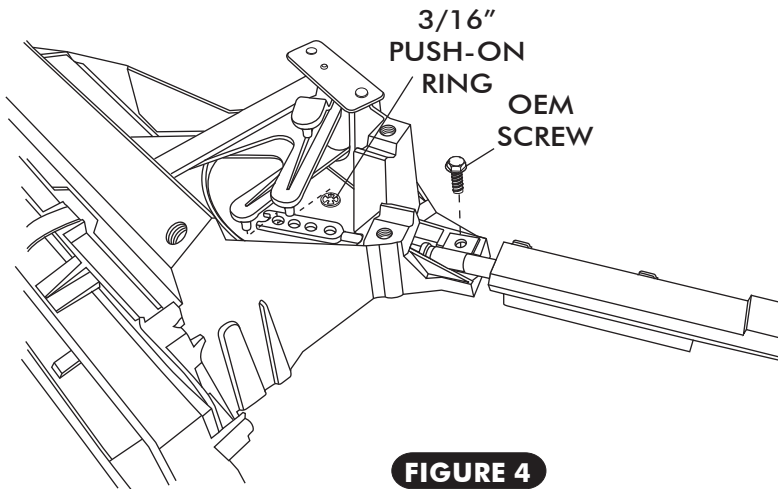
**ORIENT SLIDE POT ASSEMBLIES AS SHOWN AND INSTALL MOUNTING CLAMPS AS SHOWN. (NOTE: ORIENT CLAMPS IN RELATION TO THE (3) HOUSING SNAPS ON SLIDE POT ASSEMBLY)**



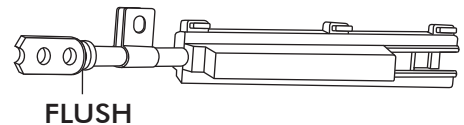
## CABLE CONVERTER ASSEMBLY INSTALLATION

### OFF/ HI CABLE CONVERTER ASSEMBLY

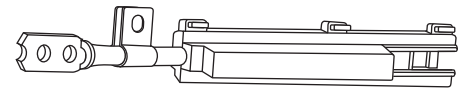
- ☐ FLIP CONTROL PANEL OVER AS SHOWN IN FIGURE 4 BELOW.
- ☐ INSTALL CABLE CONVERTER ASM ON THE OFF/ HI LEVER. SEE FIGURE 4 BELOW.
- ☐ INSTALL CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 4 BELOW.
- ☐ SECURE THE CABLE CONVERTER ASM TO THE CONTROL PANEL USING THE OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION. SEE FIGURE 4 BELOW.
- ☐ SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN CLAMP BEFORE SCREW IS TIGHTENED, POSITION CABLE CONVERTER ASSEMBLY SUCH THAT THE FLAT PART OF THE ROD IS AS CLOSE TO FLUSH AS POSSIBLE WITH THE END OF HOUSING AT THE LEVER'S INNER MOST POSITION. SEE FIGURE 4.
- ☐ SECURE CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 3/16 PUSH-ON RING AS SHOWN IN FIGURE 4 BELOW.



**FIGURE 4**



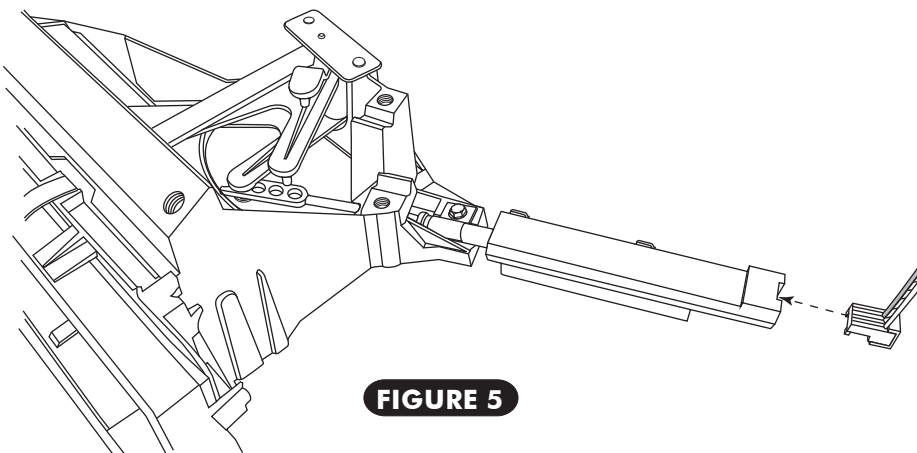
ROD SHOWN IN APPROX.  
INNER MOST POSITION



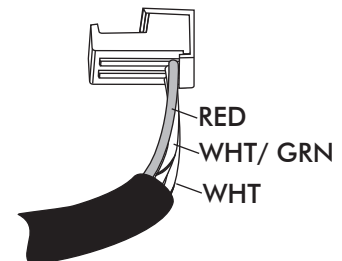
NOTE: DO NOT ALLOW ROD TO  
SEPARATE HOUSING WHEN  
ROD IS IN INNER MOST POSITION.

## CONTROL HARNESS

- ☐ LOCATE THE CONTROL PANEL WIRE HARNESS AND PLUG THE CORRESPONDING WIRES INTO THE CORRECT CABLE CONVERTER ASSEMBLY AS SHOWN IN FIGURE 5 BELOW.



**FIGURE 5**

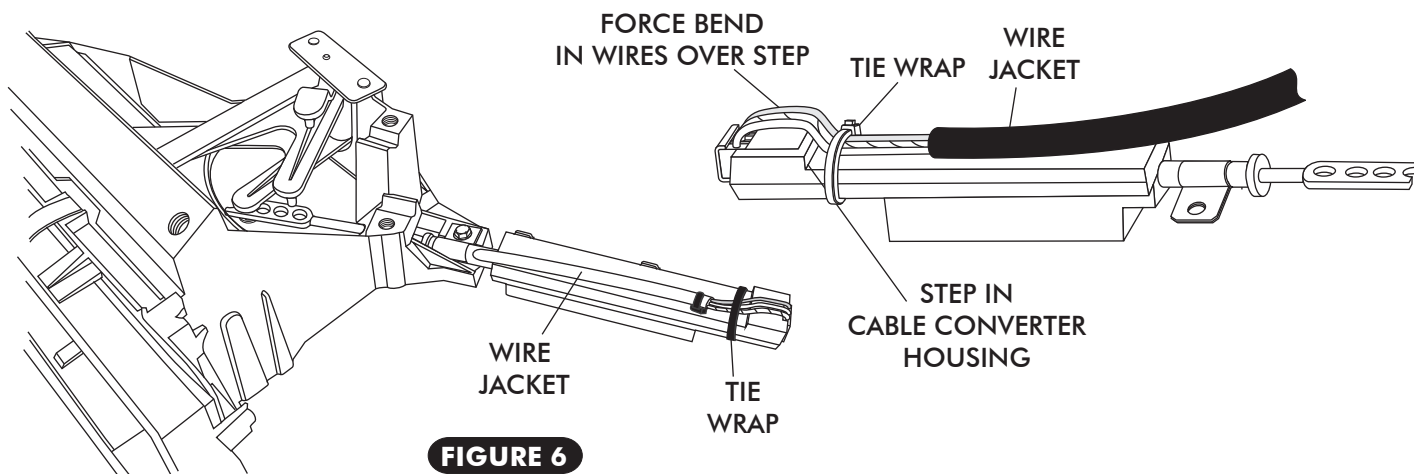


OFF/ HI  
CABLE CONVERTER  
ASSEMBLY



## CONTROL HARNESS CONT.

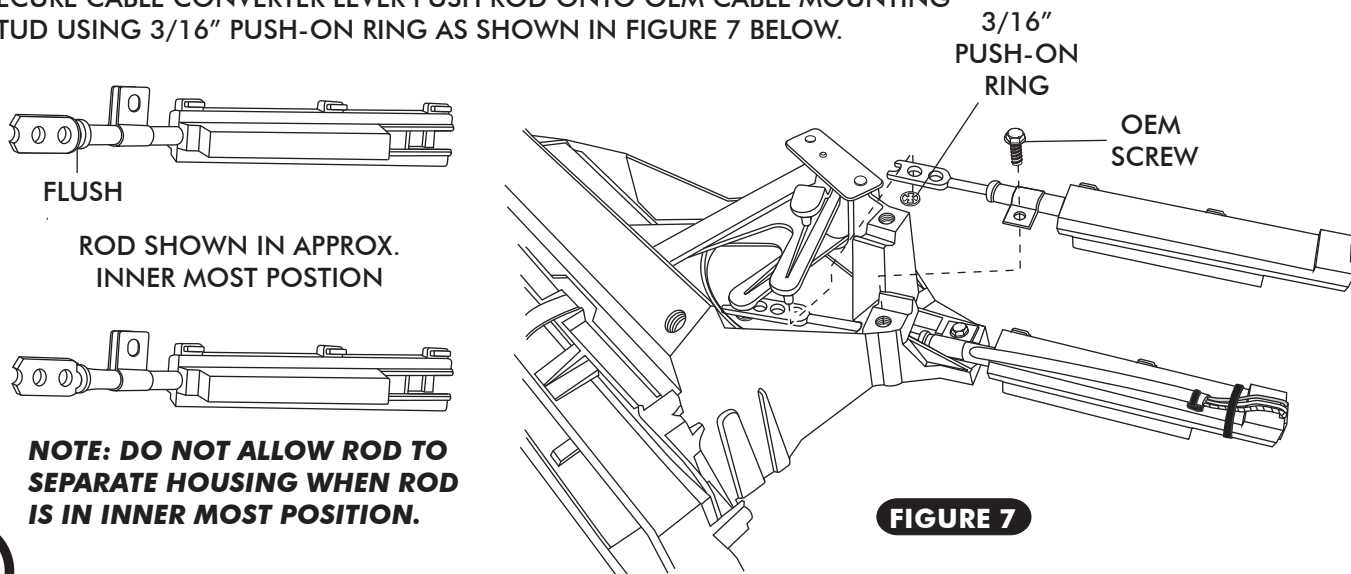
- ONCE WIRES ARE CORRECTLY PLUGGED INTO CABLE CONVERTER ASSEMBLY, SECURE WIRES TO THE CABLE CONVERTER ASSEMBLY USING TIE WRAPS (SUPPLIED). SEE FIGURE 6 BELOW. THE TIE WRAP MUST BE LOCATED BETWEEN THE END OF THE WIRE JACKET AND THE STEP IN THE CABLE CONVERTER HOUSING FORCING A BEND IN EACH WIRE AS THEY PASS OVER THE STEP IN THE CABLE CONVERTER HOUSING. HEAD OF TIE WRAP MUST FALL ON EDGE OF HOUSING AS SHOWN TO REMAIN TIGHT. ENSURE THAT THE TIE WRAPS ARE SNUG ENOUGH THAT THE WIRES CANNOT MOVE. SEE FIGURE 6.



**FIGURE 6**

## COLD/HOT CABLE CONVERTER ASSEMBLY

- INSTALL CABLE CONVERTER ASM ON THE COLD/ HOT LEVER. SEE FIGURE 7 BELOW.
- INSTALL CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 7 BELOW.
- SECURE THE CABLE CONVERTER ASM TO THE CONTROL PANEL USING OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION, SEE FIGURE 7 BELOW.
- SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN CLAMP BEFORE SCREW IS TIGHTENED, POSITION CABLE CONVERTER ASSEMBLY SUCH THAT THE FLAT PART OF THE ROD IS AS CLOSE TO FLUSH AS POSSIBLE WITH THE END OF HOUSING AT THE LEVER'S INNER MOST POSITION. SEE FIGURE 7.
- SECURE CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 3/16" PUSH-ON RING AS SHOWN IN FIGURE 7 BELOW.



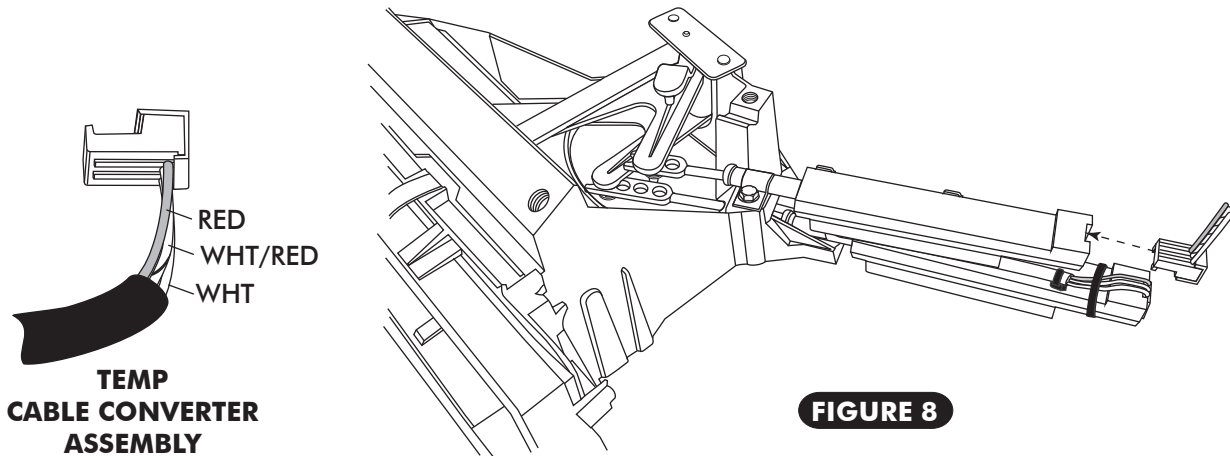
**FIGURE 7**

**NOTE: DO NOT ALLOW ROD TO SEPARATE HOUSING WHEN ROD IS IN INNER MOST POSITION.**



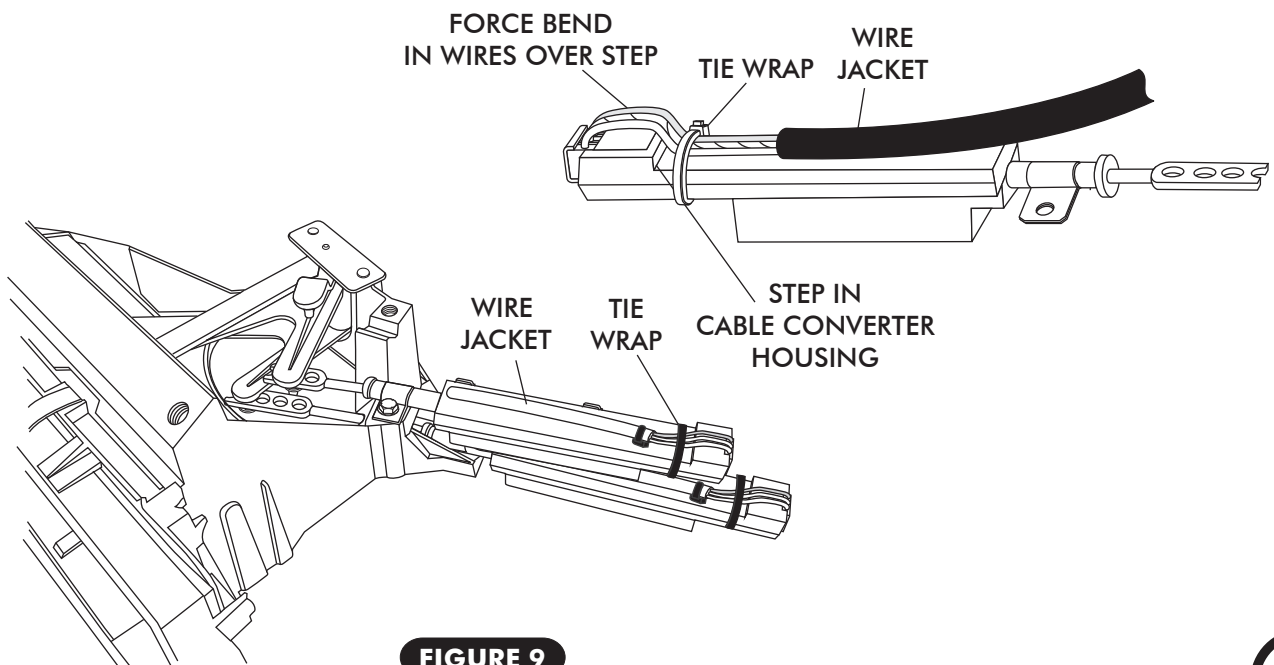
## CONTROL HARNESS

- LOCATE THE CONTROL PANEL WIRE HARNESS AND PLUG THE CORRESPONDING WIRES INTO THE CORRECT CABLE CONVERTER ASSEMBLY AS SHOWN IN FIGURE 8 BELOW.



## CONTROL HARNESS CONT.

- ONCE WIRES ARE CORRECTLY PLUGGED INTO CABLE CONVERTER ASSEMBLY, SECURE WIRES TO THE CABLE CONVERTER ASSEMBLY USING TIE WRAPS (SUPPLIED). SEE FIGURE 9 BELOW. 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 THEY PASS OVER THE STEP IN THE SLIDE POT HOUSING. HEAD OF TIE WRAP MUST FALL ON EDGE OF HOUSING AS SHOWN TO REMAIN TIGHT. ENSURE THAT THE TIE WRAPS ARE SNUG ENOUGH THAT THE WIRES CANNOT MOVE. SEE FIGURE 9.



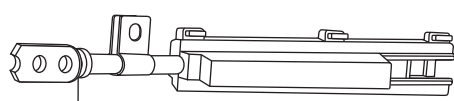




## CABLE CONVERTER ASSEMBLY INSTALLATION

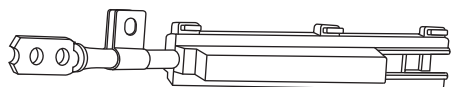
### DASH/ FLR/ DEF CABLE CONVERTER ASSEMBLY

- ☐ INSTALL CABLE CONVERTER ASM ON THE DASH/ FLR/ DEF LEVER. SEE FIGURE 10 BELOW
- ☐ INSTALL CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 10 BELOW.
- ☐ SECURE THE CABLE CONVERTER ASM TO THE CONTROL PANEL USING THE OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION. SEE FIGURE 10 BELOW.
- ☐ SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN CLAMP BEFORE SCREW IS TIGHTENED, POSITION CABLE CONVERTER ASSEMBLY SUCH THAT THE FLAT PART OF THE ROD IS AS CLOSE TO FLUSH AS POSSIBLE WITH THE END OF HOUSING AT THE LEVER'S INNER MOST POSITION. SEE FIGURE 10.
- ☐ SECURE CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 3/16 PUSH-ON RING AS SHOWN IN FIGURE 10 BELOW.

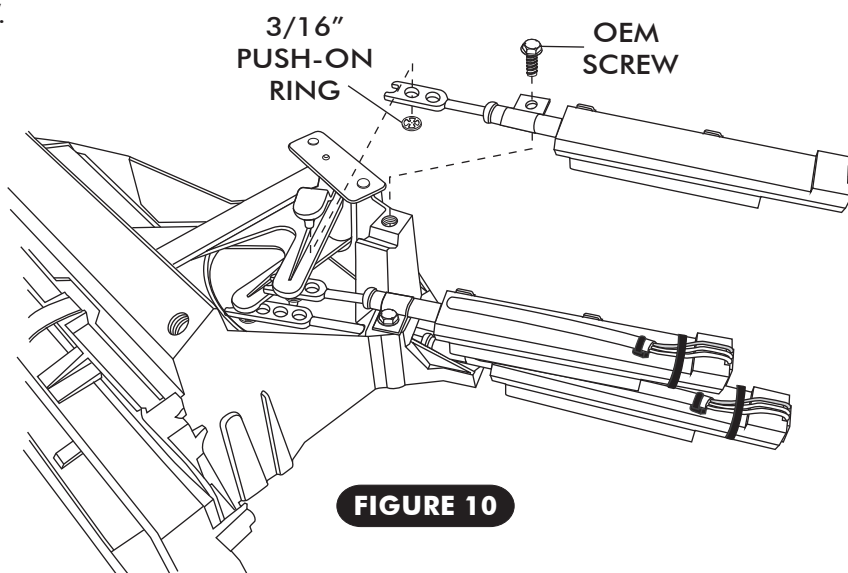


FLUSH

ROD SHOWN IN APPROX.  
INNER MOST POSITION



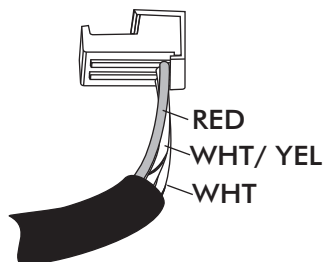
NOTE: DO NOT ALLOW ROD TO  
SEPARATE HOUSING WHEN  
ROD IS IN INNER MOST POSITION.



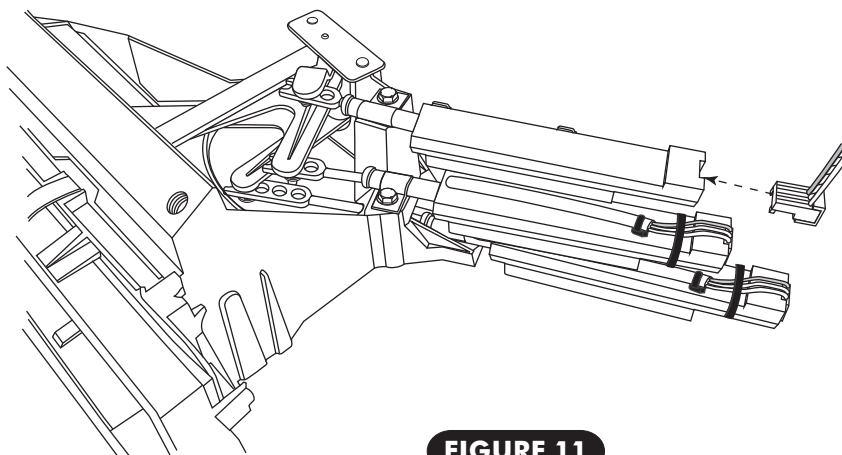
**FIGURE 10**

## CONTROL HARNESS

- ☐ LOCATE THE CONTROL PANEL WIRE HARNESS AND PLUG THE CORRESPONDING WIRES INTO THE CORRECT CABLE CONVERTER ASSEMBLY AS SHOWN IN FIGURE 11 BELOW.



**DASH/ FLR/ DEF  
CABLE CONVERTER  
ASSEMBLY**

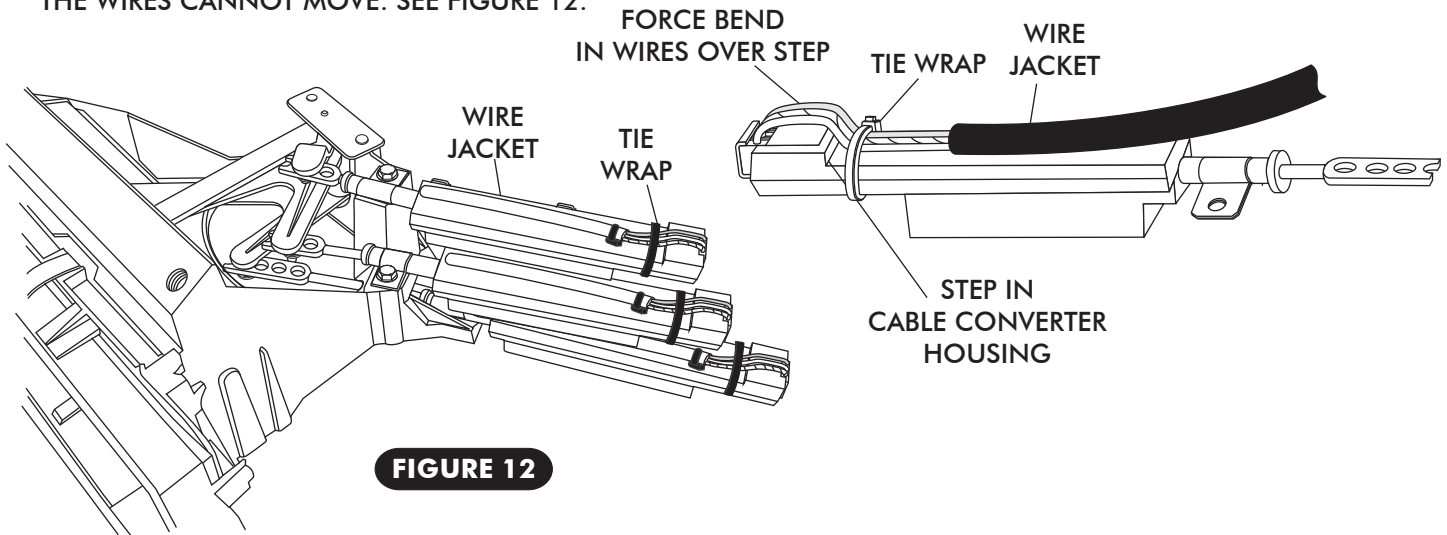


**FIGURE 11**



## CONTROL HARNESS CONT.

- ONCE WIRES ARE CORRECTLY PLUGGED INTO CABLE CONVERTER ASSEMBLY, SECURE WIRES TO THE CABLE CONVERTER ASSEMBLY USING TIE WRAPS (SUPPLIED). SEE FIGURE 12 BELOW. 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 THEY PASS OVER THE STEP IN THE SLIDE POT HOUSING. HEAD OF TIE WRAP MUST FALL ON EDGE OF HOUSING AS SHOWN TO REMAIN TIGHT. ENSURE THAT THE TIE WRAPS ARE SNUG ENOUGH THAT THE WIRES CANNOT MOVE. SEE FIGURE 12.

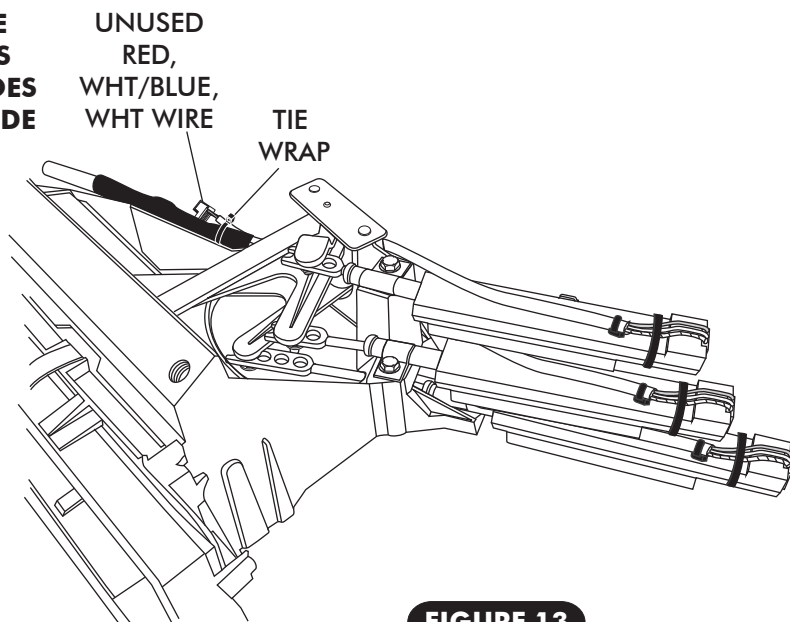


**FIGURE 12**

## CONTROL HARNESS FINAL STEP

- USING THE SUPPLIED TIE-WRAP, TIE THE WIRES TO THE CONTROL PANEL AS SHOWN IN FIGURE 13, BELOW.
- CONFIRM THAT WIRES ARE SECURED AND DO NOT INTERFERE WITH LEVER OPERATION OR CABLE CONVERTER ASSEMBLY.

**NOTE: TIE THE UNUSED WIRE TO THE CONTROL PANEL APPROXIMATELY AS SHOWN, ENSURE THAT THE WIRE DOES NOT INTERFERE WITH LEVERS OR SLIDE POT ASSEMBLES.**

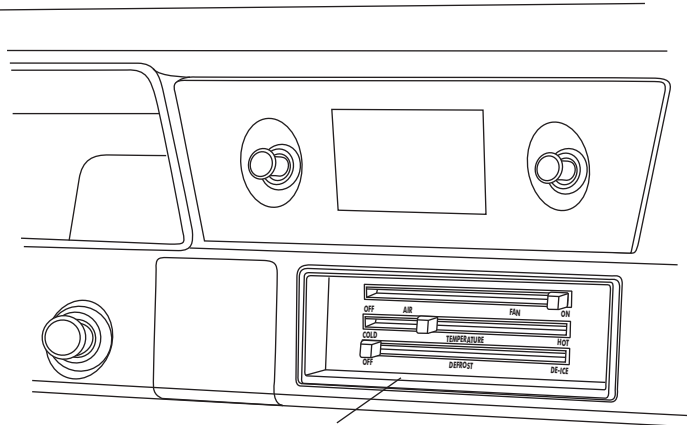


**FIGURE 13**



## FINAL STEPS

- ☐ REINSTALL CONTROL PANEL IN DASH USING THE (2) OEM SCREWS.

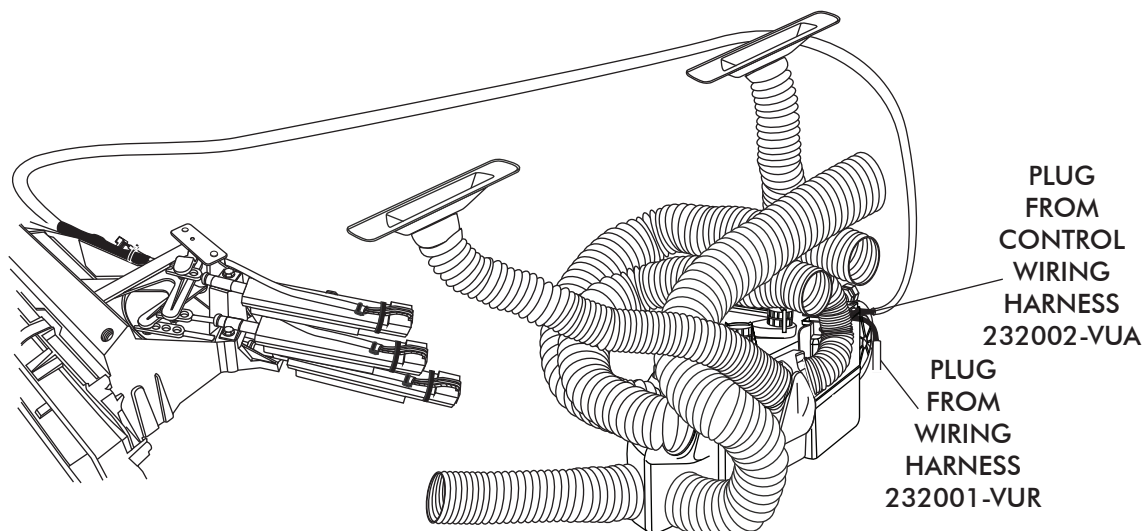


**FIGURE 14**

REINSTALL  
CONTROL  
PANEL

## FINAL STEPS CONT.

- ☐ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE. SEE FIGURE 15 BELOW.
- ☐ WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 14.
- ☐ CONTROL PANEL CALIBRATION PROCEDURE AND OPERATION INSTRUCTIONS:
  - ☐ 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.
  - ☐ LOCATE THE GRAY WIRE WITH AN UNUSED CONNECTOR IN THE WIRING HARNESS NEAR THE TWO CABLE HARNESS RELAYS. THE WIRE IS LABELED PRGM ON THE WIRING DIAGRAM ON PAGE 14.
  - ☐ 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.
  - ☐ TO CALIBRATE THE CONTROL PANEL FOLLOW THE CALIBRATION PROCEDURES ON PAGE 12 & 13.



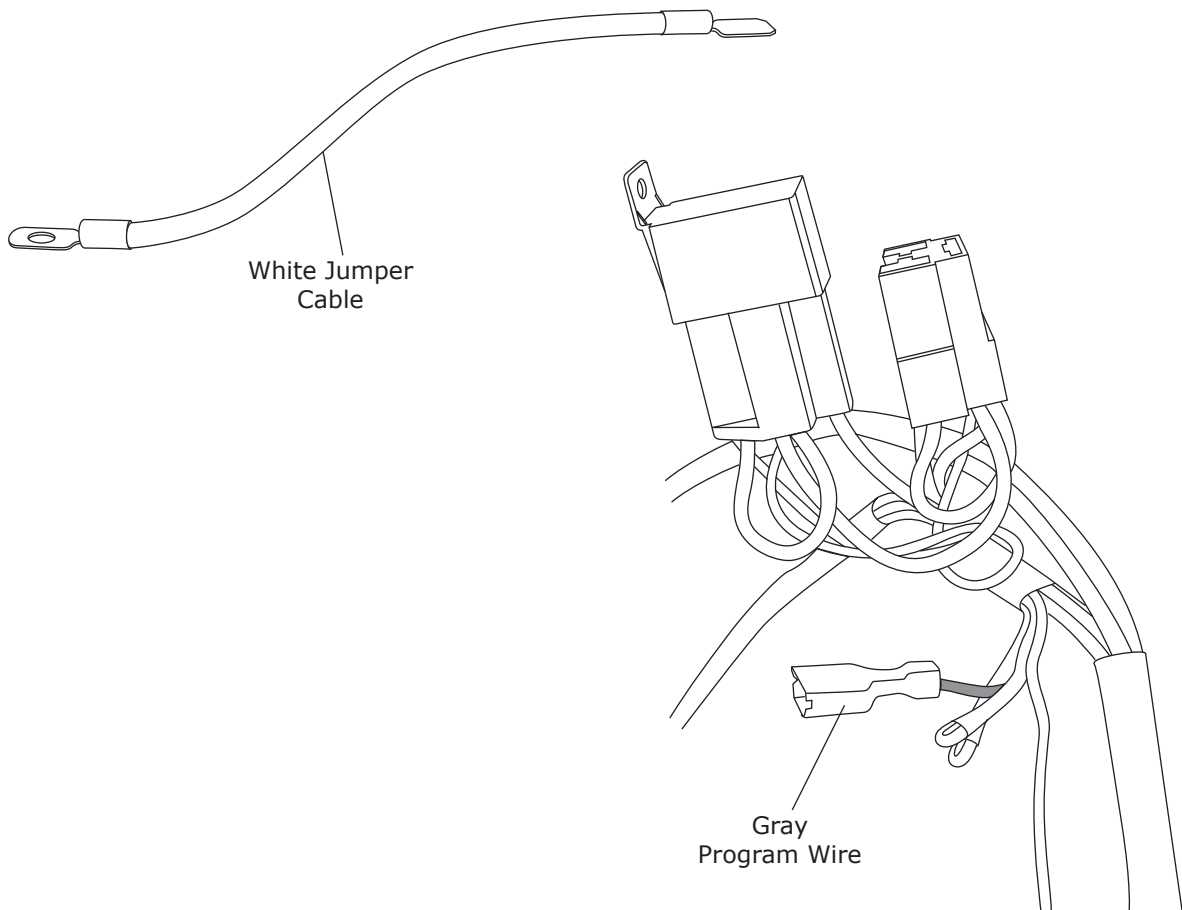
**FIGURE 15**



## 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.

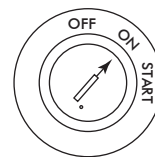
In preparation for calibration, you will need to attach the supplied white ground jumper wire to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the relays. During the calibration procedure, you will connect 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.



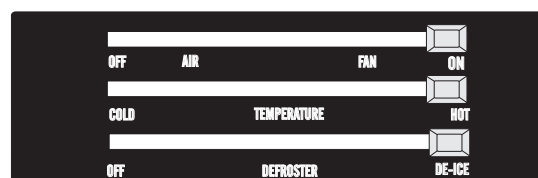


## Control Panel Calibration Procedure (Cont.)

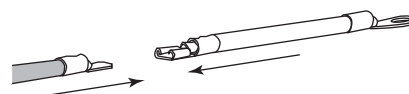
1. Turn on the ignition switch (Do not start the engine).



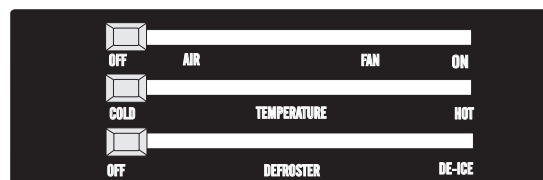
2. Move the control levers/knobs to the position shown.



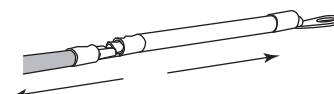
3. Connect the white jumper wire to the gray program wire. Wait for the blower speed to change (Approximately 5 seconds).



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.

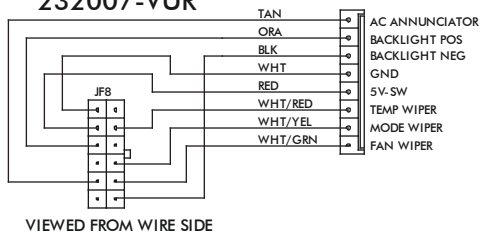


6. Confirm proper operation of controls. Repeat procedure if necessary. When finished, tape over program wire connector with electrical tape to prevent accidental contact with chassis ground.

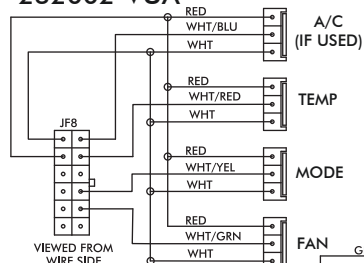


## Wiring Diagram

### 232007-VUR

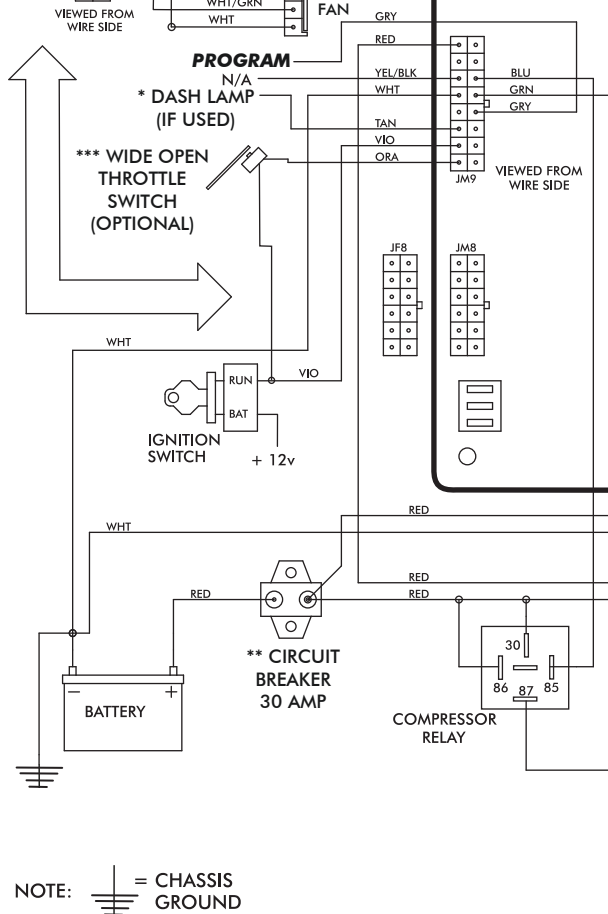


### 232002-VUA

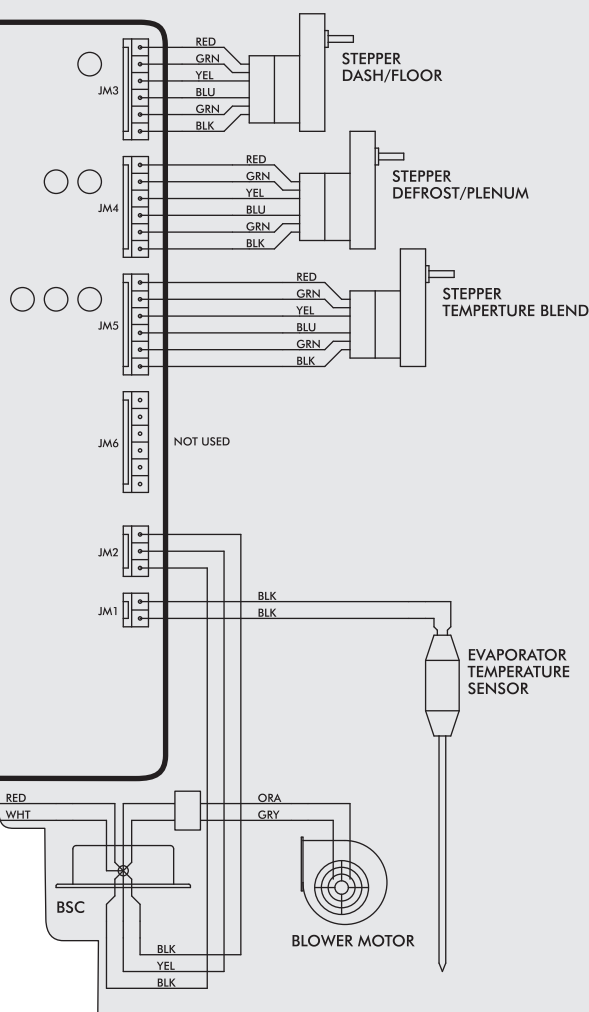


### GEN IV ECU

GEN IV WIRING DIAGRAM  
REV D, 5/6/2014



### PRE-WIRED



NOTE: = CHASSIS GROUND

- Dash Lamp Is Used Only With Type 232007-VUR Harness.
- Warning: Always Mount Circuit Breaker As Close to the Battery As Possible. (NOTE: Wire Between Battery and Circuit Breaker Is Unprotected and Should Be Carefully Routd to Avoid a Short Circuit).
- Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.

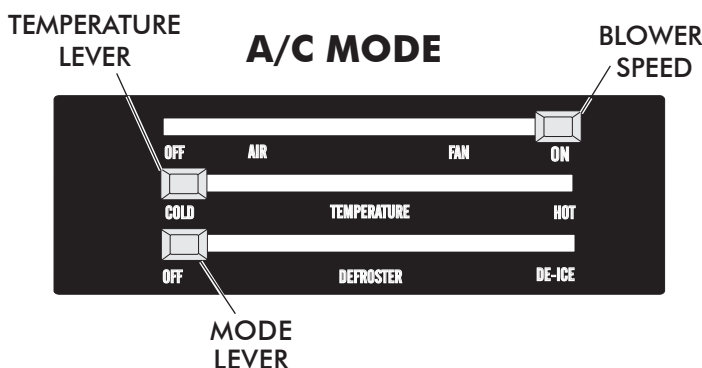


## OPERATION OF CONTROLS

THE TEMPERATURE LEVER TOGGLES BETWEEN A/C AND HEAT MODES. FOR A/C MODE SLIDE THE TEMPERATURE LEVER ALL THE WAY LEFT FOR HEAT MODE SLIDE THE LEVER ALL THE WAY TO THE RIGHT TO DISENGAGE THE COMPRESSOR, THEN MOVE THE LEVER TO SELECT DESIRED TEMPRATURE.

**NOTE: EACH TIME THE SYSTEM TOGGLES BETWEEN MODES, THE BLOWER WILL MOMENTARILY CHANGE SPEEDS.**

ALL SWITCHES ARE VARIABLE BETWEEN POSITIONS, SYSTEM WILL PERFORM A BLEND BETWEEN THE FUNCTIONS.



### BLOWER SPEED

THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

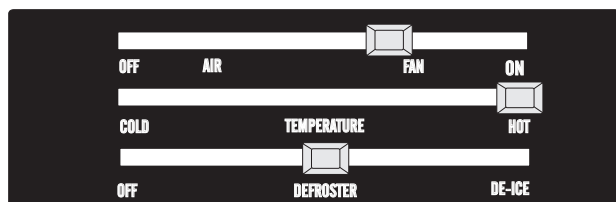
### MODE LEVER

SLIDE THE LEVER TO THE LEFT TO DIRECT AIR FLOW TO THE DASH VENTS

### TEMPERATURE LEVER

IN A/C MODE SLIDE THE TEMPERATURE LEVER ALL THE WAY LEFT TO THE COLD POSTION TO ENGAGE COMPRESSOR. (SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

## HEAT MODE



### BLOWER SPEED

SLIDE LEVER RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI

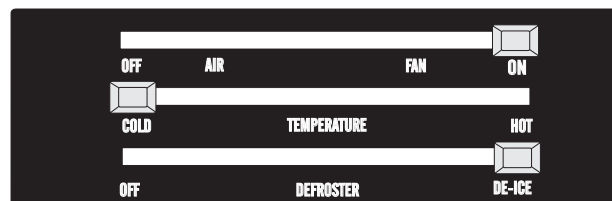
### MODE LEVER

SLIDE THE LEVER TO THE CENTER TO DIRECT AIR FLOW TO THE FLOOR.

### TEMPERATURE LEVER

IN HEAT MODE SLIDE THE TEMPERATURE LEVER ALL THE WAY RIGHT TO THE HOT POSTION. (SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

## DEFROST/ DE-FOG MODE



### BLOWER SPEED

SLIDE LEVER RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI

### MODE LEVER

SLIDE THE LEVER TO THE RIGHT TO DIRECT AIR FLOW TO THE DEFROST VENTS

### TEMPERATURE LEVER

SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE (COMPRESSOR IS AUTOMATICALLY ENGAGED)



**CONTROL KIT  
473062**

No	QTY	PART No.	DESCRIPTION	CHECK LIST
1.	3	112002-SUA	SLIDE POT ASM	_____
2.	1	232002-VUA	GEN IV UNIVERSAL CONTROL HARNESS	_____
3.	3	65976-VUE	3/16" PUSH-ON RING	_____
4.	3	491010-VUR	SLIDE POT CLAMP	_____
5.	5	21301-VUP	4" TIE WRAP	_____
6.	1	231520	GROUND WIRE	_____

CHECKED BY: \_\_\_\_\_  
PACKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

