



an ISO 9001:2008 Registered Company

1968 CORVETTE

w & wo AC

1969-76 CORVETTE

wo AC CONTROL PANEL CONVERSION KIT

473170

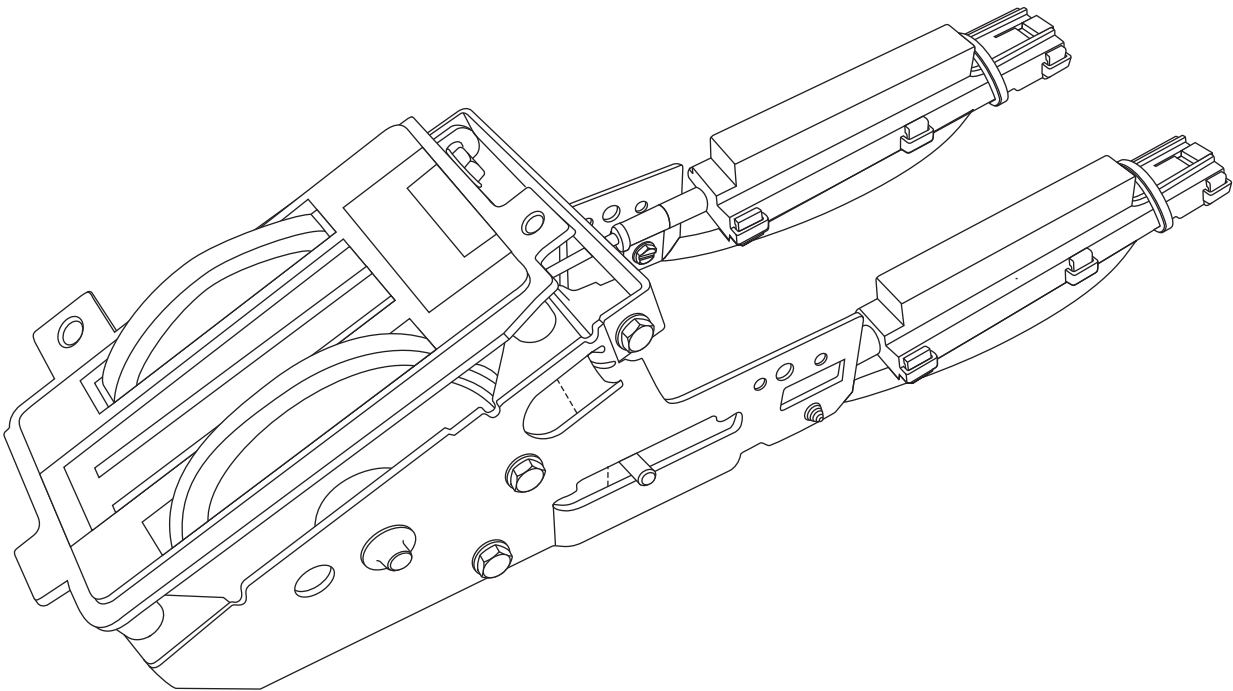




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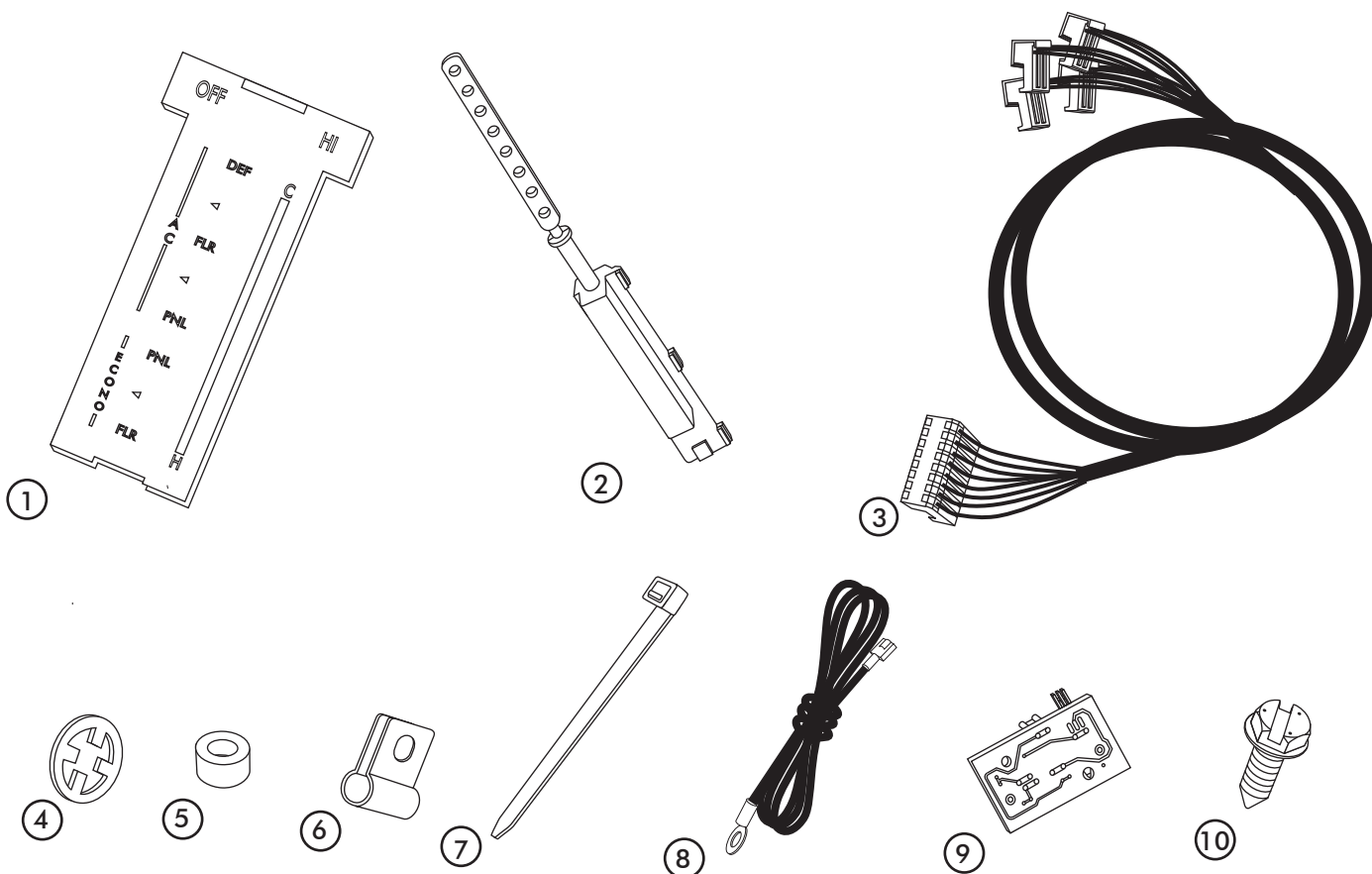


1968 CORVETTE w & wo AC **1969-76 CORVETTE wo AC CONTROL PANEL** **CONVERSION PACKING LIST**

CONVERSION KIT
473170

No.	QTY.	PART No.	DESCRIPTION
1.	1	484173-PCR	68-76 CORVETTE PLACARD
2.	2	112002-SUA	CABLE CONVERTER ASM
3.	1	232002-VUA	GEN IV UNIVERSAL CONTROL HARNESS
4.	2	65975-VUE	1/8" PUSH-ON RING
5.	2	49705-VUI	1/8" NYLON SPACER
6.	2	491010-VUR	CABLE CONVERTER CLAMP
7.	5	21301-VUP	4" TIE WRAP
8.	1	231520	GROUND WIRE
9.	1	246110-PUA	68-76 CORVETTE 3-SPD BLWR SWITCH PC BOARD ASM
10.	2	18247-VUB	#10 x 1/2 SHEET METAL SCREW

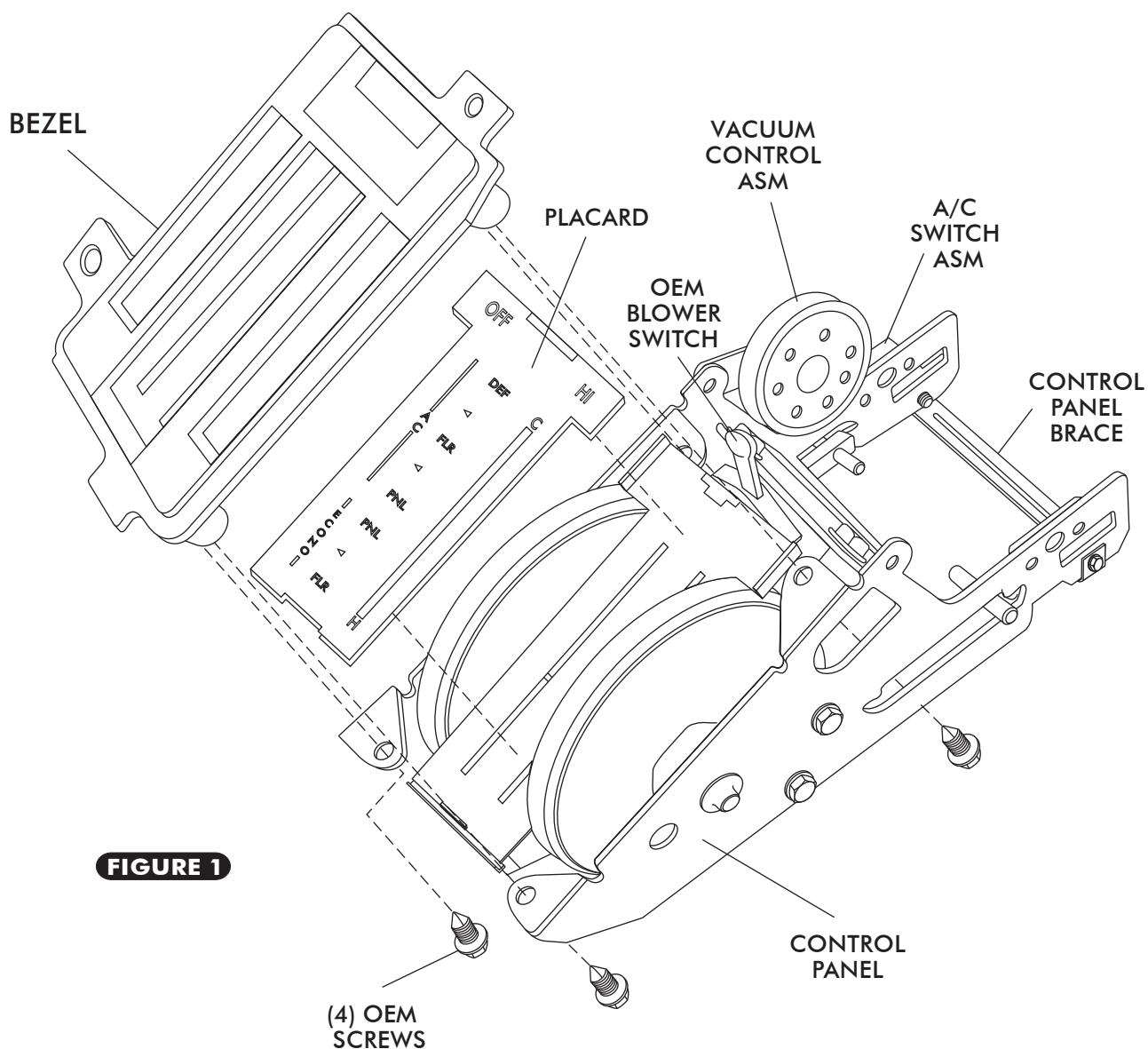
**** BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**





1968-76 CORVETTE CONTROL PANEL CONVERSION

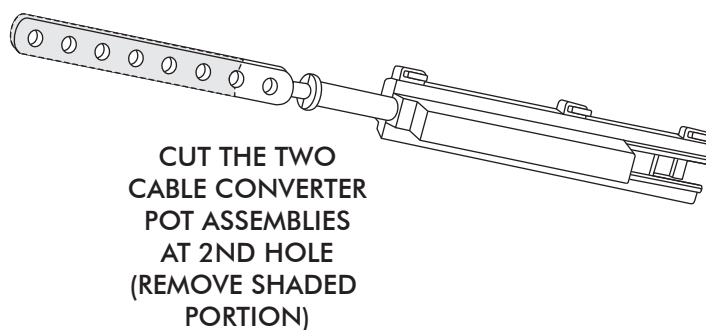
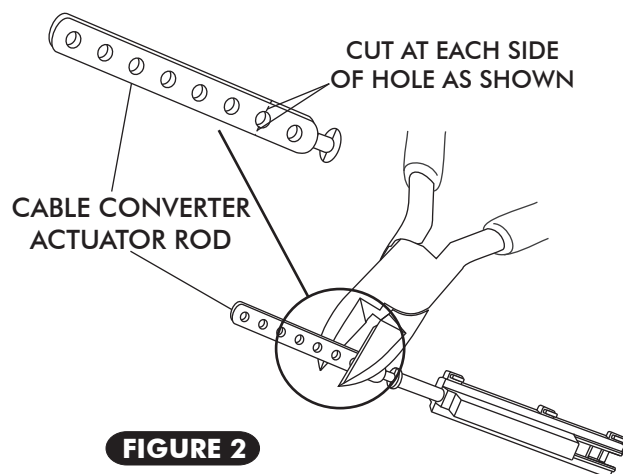
REMOVE CONTROL PANEL BEZEL BY REMOVING THE (4) OEM MOUNTING SCREWS ON THE BACKSIDE OF THE CONTROL PANEL . (RETAIN)
REMOVE THE OEM VACUUM CONTROL ASSEMBLY AND A/C SWITCH ASSEMBLY. (DISCARD)
REMOVE THE CONTROL PANEL BRACE. (DISCARD)
REMOVE OEM PLACARD AND INSTALL NEW PLACARD AS SHOWN IN FIGURE 1, BELOW.
RE-INSTALL THE BEZEL USING THE (4) OEM SCREWS.





CABLE CONVERTER ASSEMBLY MODIFICATIONS

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



CABLE CONVERTER ASSEMBLY MOUNTING CLAMP INSTALLATION

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

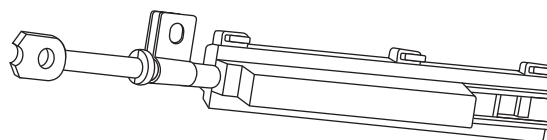
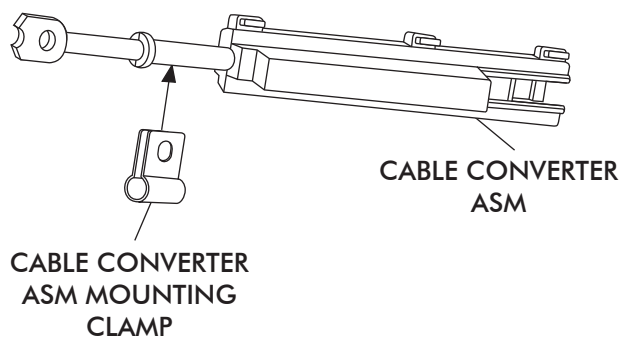


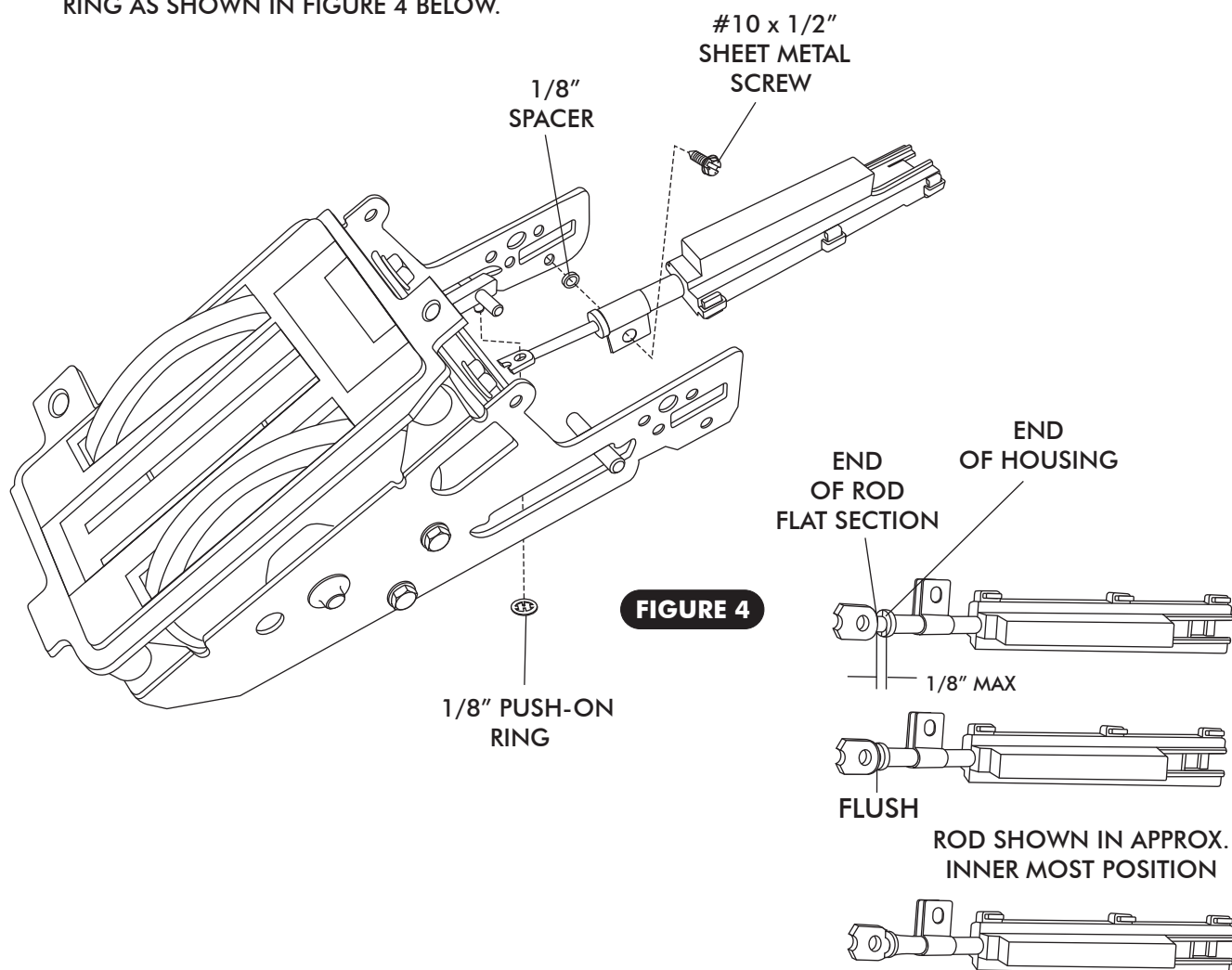
FIGURE 3



CABLE CONVERTER ASSEMBLY INSTALLATION

DEF/ DASH/ FLR CABLE CONVERTER ASSEMBLY

- INSTALL CABLE CONVERTER ASM ON THE DEF/ DASH/ FLR 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 1/8" SPACER AND A #10 x 1/2" SHEET METAL SCREW AS SHOWN IN FIGURE 4.
- 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 LEVERS INNER MOST POSITION. SEE FIGURE 4 BELOW.
- SECURE CABLE CONVERTER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 1/8" PUSH-ON RING AS SHOWN IN FIGURE 4 BELOW.

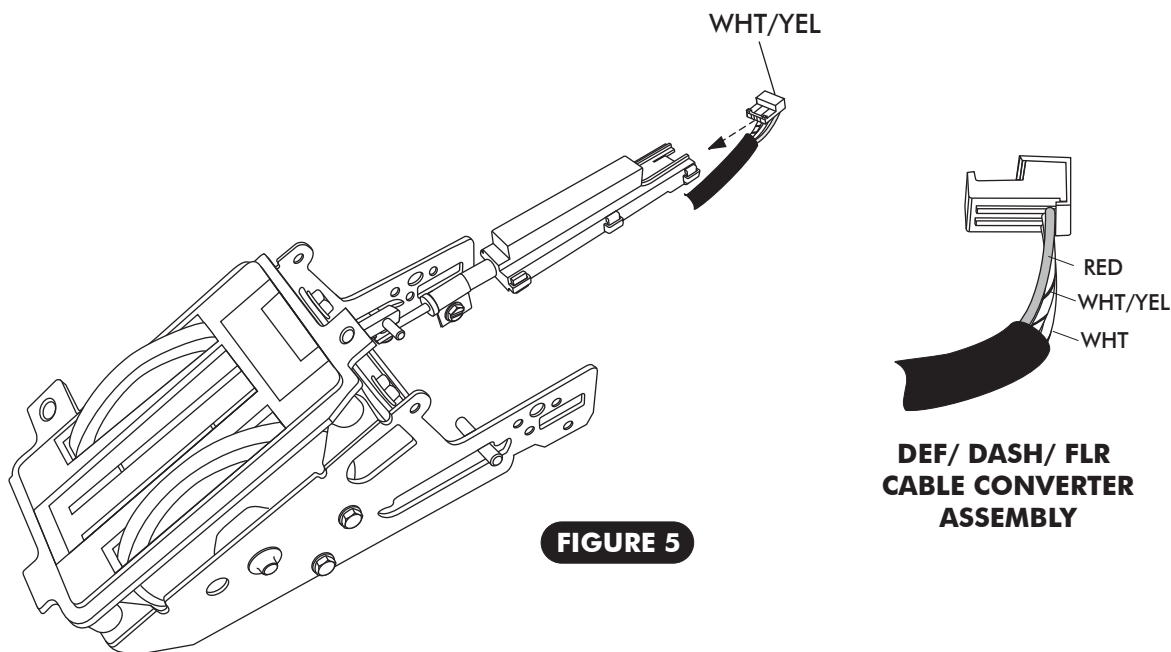


NOTE: DO NOT ALLOW ROD TO SEPARATE HOUSING WHEN ROD IS IN INNER MOST POSITION.

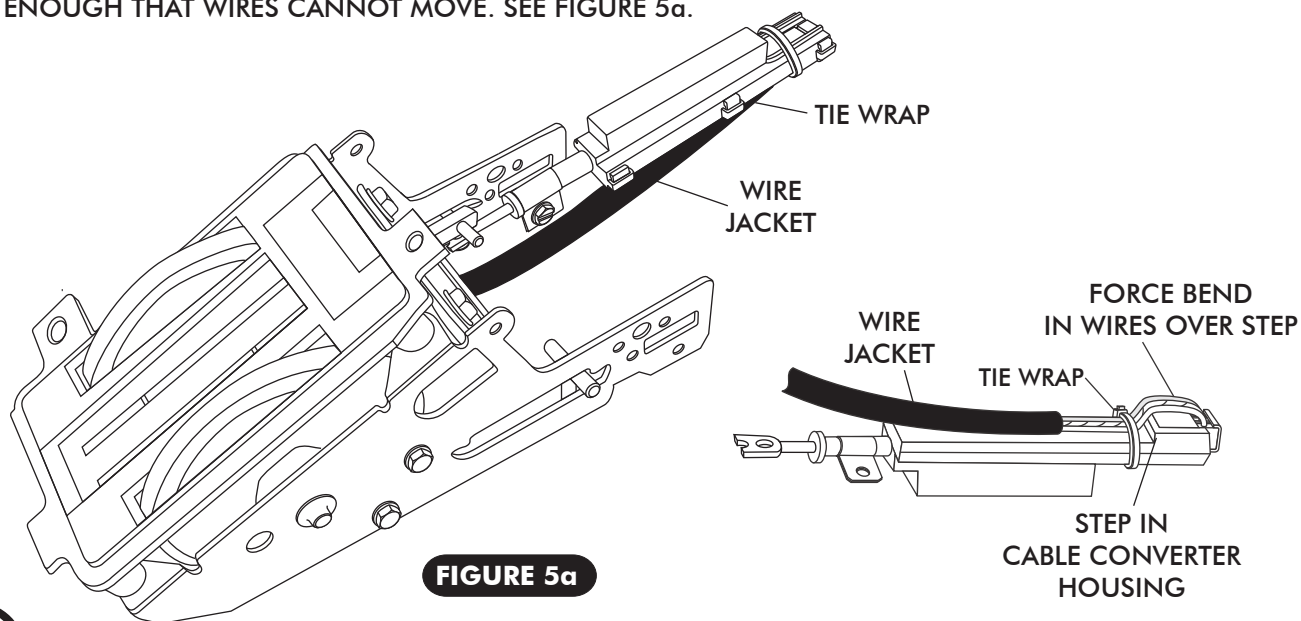


CONTROL HARNESS

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



- ONCE WIRES ARE CORRECTLY PLUGGED INTO CABLE CONVERTER ASSEMBLY, SECURE WIRES TO THE CABLE CONVERTER ASSEMBLY USING TIE WRAPS (SUPPLIED). SEE FIGURE 5a 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 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 WIRES CANNOT MOVE. SEE FIGURE 5a.





CABLE CONVERTER ASSEMBLY INSTALLATION

COLD/ HOT CABLE CONVERTER ASSEMBLY

- ❑ INSTALL CABLE CONVERTER ASM ON THE COLD/HOT LEVER. SEE FIGURE 6 BELOW.
- ❑ INSTALL CABLE CONVERTER LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 6 BELOW.
- ❑ SECURE THE CABLE CONVERTER ASM TO THE CONTROL PANEL USING 1/8" SPACER AND A #10 x 1/2" SHEET METAL SCREW AS SHOWN IN FIGURE 6.
- ❑ 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 LEVERS INNER MOST POSITION. SEE FIGURE 6 BELOW.
- ❑ SECURE CABLE CONVERTER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 1/8" PUSH-ON RING AS SHOWN IN FIGURE 6 BELOW.

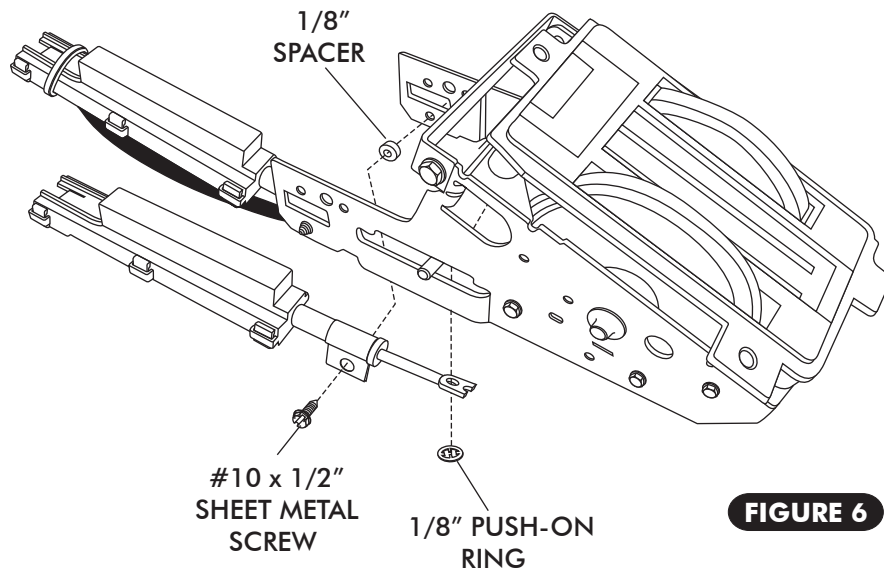


FIGURE 6

CONTROL HARNESS

- ❑ LOCATE THE CONTROL PANEL WIRING HARNESS AND PLUG THE CORRESPONDING WIRES INTO THE CORRECT CABLE CONVERTER ASSEMBLY AS SHOWN IN FIGURE 7 BELOW.

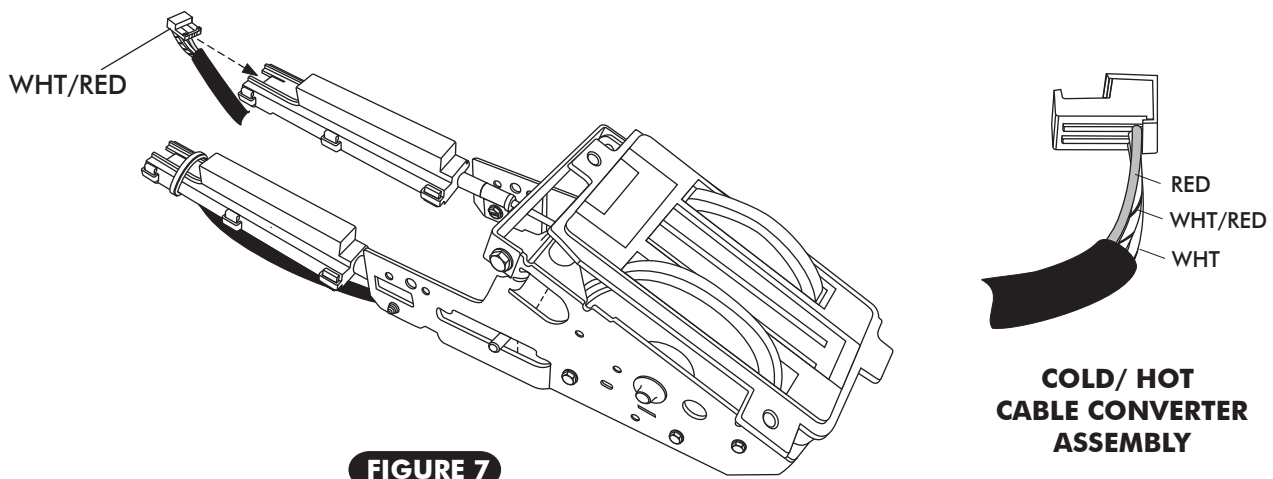


FIGURE 7



CONTROL HARNESS CONT.

- ONCE WIRES ARE CORRECTLY PLUGGED INTO CABLE CONVERTER ASSEMBLY, SECURE WIRE TO THE CABLE CONVERTER ASSEMBLY USING TIE WRAPS (SUPPLIED). SEE FIGURE 8 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 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 8.

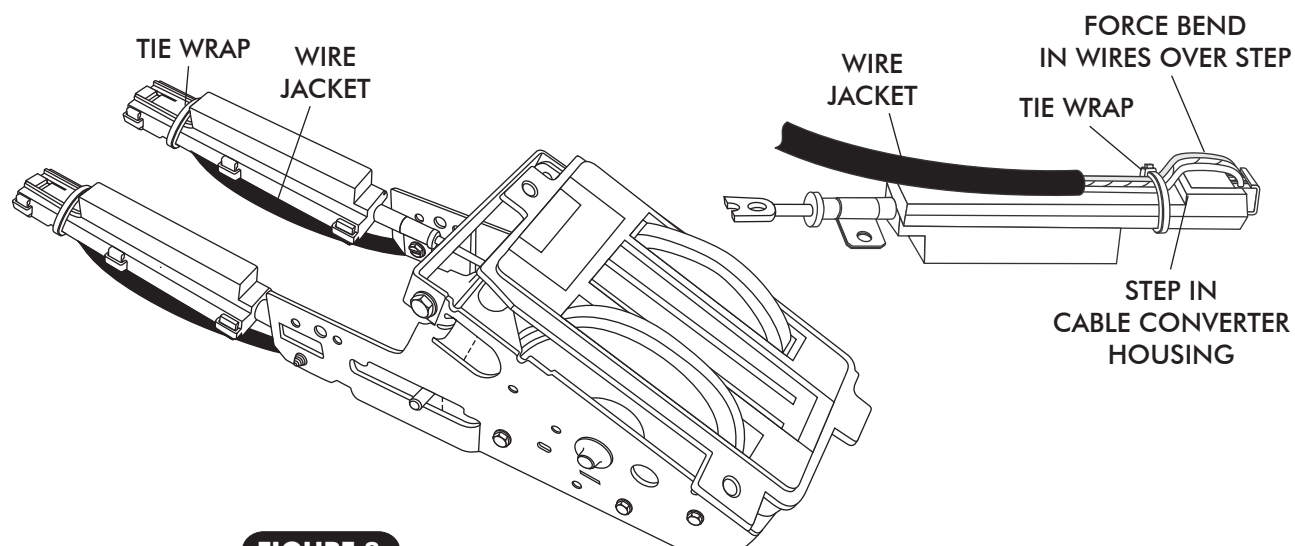


FIGURE 8

BLOWER SPEED SWITCH PC BOARD INSTALLATION

- INSTALL THE BLOWER SPEED SWITCH PC BOARD ON THE BACK OF THE OEM SWITCH AS SHOWN. SEE FIGURE 9 BELOW.

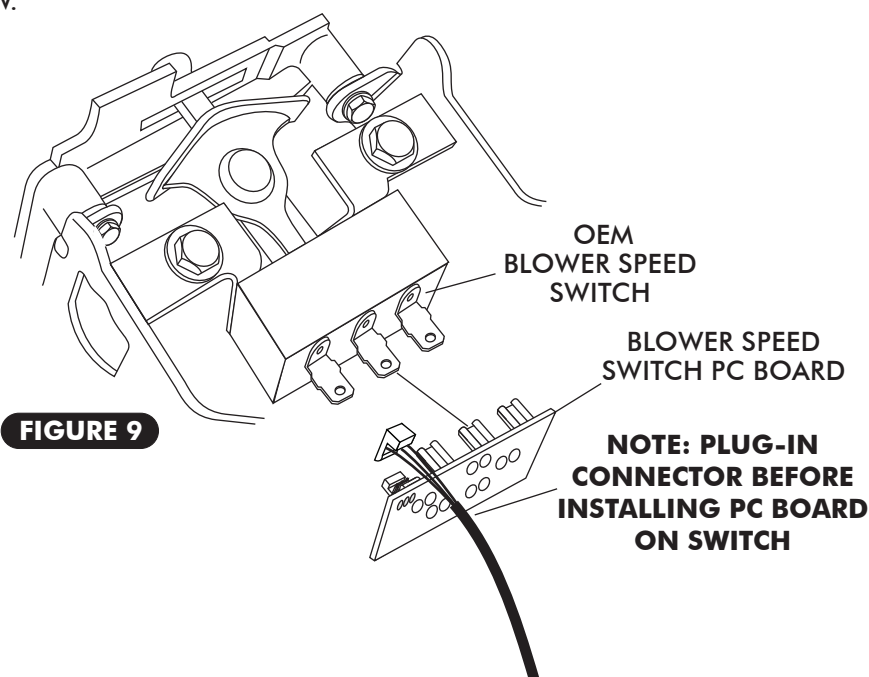


FIGURE 9



FINAL STEPS

- ❑ USING THE SUPPLIED TIE WRAPS, TIE THE WIRES TO THE CONTROL PANEL AS SHOWN IN FIGURE 10 BELOW. CONFIRM THAT WIRES ARE SECURE AND DO NOT INTERFERE WITH LEVER OPERATION OR CABLE CONVERTER ASSEMBLY.
- ❑ REINSTALL CONTROL PANEL IN CENTER CONSOLE.
- ❑ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE. SEE FIGURE 10 BELOW.
- ❑ WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 13.
- ❑ 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. THIS WIRE IS LABELED *PRGM* ON THE WIRING DIAGRAM ON PAGE 13.

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 11 & 12.

NOTE: TIE THE UNUSED WIRE TO THE CONTROL THAT THE WIRE DOES NOT INTERFERE WITH LEVER OR SLIDE POT ASSEMBLIES.

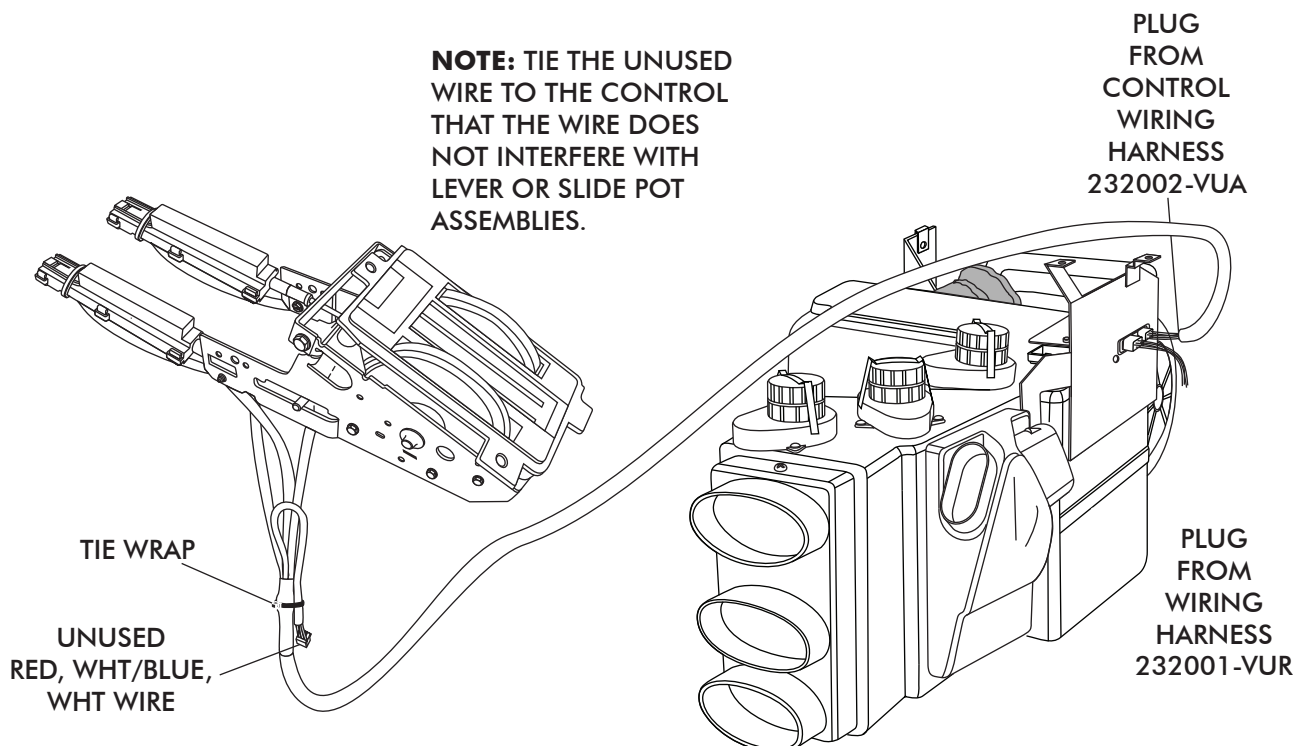


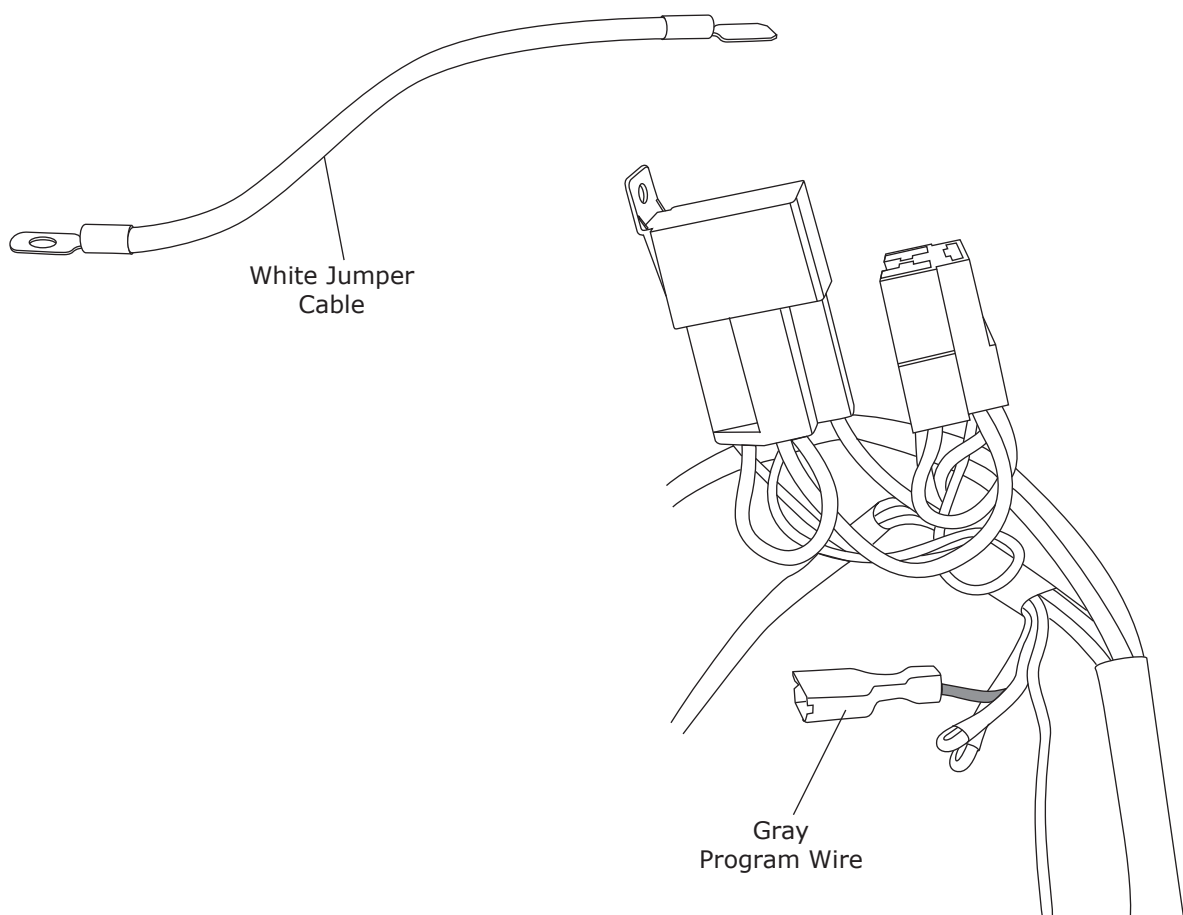
FIGURE 9



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.

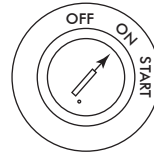
In preparation for calibration, you will need to attach the supplied white ground jumper wire to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the relays. During the calibration procedure, you will connect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



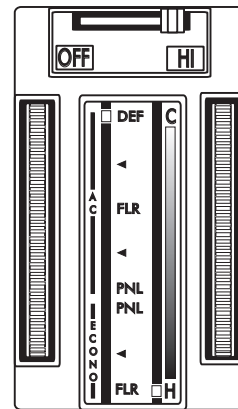


Control Panel Calibration Procedure (Cont.)

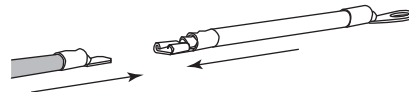
1. Turn on the ignition switch (Do not start the engine).



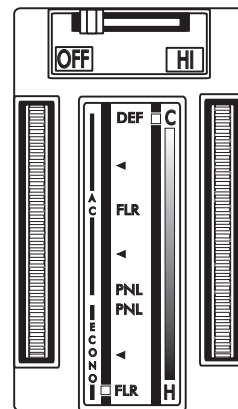
2. Move the control levers/knobs to the position shown.



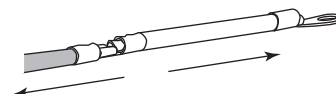
3. Connect the white jumper wire to the gray program wire. Wait for the blower speed to change (Approximately 5 seconds).



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.

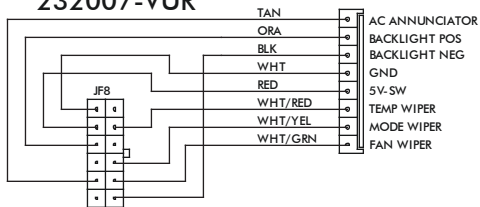


6. Confirm proper operation of controls. Repeat procedure if necessary. When finished, tape over program wire connector with electrical tape to prevent accidental contact with chassis ground.



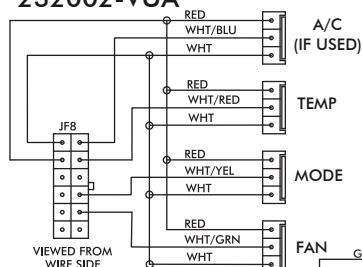
Wiring Diagram

232007-VUR



VIEWED FROM WIRE SIDE

232002-VUA



VIEWED FROM WIRE SIDE

PROGRAM

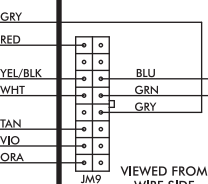
* DASH LAMP (IF USED)

*** WIDE OPEN THROTTLE SWITCH (OPTIONAL)

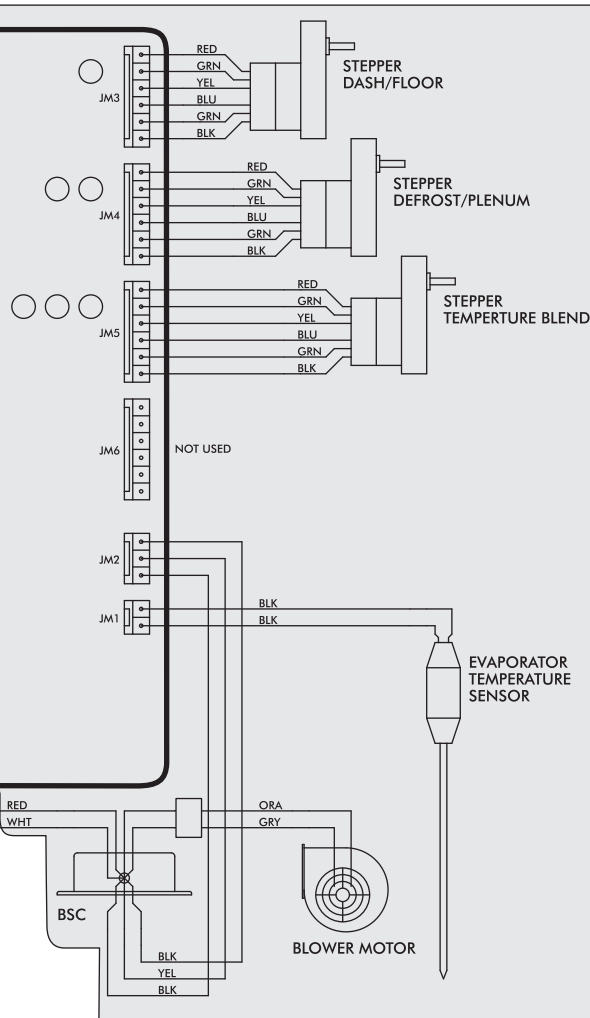


GEN IV ECU

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



PRE-WIRED



NOTE: = CHASSIS GROUND

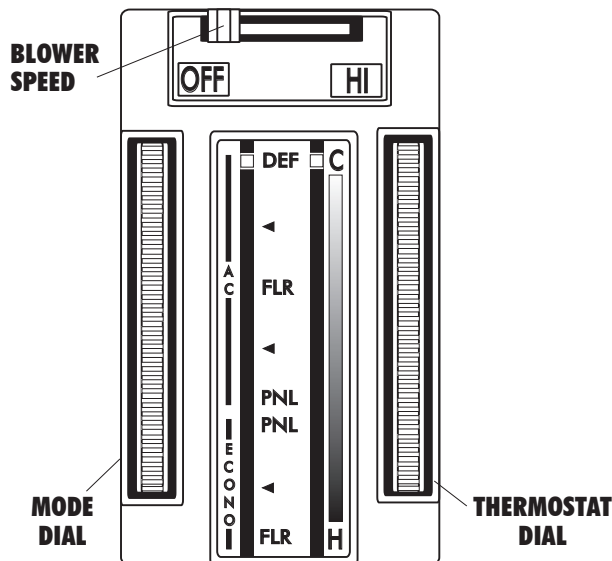
- Dash Lamp Is Used Only With Type 232007-VUR Harness.
- Warning: Always Mount Circuit Breaker As Close to the Battery As Possible. (NOTE: Wire Between Battery and Circuit Breaker Is Unprotected and Should Be Carefully Routd to Avoid a Short Circuit).
- Wide Open Throttle Switch Contacts Close Only at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



OPERATION OF CONTROLS

NOTE: WHEN EVER BATTERY POWER IS RECONNECTED TO THE ECU, THE COMPUTER GOES THROUGH AN INITIALIZ ATION SEQUENCE. THIS INITIALIZATION MAY TAKE UP TO 30 SECONDS. DURING INITIALIZATION THE DOORS INSIDE THE UNIT WILL BE OPERATING. A LOW BATTERY MAY ALSO TRIGGER A RE-INITIALIZATION. WHEN THE ENGINE IS BEING CRANKED A WEAK BATTERY MAY DROP BELOW 7 VOLTS, TRIGGERING RE-INITIALIZATION.

SYSTEM OFF

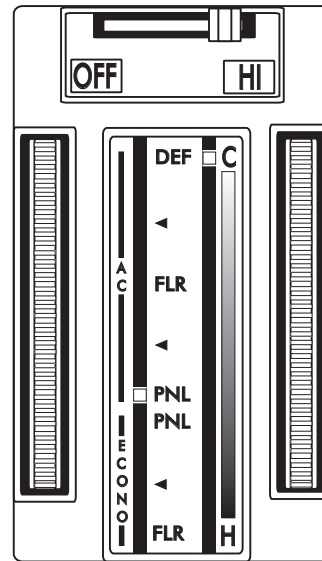


BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

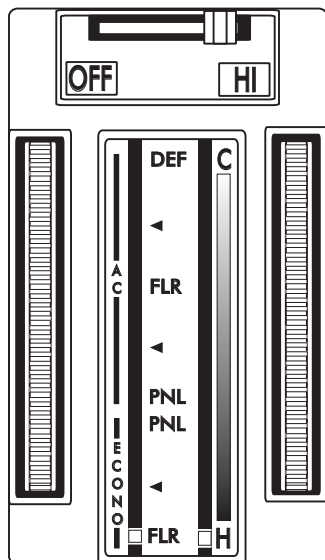
A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY UP FOR MAXIMUM COOLING, ROLL THE DIAL DOWN TO DECREASE THE AMOUNT OF COOLING

MODE DIAL
ROLL THE DIAL DOWN TO THE "PNL" LEGEND IN AC RANGE OF THE MODE DIAL

A/C MODE



HEAT MODE

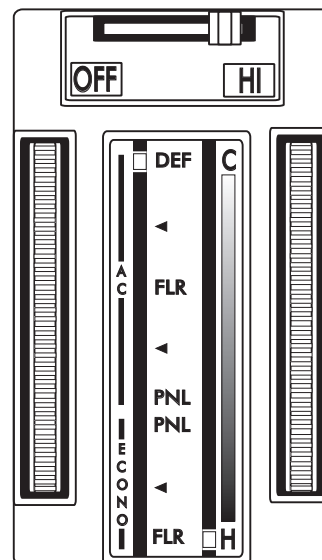


BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY DOWN FOR MAXIMUM HEATING, ROLL THE DIAL UP TO DECREASE THE AMOUNT OF HEATING

MODE DIAL
ROLL THE DIAL DOWN TO THE "FLR" LEGEND IN THE ECONO RANGE OF THE MODE DIAL

DEFROST MODE



BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI

A/C THERMOSTAT DIAL
ROLL THE THERMOSTAT DIAL ALL THE WAY DOWN FOR MAXIMUM HEATING, ROLL THE DIAL UP TO DECREASE THE AMOUNT OF HEATING

MODE DIAL
ROLL THE DIAL DOWN TO THE "DEF" LEGEND IN THE AC RANGE OF THE MODE DIAL

MODE DIAL, AC & ECONO RANGES

BOTH RANGES OF THE MODE DIAL OPERATE IDENTICALLY, WITH THE SINGULAR EXPECTATION THAT THE EXTRA COOLING AVAILABLE FROM THE AC COMPRESSOR IS NOT AVAILABLE WHILE THE MODE DIAL IS IN THE ECONO RANGE. WHEN THE MODE DIAL MOVES FROM ONE MODE RANGE TO THE OTHER, THE BLOWER SPEED CHANGES FOR AN INSTANT AND RETURNS TO NORMAL. THIS BEHAVIOR IS USED TO INDICATE THAT THE OPERATOR HAS MOVED INTO THE ALTERNATE MODE RANGE.



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4.	2	65975-VUE	1/8" PUSH-ON RING	_____
5.	2	49705-VUI	1/8" NYLON SPACER	_____
6.	2	491010-VUR	CABLE CONVERTER CLAMP	_____
7.	5	21301-VUP	4" TIE WRAP	_____
8.	1	231520	GROUND WIRE	_____
9.	1	246110-PUA	68-76 CORVETTE 3-SPD BLWR SWITCH PC BOARD ASM	_____
10.	2	18247-VUB	#10 x 1/2 SHEET METAL SCREW	_____

CHECKED BY: _____
PACKED BY: _____
DATE: _____

