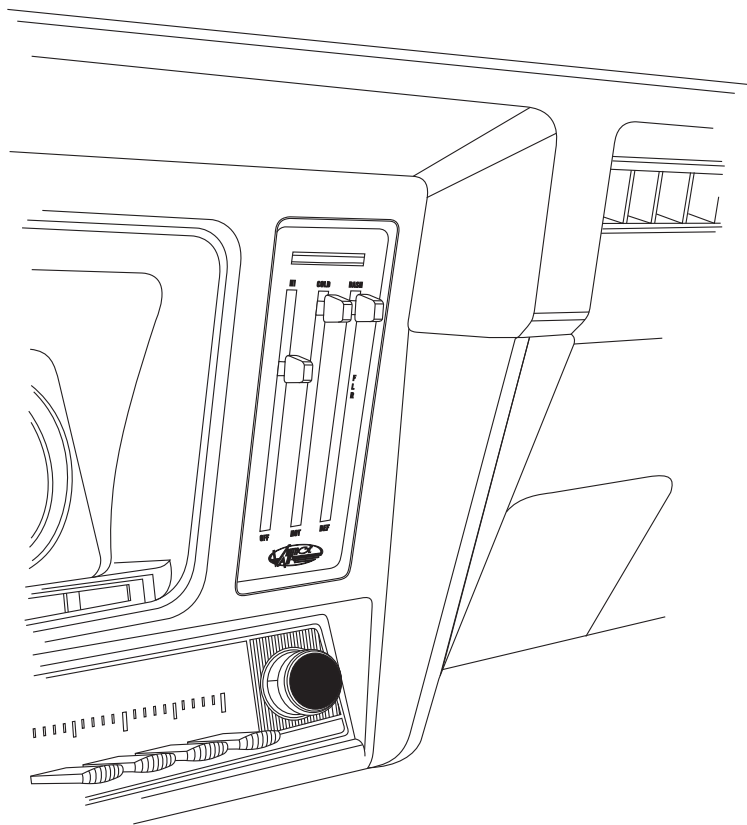




1969-74 Chevrolet Nova

with Factory Air
Control Panel Conversion Kit
(474172)



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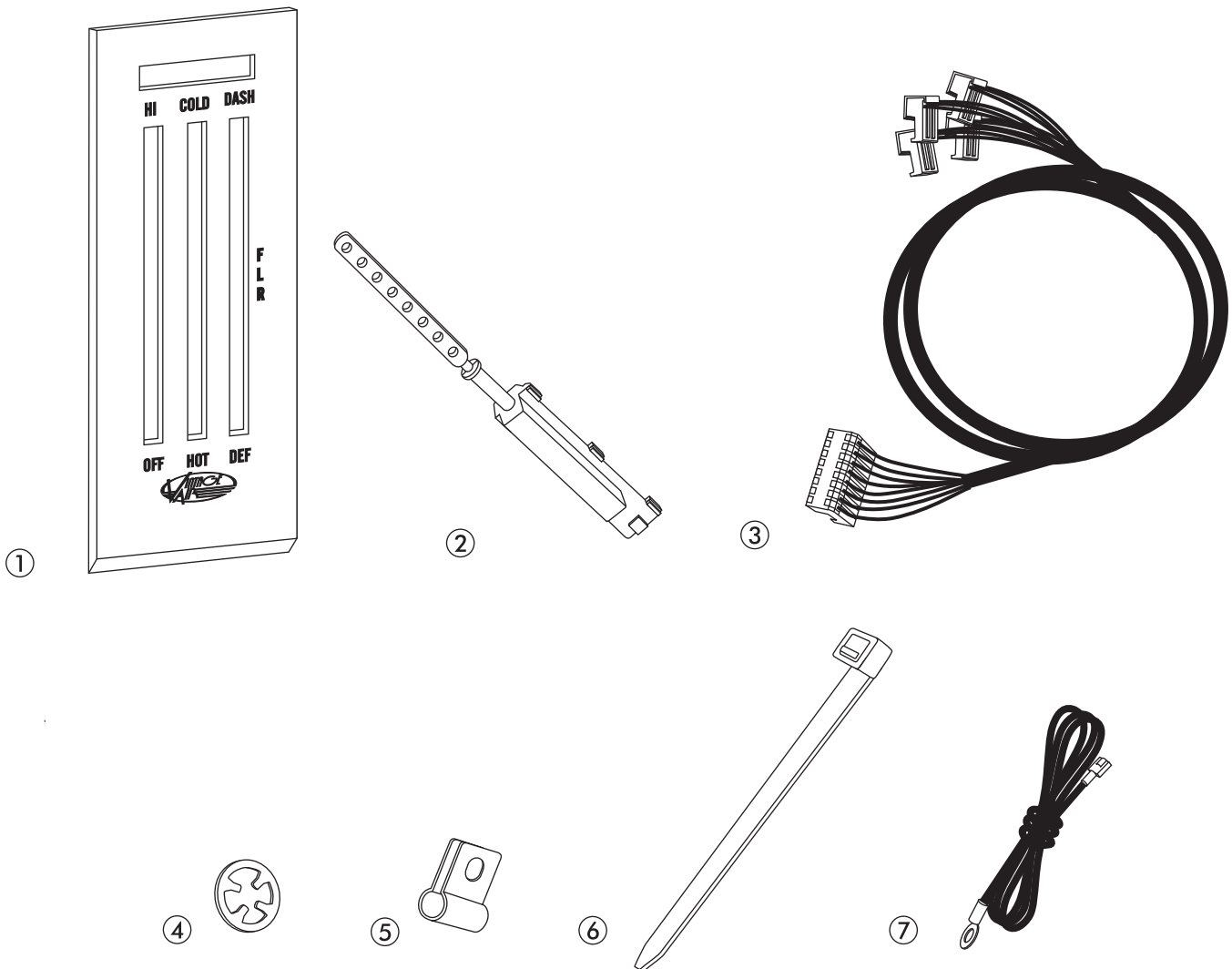


CONTROL KIT PACKING LIST

CONTROL KIT
474172

No	QTY	PART No.	DESCRIPTION
1.	1	484161	PLACARD
2.	3	112002-SUA	CABLE CONVERTER ASSEMBLY
3.	1	232002-VUA	CONTROL HARNESS, GEN IV UNIVERSAL
4.	3	65976-VUE	PUSH-ON RING, 3/16"
5.	3	491010-VUR	CABLE CONVERTER CLAMP
6.	5	21301-VUP	TIE WRAP, 4"
7.	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 1969-74 NOVA w/ AC

REMOVING OEM CONTROL PANEL

- ❑ REMOVE THE (3) OEM MOUNTING SCREWS FROM INSTRUMENT PANEL OF DASH (SEE FIGURE 1, BELOW).
- ❑ DISCONNECT THE CABLES AND WIRES FROM THE BACK OF THE CONTROL PANEL. **NOTE: MAKE SURE THE GLOVE BOX AND GLOVE BOX DOOR HAVE BEEN REMOVED.**
- ❑ REMOVE THE CONTROL PANEL FROM BEHIND THE DASH THROUGH THE GLOVE BOX OPENING IN DASH.

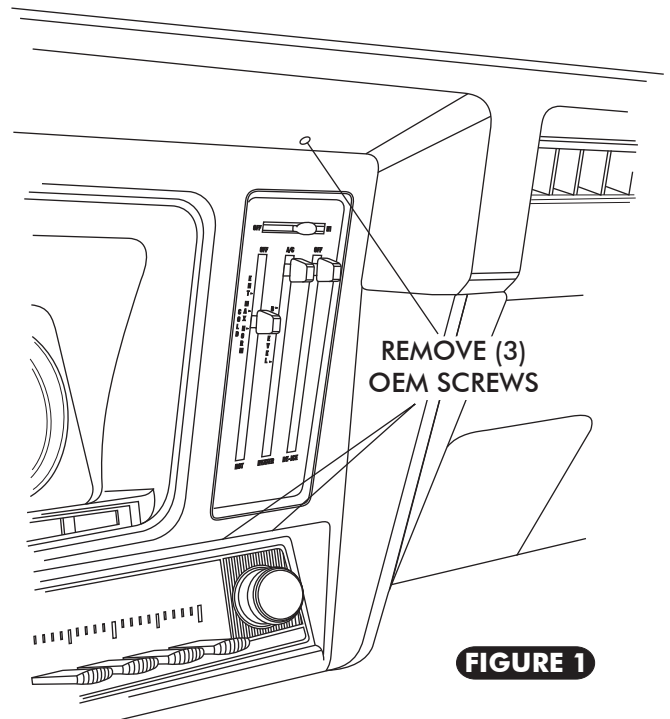


FIGURE 1

CABLE CONVERTER ASSEMBLY MODIFICATIONS

- ❑ LOCATE THE (3) CABLE CONVERTER ASSEMBLIES. USING A PAIR OF WIRE CUTTERS, CUT THE CABLE CONVERTER ACTUATOR RODS AS SHOWN IN FIGURE 2, BELOW.
- ❑ TRIM EACH CABLE CONVERTER ROD, ROUNDING OFF CORNERS AS SHOWN IN FIGURE 2a, BELOW.

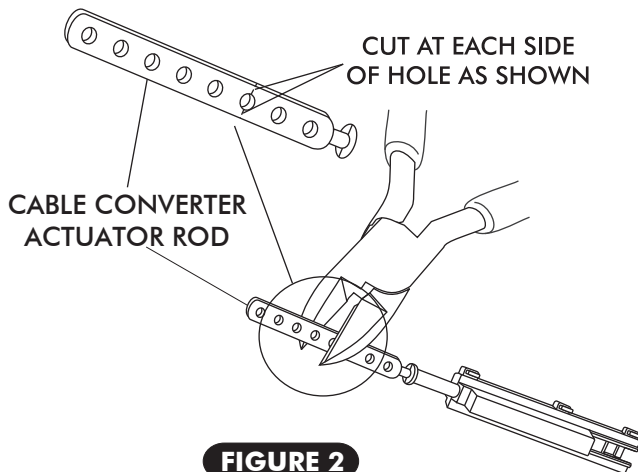


FIGURE 2

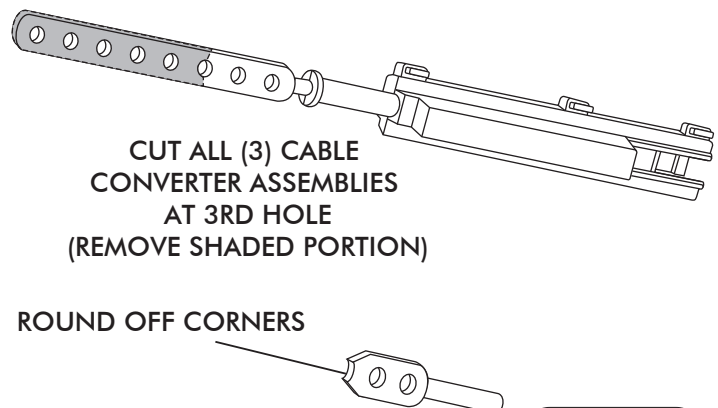
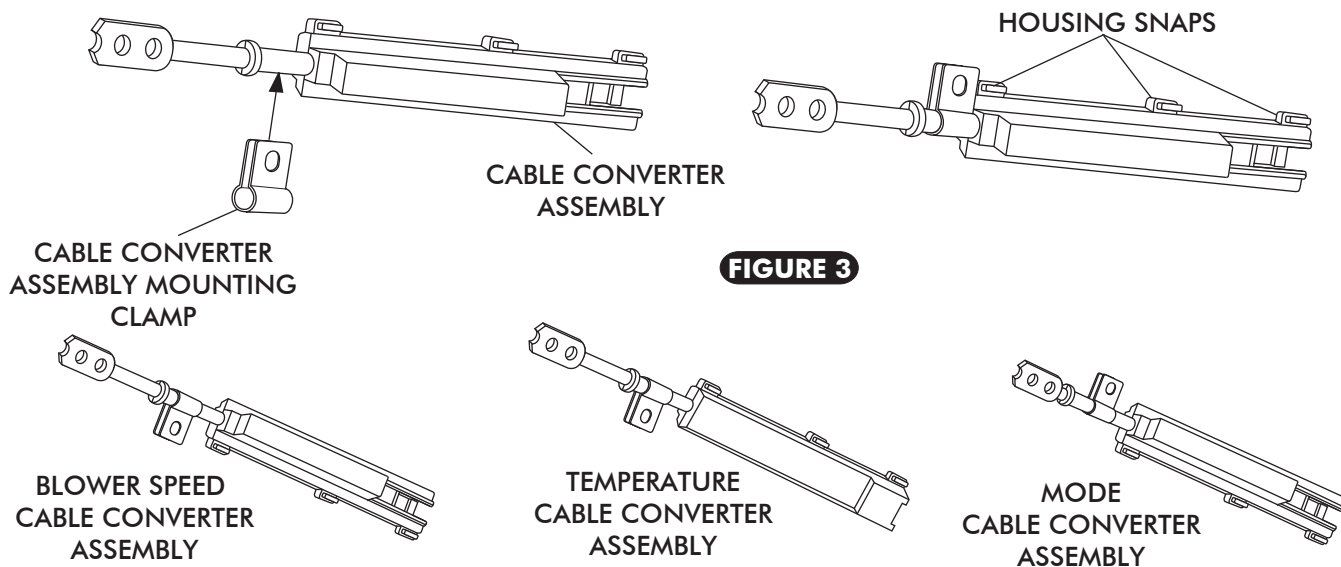


FIGURE 2a



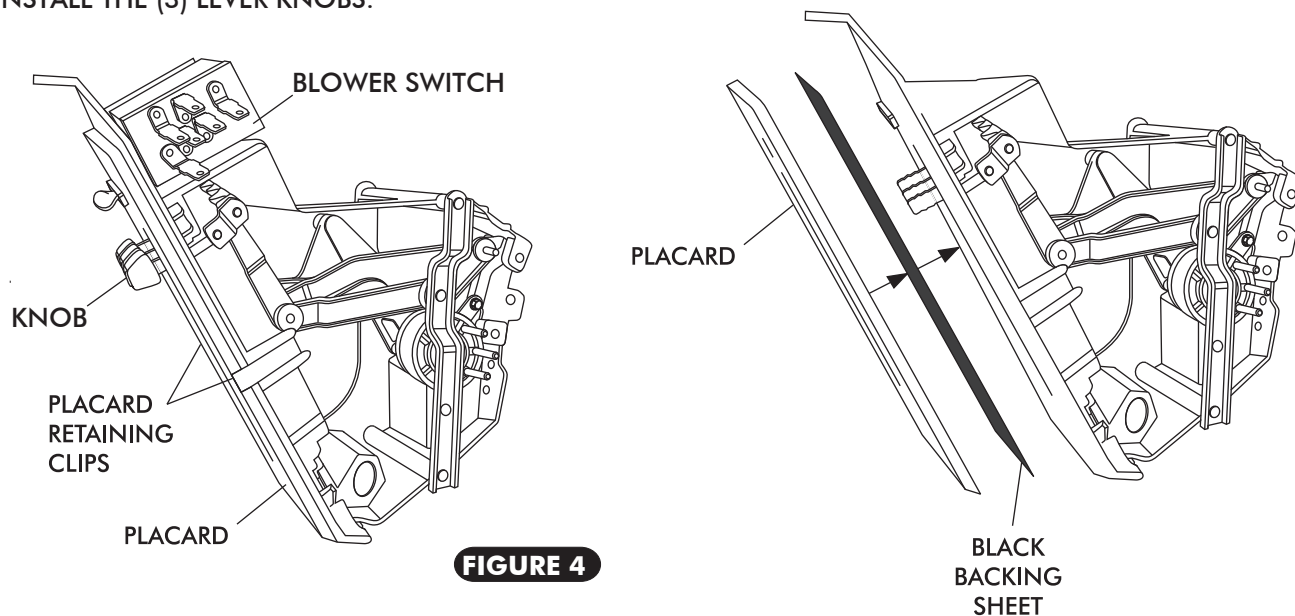
CABLE CONVERTER ASSEMBLY MOUNTING CLAMP INSTALLATION

- INSTALL THE CABLE CONVERTER ASSEMBLY MOUNTING CLAMPS (SEE FIGURE 3, BELOW). **NOTE: ORIENT CLAMPS IN RELATION TO THE (3) HOUSING SNAPS ON THE CABLE CONVERTER ASSEMBLY.**



PLACARD INSTALLATION

1. REMOVE THE BLOWER SWITCH. **NOTE: THE BLOWER SWITCH WILL NOT BE USED. THE BLOWER SWITCH CAN BE USED FOR A DIFFERENT APPLICATION IF PREFERRED.**
2. REMOVE THE (3) LEVER KNOBS
3. REMOVE THE PLACARD RETAINING CLIPS (SEE FIGURE 4, BELOW).
4. REMOVE THE PLACARD & BACKING SHEET FROM THE CONTROL PANEL.
5. INSTALL THE NEW BLACK BACKING SHEET ON THE CONTROL PANEL (SEE FIGURE 4, BELOW).
6. INSTALL THE NEW PLACARD AND SECURE IT USING THE OEM RETAINING CLIPS (SEE FIGURE 4, BELOW).
7. INSTALL THE (3) LEVER KNOBS.





CABLE CONVERTER ASSEMBLY INSTALLATION

MODE CABLE CONVERTER ASSEMBLY

- INSTALL THE CABLE CONVERTER ASSEMBLY ONTO THE MODE LEVER (SEE FIGURE 5, BELOW).
- INSTALL THE CABLE CONVERTER LEVER PUSH ROD ONTO THE OEM CABLE MOUNTING STUD ON THE LEVER (SEE FIGURE 5, BELOW).
- SECURE THE CABLE CONVERTER ASSEMBLY TO THE CONTROL PANEL USING THE OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION (SEE FIGURE 5, BELOW).
- SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN THE CLAMP BEFORE THE SCREW IS TIGHTENED, POSITION THE 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 INNERMOST POSITION (SEE FIGURE 5, BELOW).
- SECURE THE CABLE CONVERTER PUSH ROD TO THE OEM CABLE MOUNTING STUD USING A 3/16" PUSH-ON RING AS SHOWN IN FIGURE 5, BELOW.
- REMOVE THE VACCUM MODULE (DISCARD) AS SHOWN IN FIGURE 5, BELOW.

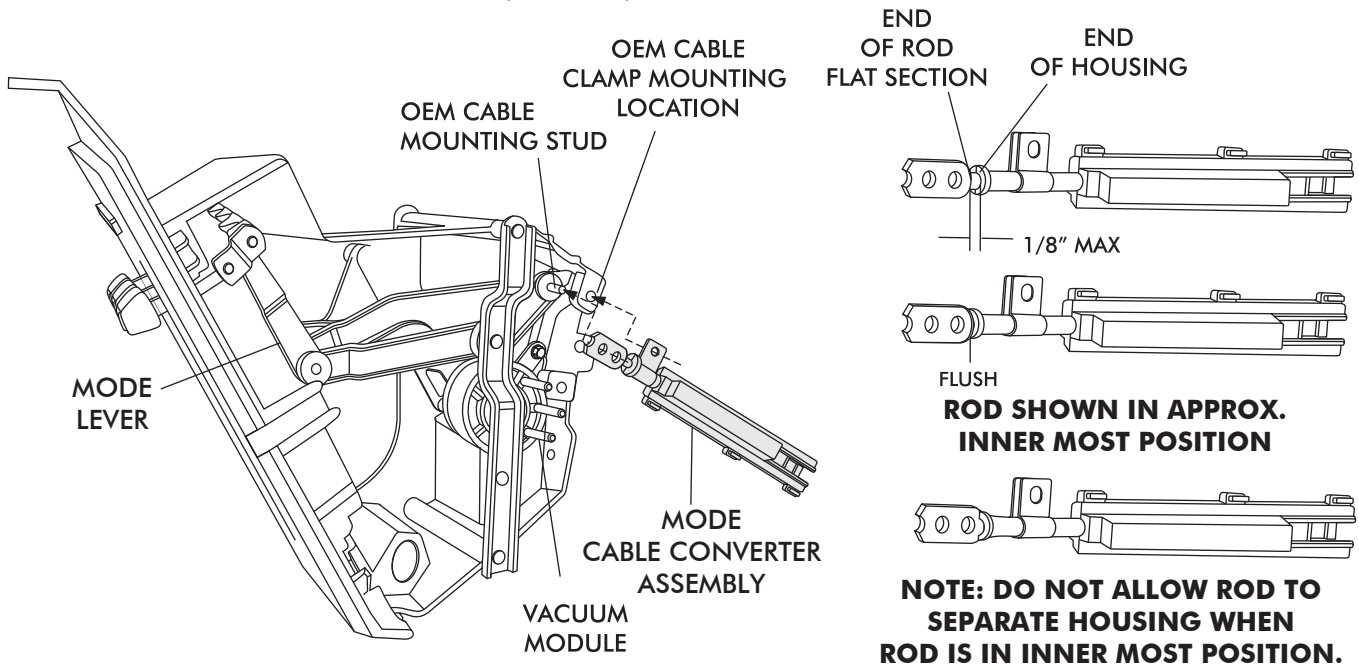
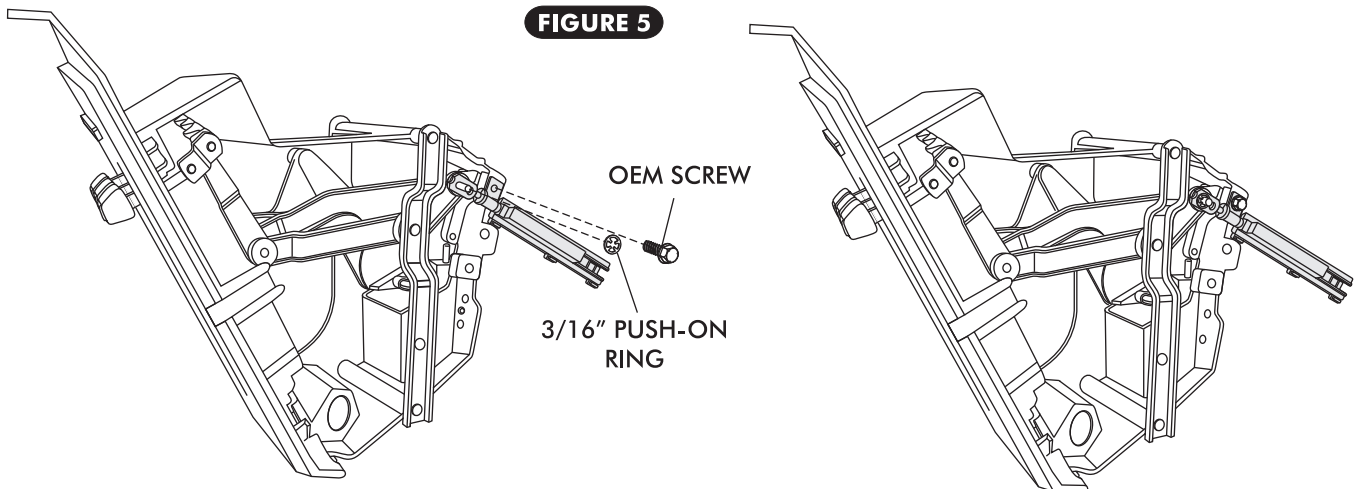


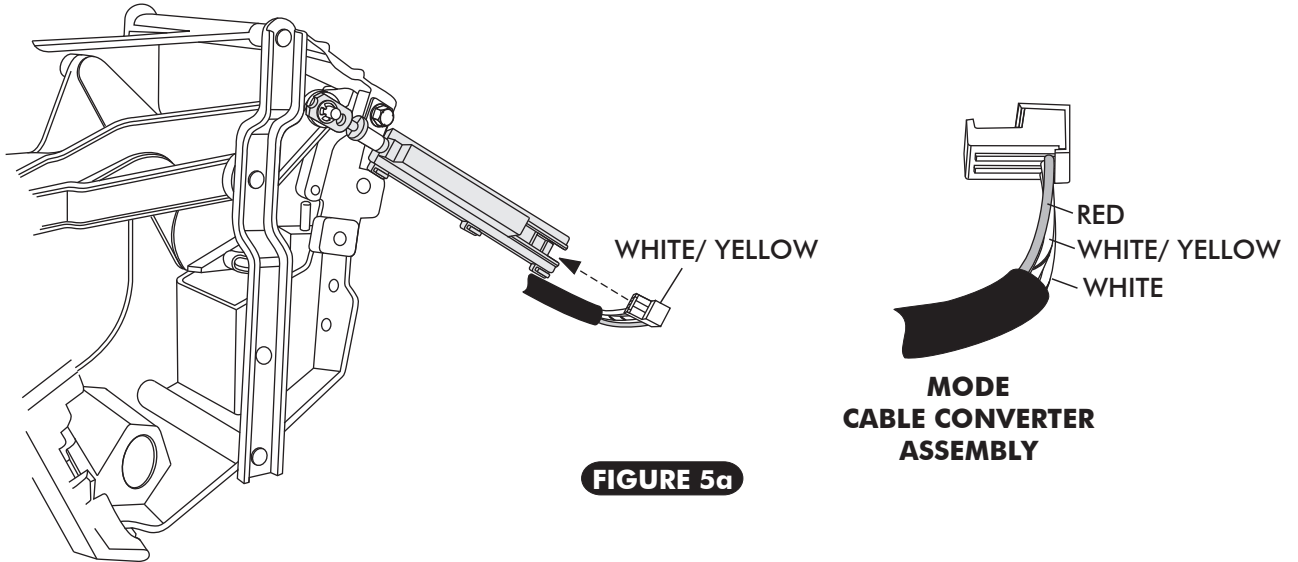
FIGURE 5



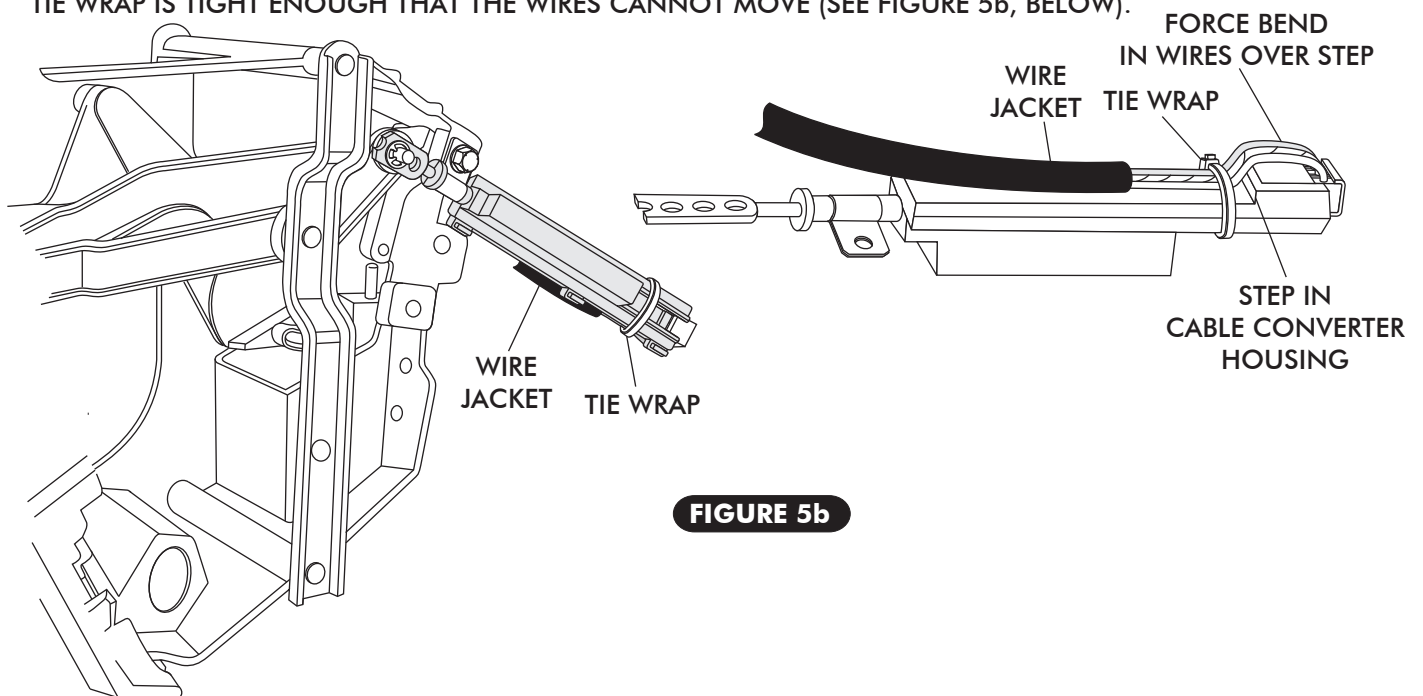


CONTROL HARNESS

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



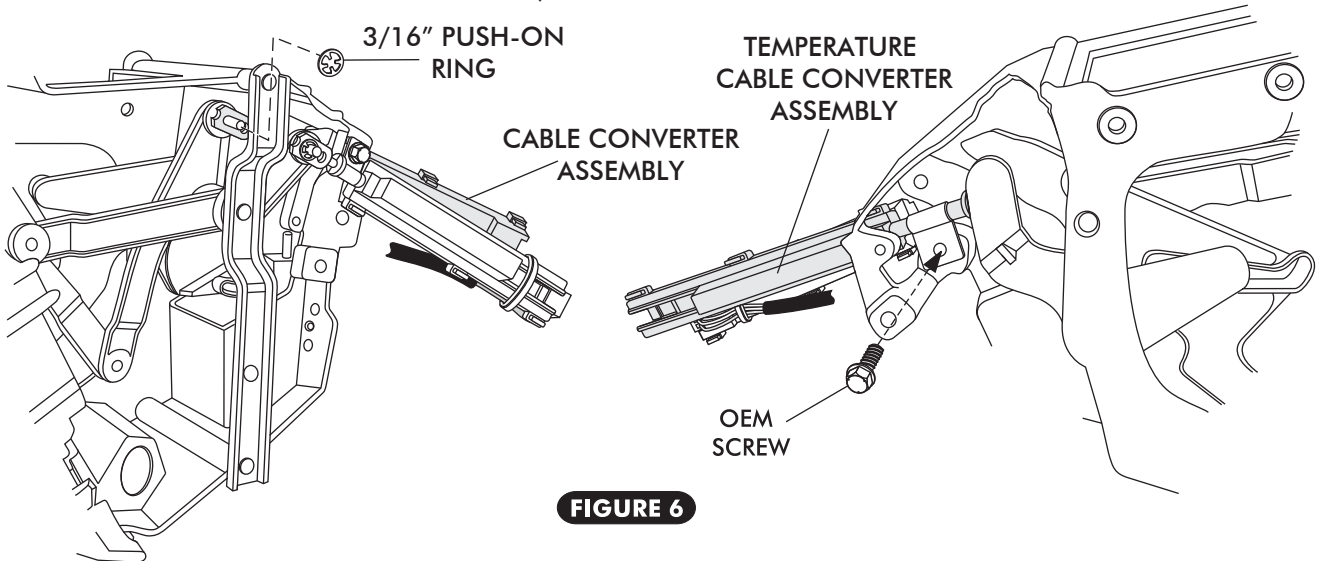
- ONCE THE CONNECTOR IS CORRECTLY PLUGGED INTO THE CABLE CONVERTER ASSEMBLY, SECURE WIRES TO THE CABLE CONVERTER ASSEMBLY USING ONE OF THE SUPPLIED TIE WRAPS (SEE FIGURE 5b, BELOW). THE TIE WRAP MUST BE LOCATED BETWEEN THE END OF THE WIRE JACKET AND THE STEP IN THE CABLE CONVERTER HOUSING, FORCING A BEND IN EACH WIRE AS IT PASSES OVER THE STEP IN THE CABLE CONVERTER HOUSING. THE HEAD OF THE TIE WRAP MUST FALL ON THE EDGE OF THE HOUSING TO REMAIN TIGHT. ENSURE THAT THE TIE WRAP IS TIGHT ENOUGH THAT THE WIRES CANNOT MOVE (SEE FIGURE 5b, BELOW).





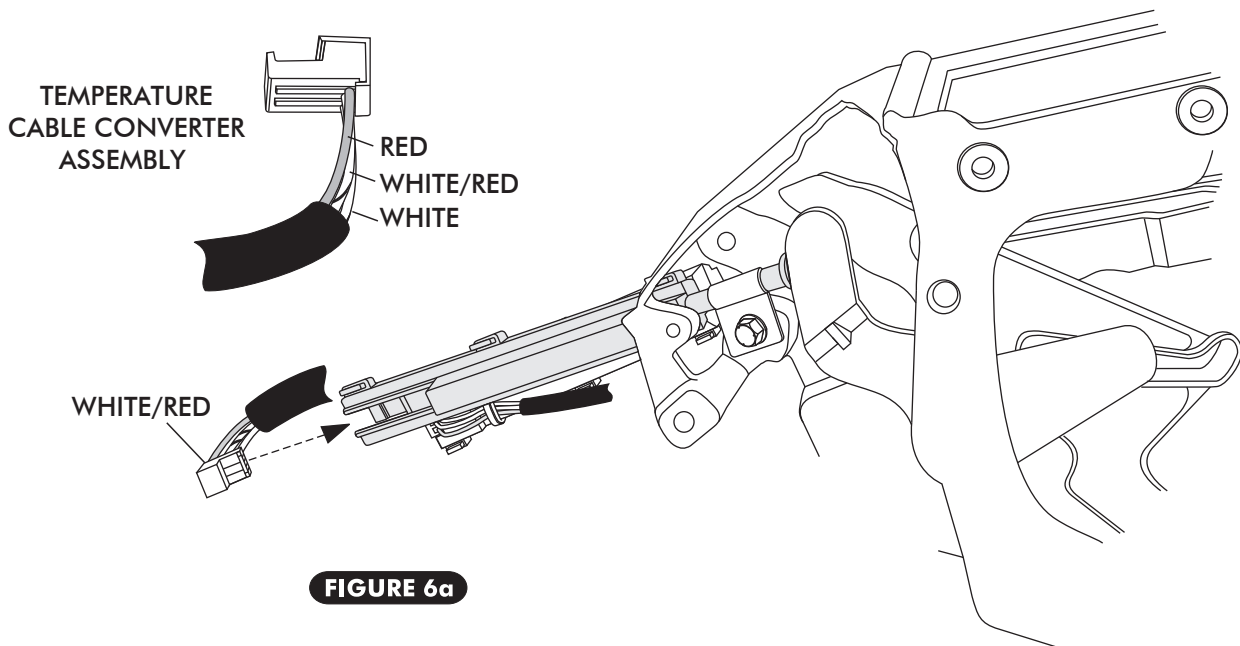
TEMPERATURE CABLE CONVERTER ASSEMBLY

- INSTALL THE CABLE CONVERTER ASSEMBLY ONTO THE TEMPERATURE LEVER (SEE FIGURE 6, BELOW).
- INSTALL THE CABLE CONVERTER LEVER PUSH ROD ONTO THE OEM CABLE MOUNTING STUD ON THE LEVER (SEE FIGURE 6, BELOW).
- SECURE THE CABLE CONVERTER ASSEMBLY TO THE CONTROL PANEL USING THE OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION (SEE FIGURE 6, BELOW).
- SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN THE CLAMP BEFORE THE SCREW IS TIGHTENED, POSITION THE 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 INNERMOST POSITION (SEE FIGURE 5, PAGE 6).
- SECURE THE CABLE CONVERTER PUSH ROD ONTO THE OEM CABLE MOUNTING STUD USING A 3/16" PUSH-ON RING AS SHOWN IN FIGURE 6, BELOW.



CONTROL HARNESS

- LOCATE THE CONTROL PANEL WIRING HARNESS, AND PLUG THE CORRESPONDING CONNECTOR INTO THE CORRECT CABLE CONVERTER ASSEMBLY AS SHOWN IN FIGURE 6a, BELOW.





CONTROL HARNESS (CONT.)

- ONCE THE CONNECTOR IS CORRECTLY PLUGGED INTO THE CABLE CONVERTER ASSEMBLY, SECURE THE WIRES TO THE CABLE CONVERTER ASSEMBLY USING ONE OF THE SUPPLIED TIE WRAPS (SEE FIGURE 6b, 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 IT PASSES OVER THE STEP IN THE CABLE CONVERTER HOUSING. THE HEAD OF THE TIE WRAP MUST FALL ON THE EDGE OF HOUSING TO REMAIN TIGHT. ENSURE THAT THE TIE WRAP IS TIGHT ENOUGH THAT THE WIRES CANNOT MOVE (SEE FIGURE 6b, BELOW).

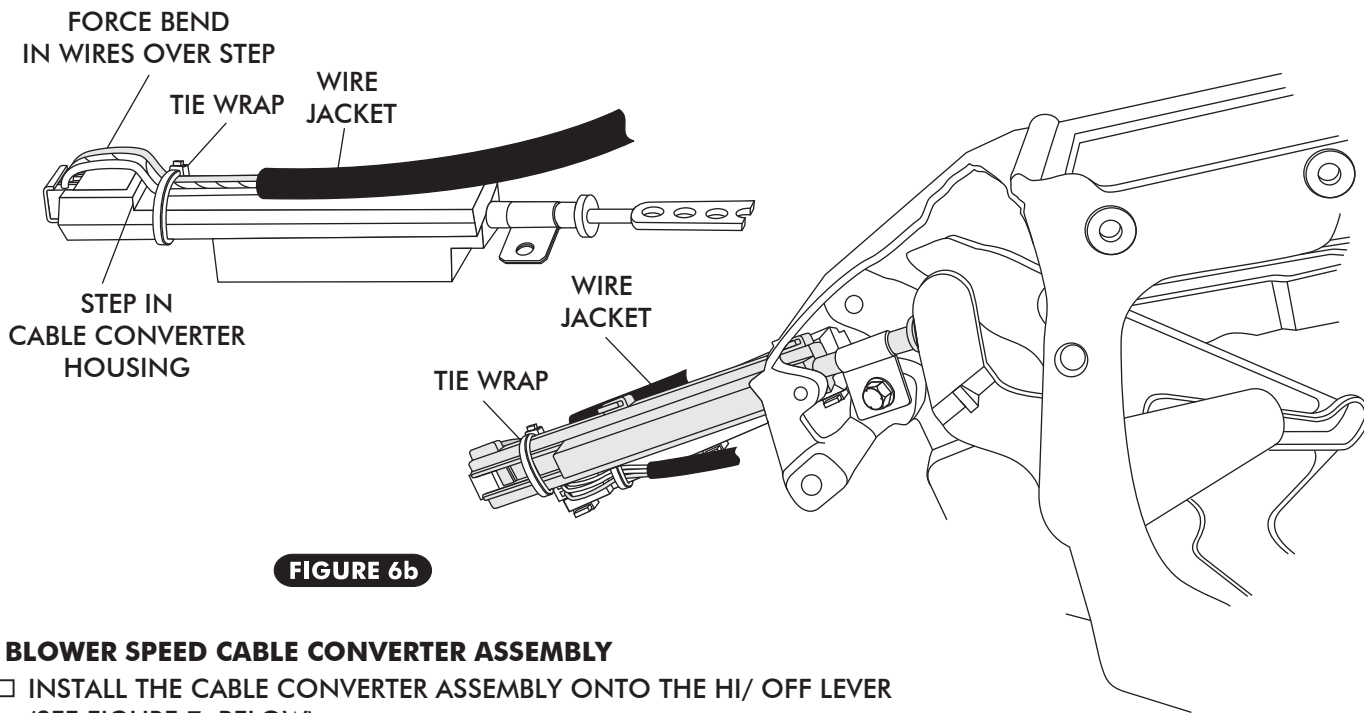


FIGURE 6b

BLOWER SPEED CABLE CONVERTER ASSEMBLY

- INSTALL THE CABLE CONVERTER ASSEMBLY ONTO THE HI/ OFF LEVER (SEE FIGURE 7, BELOW).
- INSTALL THE CABLE CONVERTER LEVER PUSH ROD ONTO THE OEM CABLE MOUNTING STUD ON THE LEVER (SEE FIGURE 7, BELOW).
- SECURE THE CABLE CONVERTER ASSEMBLY TO THE CONTROL PANEL USING THE OEM SCREW IN THE OEM CABLE CLAMP MOUNTING LOCATION (SEE FIGURE 7, BELOW).
- SINCE THE CABLE CONVERTER ASSEMBLY CAN SLIDE BACK AND FORTH IN THE CLAMP BEFORE THE SCREW IS TIGHTENED, POSITION THE CABLE CONVERTER ASSEMBLY SUCH THAT THE FLAT ROD IS AS CLOSE TO FLUSH AS POSSIBLE WITH THE END OF HOUSING AT THE LEVER'S INNERMOST POSITION (SEE FIGURE 5, PAGE 6).
- SECURE THE CABLE CONVERTER LEVER PUSH ROD ONTO THE OEM CABLE MOUNTING STUD USING A 3/16" PUSH-ON RING AS SHOWN IN FIGURE 7, BELOW.

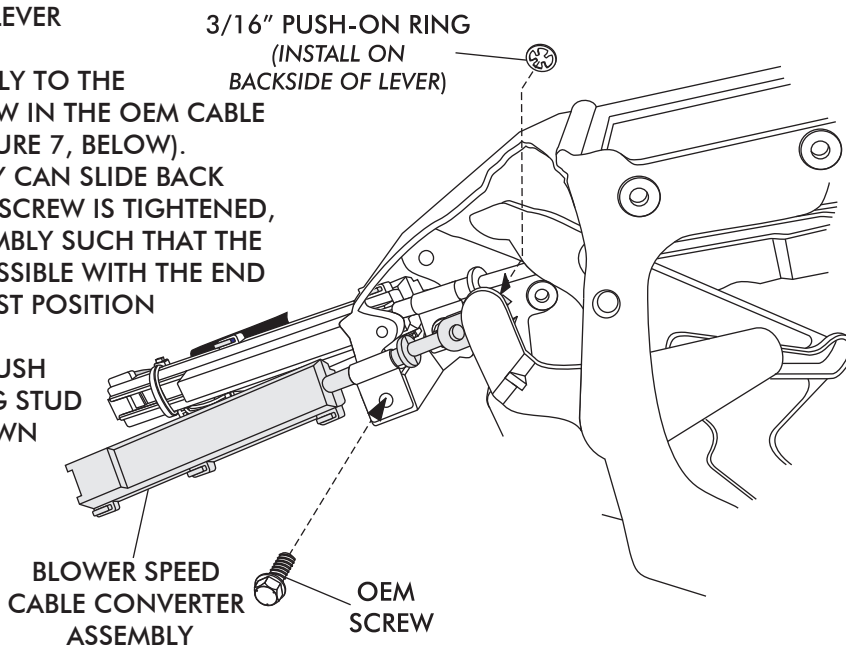


FIGURE 7



CONTROL HARNESS

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

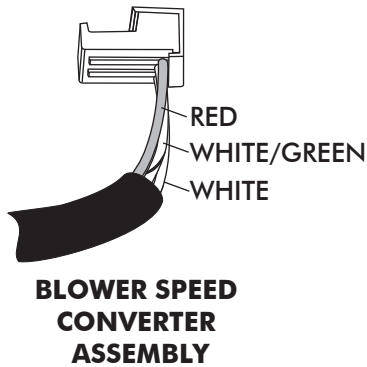


FIGURE 7a

WHITE/GREEN

- ONCE THE CONNECTOR IS CORRECTLY PLUGGED INTO THE CABLE CONVERTER ASSEMBLY, SECURE THE WIRES TO THE CABLE CONVERTER ASSEMBLY USING ONE OF THE SUPPLIED TIE WRAPS (SEE FIGURE 7b, BELOW). THE TIE WRAP MUST BE LOCATED BETWEEN THE END OF THE WIRE JACKET AND STEP IN THE CABLE CONVERTER HOUSING, FORCING A BEND IN EACH WIRE IT PASSES OVER THE STEP IN THE CABLE CONVERTER HOUSING. THE HEAD OF THE TIE WRAP MUST FALL ON THE EDGE OF THE HOUSING TO REMAIN TIGHT. ENSURE THAT THE TIE WRAP IS TIGHT ENOUGH THAT THE WIRES CANNOT MOVE. (SEE FIGURE 7b, BELOW).

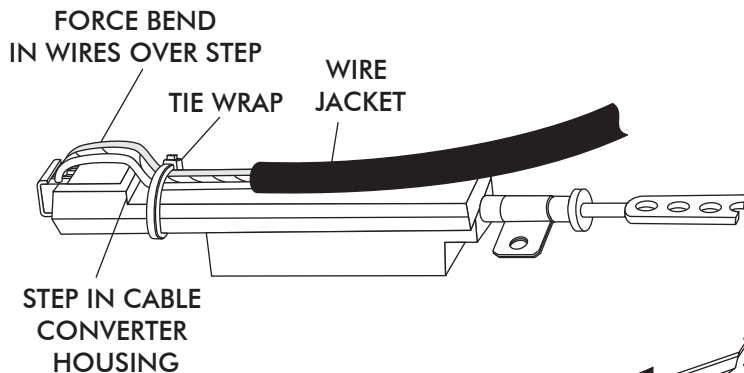


FIGURE 7b

WIRE
JACKET

TIE WRAP



CONTROL HARNESS

- USING THE SUPPLIED TIE WRAPS, TIE THE WIRES TO THE CONTROL PANEL AS SHOWN IN FIGURE 8, BELOW.
NOTE: CONFIRM THAT THE WIRES ARE SECURED AND DO NOT INTERFERE WITH LEVER OPERATION OR CABLE CONVERTER ASSEMBLIES.

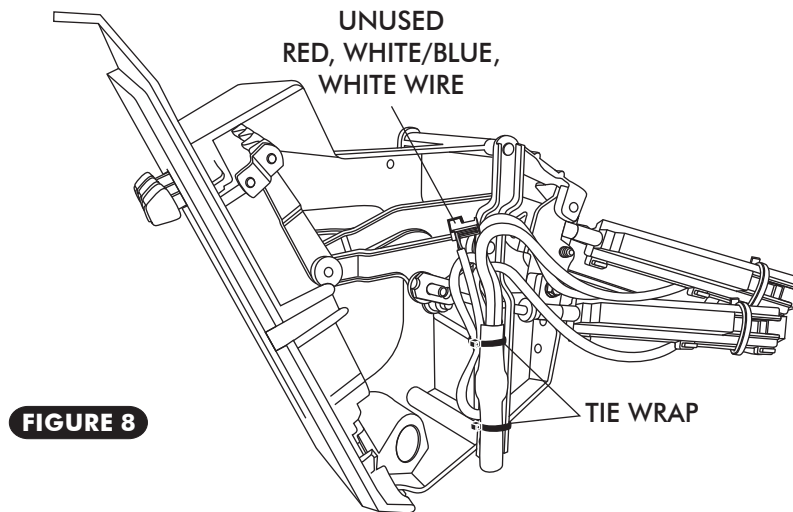


FIGURE 8

NOTE: TIE THE UNUSED WIRE TO THE CONTROL PANEL APPROXIMATELY AS SHOWN, ENSURE THAT THE WIRE DOES NOT INTERFERE WITH LEVERS OR CABLE CONVERTER ASSEMBLIES.



FINAL STEPS

- INSTALL THE CONTROL PANEL IN THE DASH
- PLUG THE WIRING HARNESS INTO THE ECU MODULE ON THE SUB CASE (SEE FIGURE 10, BELOW).
- WIRE ACCORDING TO THE WIRING DIAGRAM ON PAGE 15 OR 16
- CALIBRATION PROCEDURE AND OPERATION INSTRUCTIONS:
 - A. CALIBRATING THE CONTROL PANEL WILL SET THE RANGE OF TRAVEL FOR THE CABLE CONVERTERS CONNECTED TO THE OEM CONTROL PANEL LEVERS. PERFORMING THIS PROCEDURE WILL SET THE LIMITS OF THE CABLE CONVERTERS AT THEIR HIGHEST AND LOWEST POINTS.
 - B. LOCATE THE GRAY WIRE WITH AN UNUSED CONNECTOR IN THE WIRING HARNESS NEAR THE CABLE HARNESS RELAY. THIS WIRE IS LABELED PROGRAM ON THE WIRING DIAGRAM ON PAGE 15 OR 16.
 - C. IT WILL BE NECESSARY TO GROUND THE GRAY WIRE FOR APPROXIMATELY FIVE SECONDS WHILE MOVING THE CONTROLS, SO IT IS SOMETIMES HELPFUL TO ATTACH ONE END OF THE WHITE JUMPER TO THE VEHICLE'S GROUND (FOR EXAMPLE, THE CHASSIS) AND HAVE THE OTHER END READY TO CONNECT TO THE GRAY PROGRAM WIRE WHEN THE PROCEDURE REQUIRES IT.
 - D. TO CALIBRATE THE CONTROL PANEL, FOLLOW THE CALIBRATION PROCEDURES ON PAGES 13 & 14.

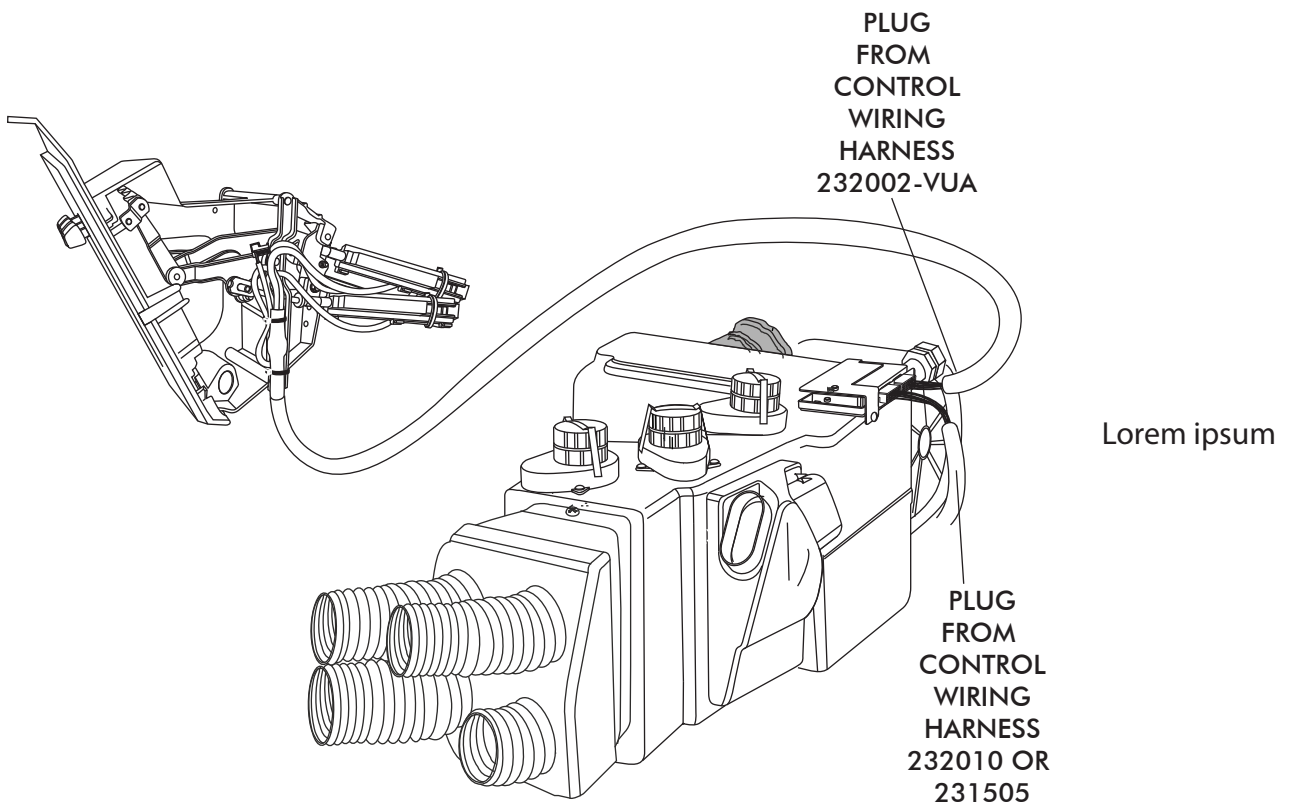


FIGURE 10



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.

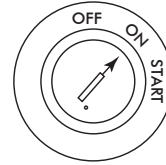
Gen 5 Systems:

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.

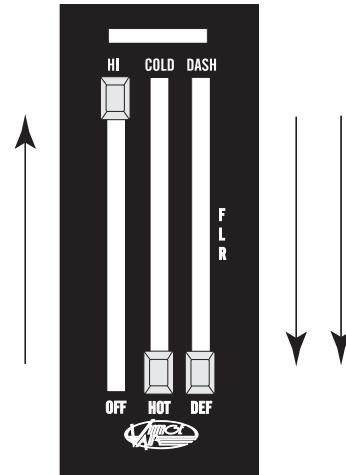


Control Panel Calibration Procedure (Cont.)

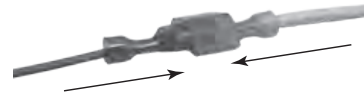
1. Turn on the ignition switch (Do not start the engine).



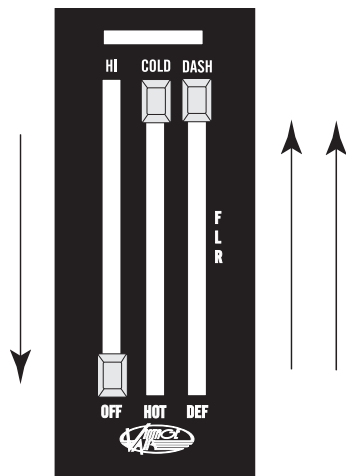
2. Move the control levers/knobs to the positions shown.



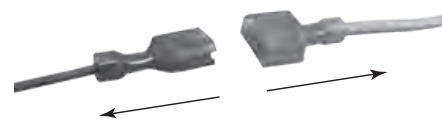
3. Connect the white jumper wire to the gray program wire. Wait approximately 5 seconds for the blower speed to change if using a Gen IV system, if using a Gen 5 system wait for the blower to default to medium speed.



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.

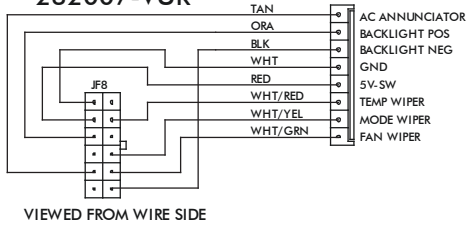


6. Confirm proper operation of controls. Repeat procedure if necessary. When finished, tape over program wire connector with electrical tape to prevent accidental contact with chassis ground.



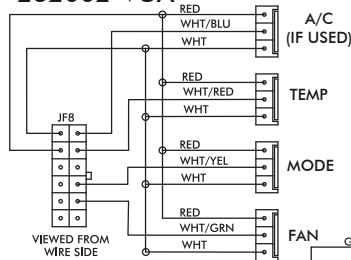
Gen IV Wiring Diagram

232007-VUR



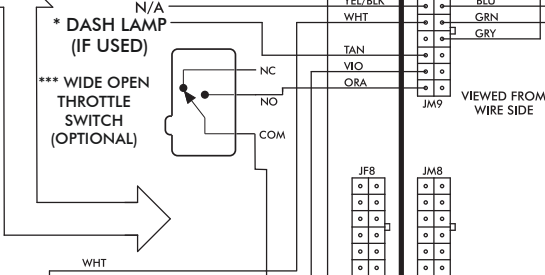
VIEWED FROM WIRE SIDE

232002-VUA



VIEWED FROM WIRE SIDE

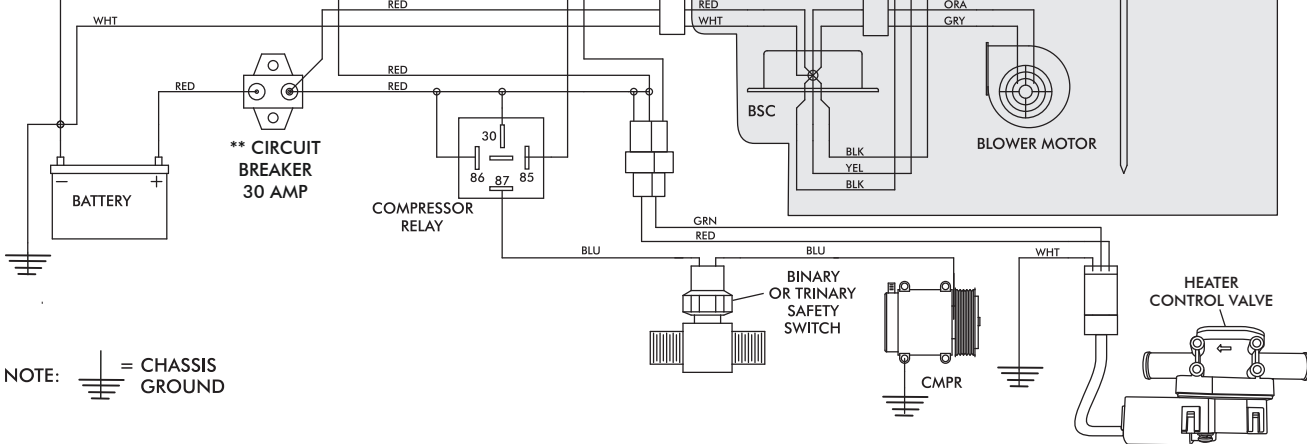
PROGRAM



WHT



IGNITION SWITCH

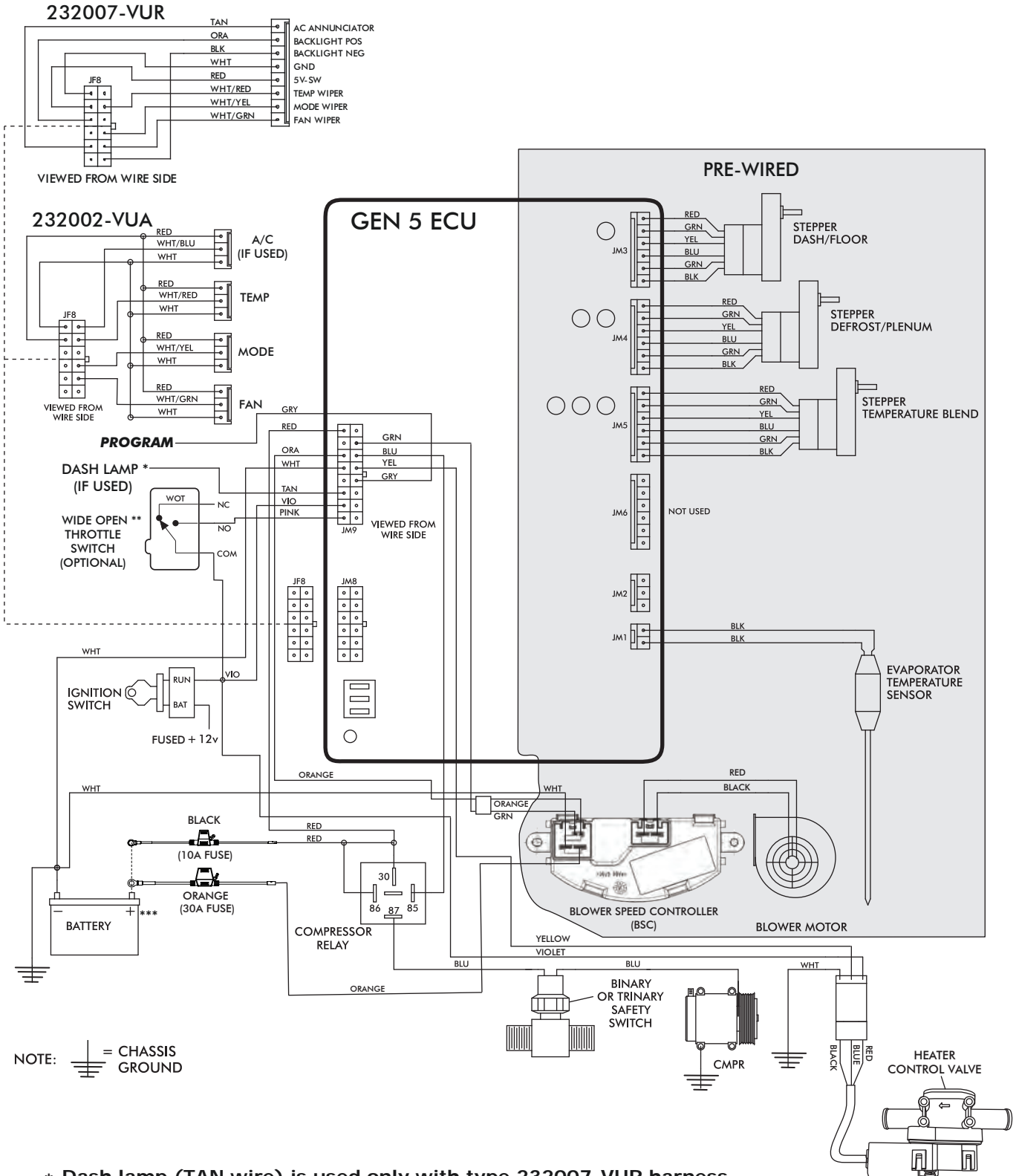


NOTE: = CHASSIS GROUND

- * 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 routed to avoid a short circuit).
- *** Wide open throttle switch contacts close only at full throttle, which disables A/C compressor.



Gen 5 Wiring Diagram



NOTE: = CHASSIS GROUND

* 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 IV or Gen 5 systems with three lever/knob controls, the temperature control toggles between heat and A/C operations. To activate A/C, move the temperature lever/knob all the way to cold and then back it off to the desired vent temperature. For heat operation, move the temperature lever/knob all the way to hot and then adjust to the desired vent temperature. The blower will momentarily change speed, each time you toggle in and out of heat and A/C operations, to indicate the change. **NOTE: For proper control panel function, refer to Pages 13 and 14 for calibration procedure.**

Blower Speed

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

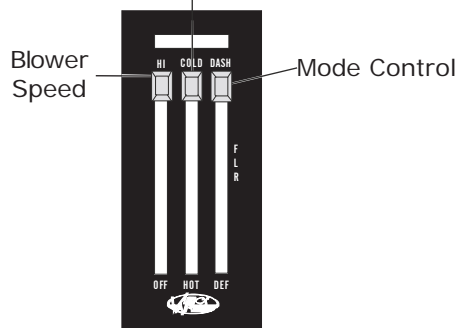
Mode Control

This lever/knob controls the mode positions, from DASH to FLOOR to DEFROST, with a blend in between.

Temperature Control

This lever controls the temperature, from HOT to COLD.

Temperature 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

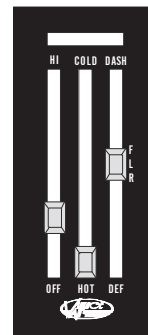
Adjust to desired speed.

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).





CONTROL KIT PACKING LIST

CONTROL KIT
474172

No	QTY	PART No.	DESCRIPTION	
1.	1	484161	PLACARD	_____
2.	3	112002-SUA	CABLE CONVERTER ASSEMBLY	_____
3.	1	232002-VUA	CONTROL HARNESS, GEN IV UNIVERSAL	_____
4.	3	65976-VUE	PUSH-ON RING, 3/16"	_____
5.	3	491010-VUR	CABLE CONVERTER CLAMP	_____
6.	5	21301-VUP	TIE WRAP, 4"	_____
7.	1	231520	GROUND WIRE	_____

CHECKED BY: _____
 PACKED BY: _____
 DATE: _____

