



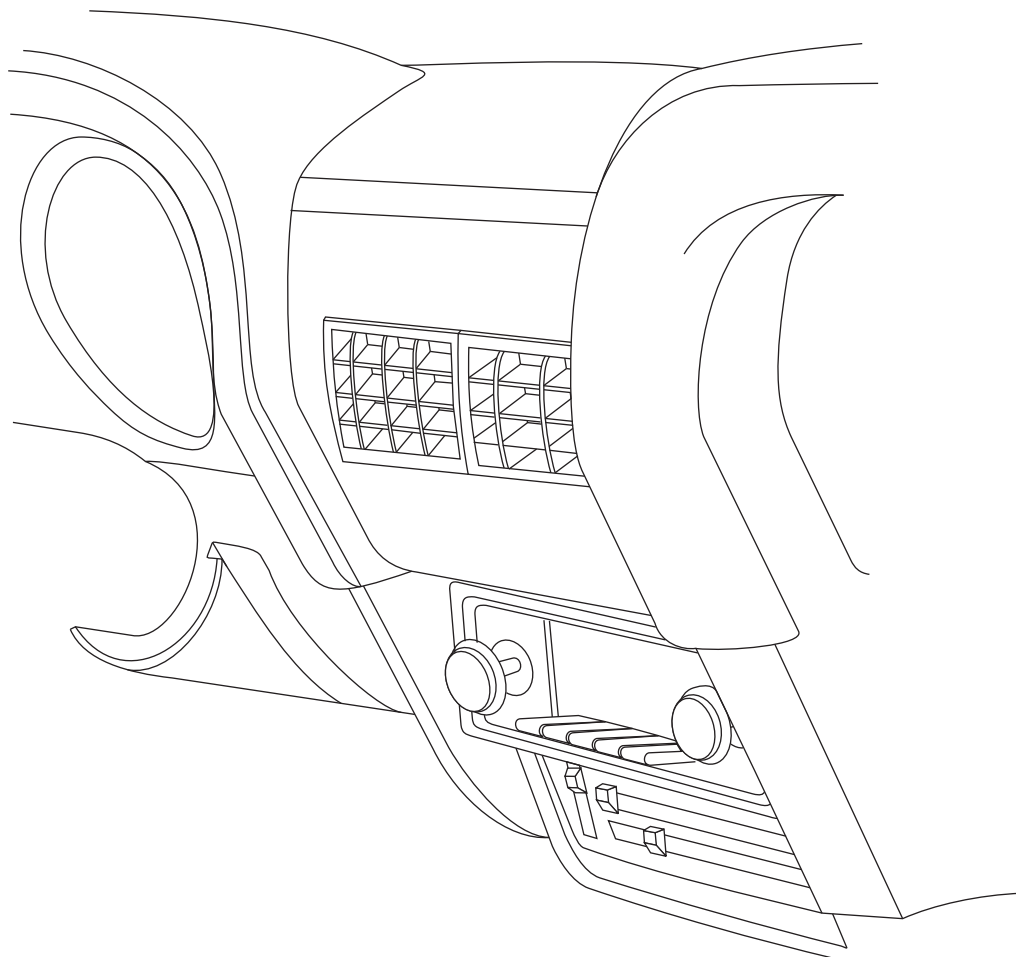
an ISO 9001:2008 Registered Company

1969-70 MUSTANG

WITH AC CONTROL PANEL

CONVERSION KIT

475170



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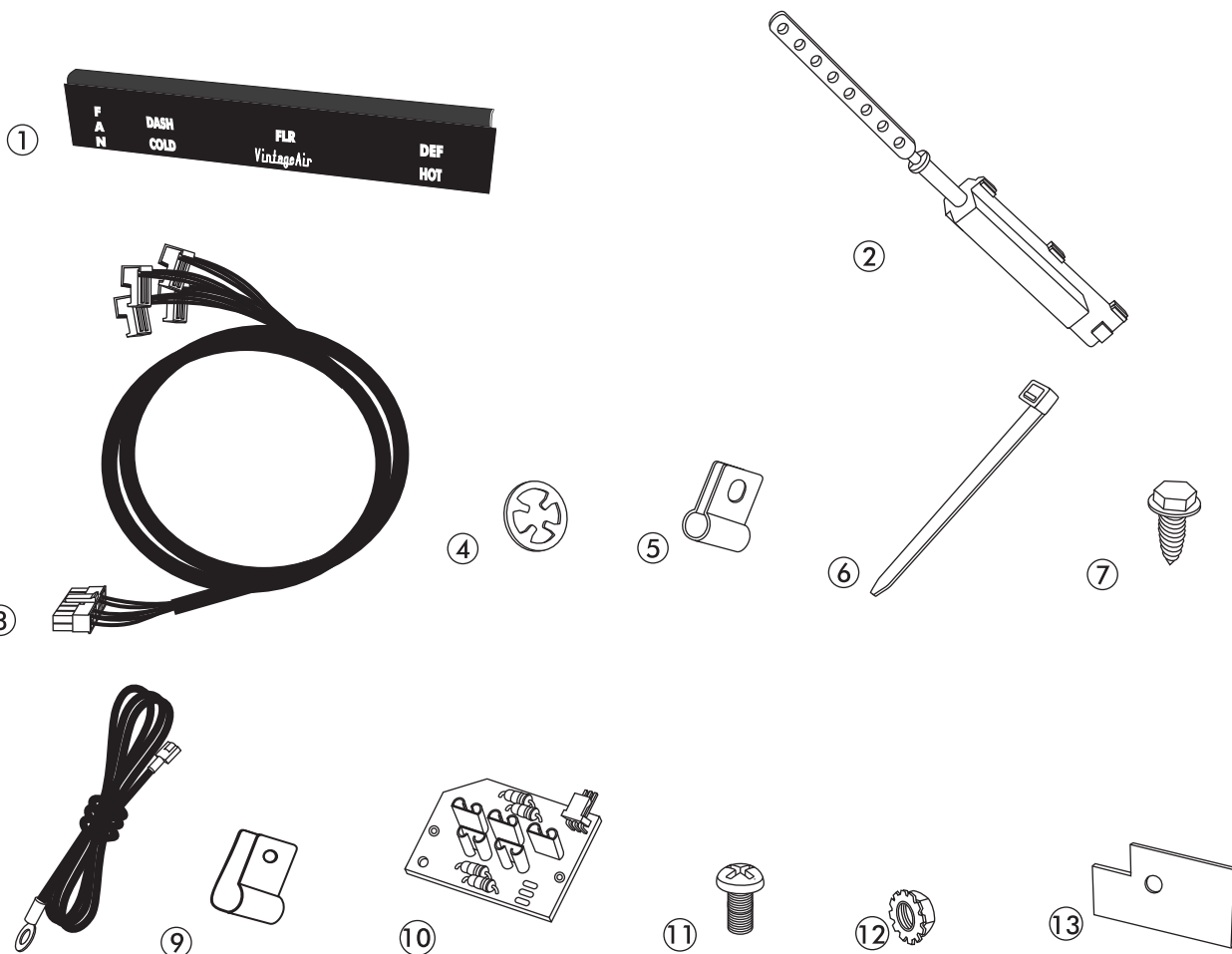


CONTROL PANEL KIT PACKING LIST

CONTROL KIT
475170

No.	QTY.	PART No.	DESCRIPTION
1.	1	484075	69-70 MUSTANG CNTRL PNL MODE LABEL ASM
2.	2	112002-SUA	SLIDE POT ASM
3.	1	232002-VUA	GEN IV UNIVERSAL CONTROL HARNESS
4.	2	65976-VUE	3/16" PUSH-ON RING
5.	2	491010-VUR	SLIDE POT CLAMP
6.	5	21301-VUP	4" TIE WRAP
7.	3	18247-VUB	#10 x 1/2" SHEET METAL SCREW
8.	1	231520	GROUND WIRE
9.	1	18058-VUB	5/16" NYLON CABLE CLAMP
10.	1	246110-PUA	BLOWER SWITCH PC BOARD
11.	1	18249-VUB	10/24 x 3/8 PAN MS
12.	1	18260-VUB	10/24 NUT w/ STAR WASHER
13.	1	642074	69-70 MUSTANG w/AC SLIDE POT BRKT

**** 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

- ☐ REMOVE THE (3) OEM MOUNTING SCREWS FROM CONTROL PANEL. SEE FIGURE 1.
- ☐ REMOVE THE CONTROL PANEL
- ☐ DISCONNECT CABLES, AND WIRES, VACUUM SWITCH & VACUUM HOSES FROM BACK OF CONTROL PANEL.

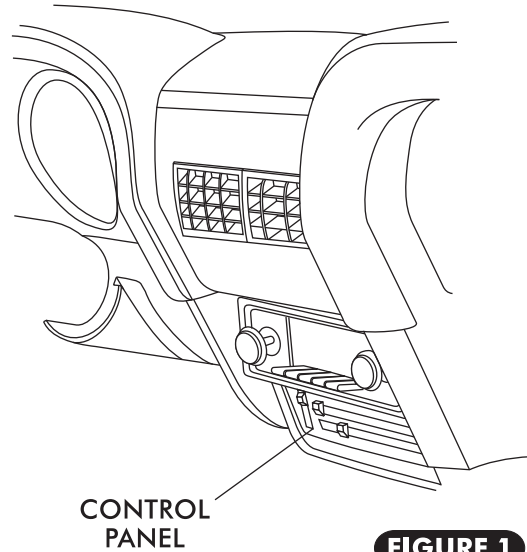


FIGURE 1

PLACARD INSTALLATION

- ☐ REMOVE KNOBS.
- ☐ REMOVE OEM LENS AND BRKT FROM CONTROL PANEL.
- ☐ INSTALL CONTROL PANEL MODE LABEL ASM AS SHOWN IN FIGURE 2a.
- ☐ RE-INSTALL OEM BEZEL AND KNOBS.

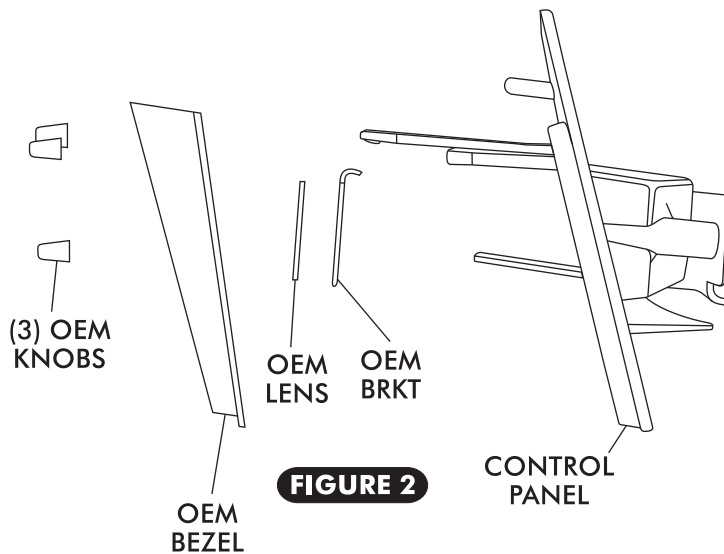


FIGURE 2

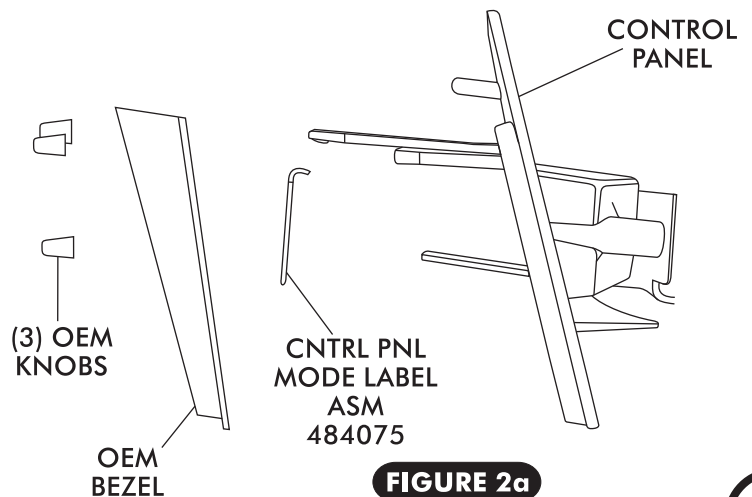
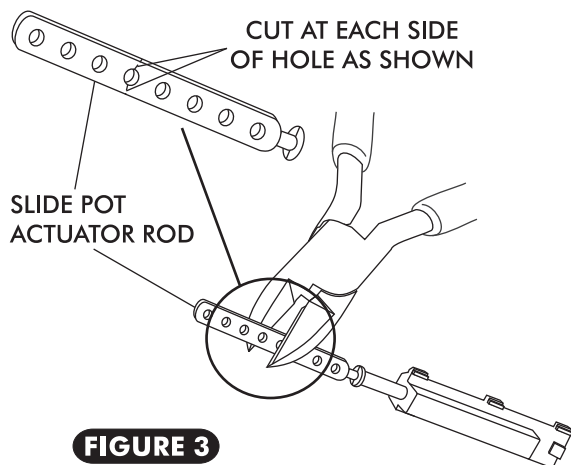


FIGURE 2a

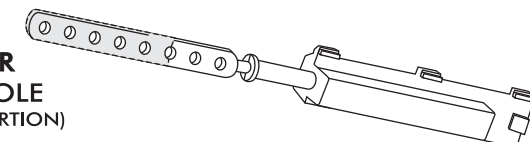


SLIDE POT ASSEMBLY MODIFICATIONS

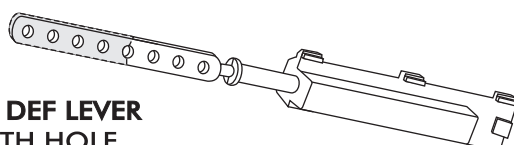
- LOCATE THE TWO SLIDE POT ASSEMBLIES, AND USING A PAIR OF WIRE CUTTERS, CUT SLIDE POT ACTUATOR RODS AS SHOWN BELOW IN FIGURE 3.



COLD/HOT LEVER
CUT AT 6TH HOLE
(REMOVE SHADED PORTION)

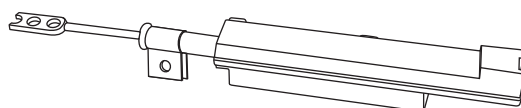
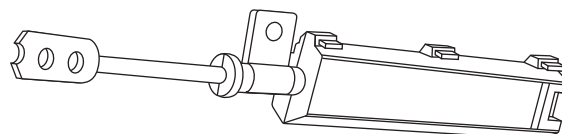
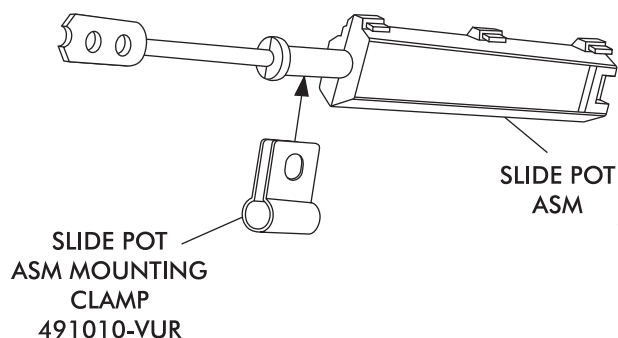


DASH/ FLR/ DEF LEVER
CUT AT 5TH HOLE
(REMOVE SHADED PORTION)

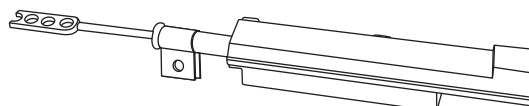


SLIDE POT ASSEMBLY MOUNTING CLAMP INSTALLATION

- INSTALL SLIDE POT ASM MOUNTING CLAMPS, SEE FIGURE 4 BELOW.



COLD/HOT
SLIDE POT ASSEMBLY
112002-SUA



DASH/ FLR/ DEF
POT ASSEMBLY
112002-SUA

**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.)**



SLIDE POT MOUNTING BRKT INSTALLATION

- INSTALL SLIDE POT MOUNTING BRKT ONTO CONTROL PANEL USING 10/24 X 3/8 PAN MS, AND 10/24 NUT w/ STAR WASHER AS SHOWN BELOW IN FIGURE 5.

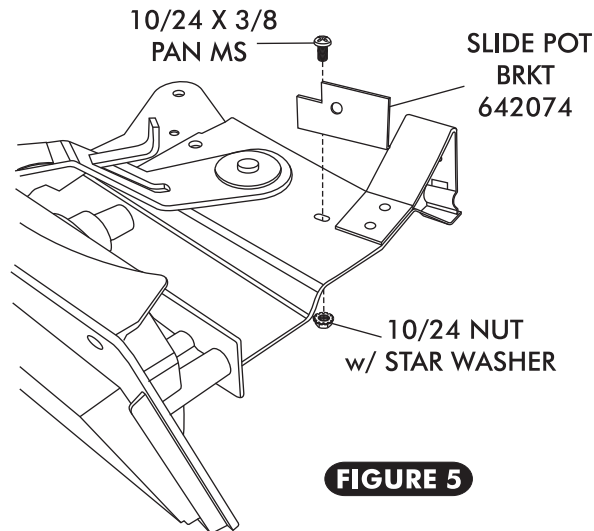
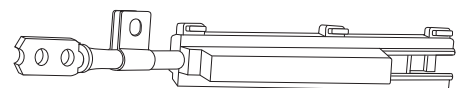
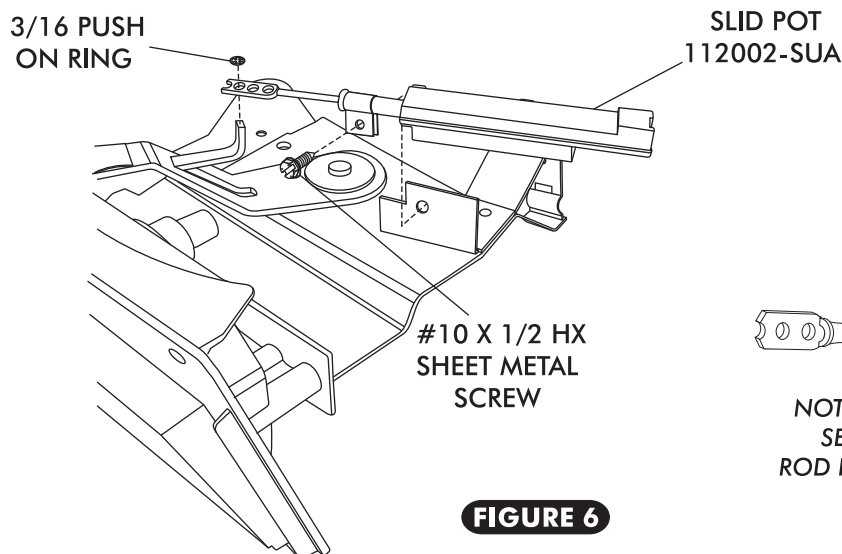


FIGURE 5

SLIDE POT ASSEMBLY INSTALLATION

DASH/ FLR/ DEF SLIDE POT ASSEMBLY

- INSTALL SLIDE POT ASM ON THE DASH/FLR/ DEF LEVER. SEE FIGURE 6 BELOW.
- INSTALL SLIDE POT LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 6 BELOW.
- SECURE THE SLIDE POT ASM TO THE CONTROL PANEL MOUNTING BRACKET USING A #10 X 1/2 HX SHEET METAL SCREW. SEE FIGURE 6 BELOW.
- 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 HOUSING AT THE LEVERS INNER MOST POSITION. SEE FIGURE 6 BELOW.
- SECURE SLIDE POT LEVER PUSH ROD ONTO OEM CABLE MOUNTING STUD USING 3/16 PUSH-ON RING AS SHOWN IN FIGURE 6 BELOW.



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

FIGURE 6



CONTROL HARNESS

- LOCATE THE CONTROL PANEL WIRE HARNESS AND PLUG THE CORRESPONDING WIRES INTO THE CORRECT SLIDE POT ASSEMBLY AS SHOWN IN FIGURE 7 BELOW.

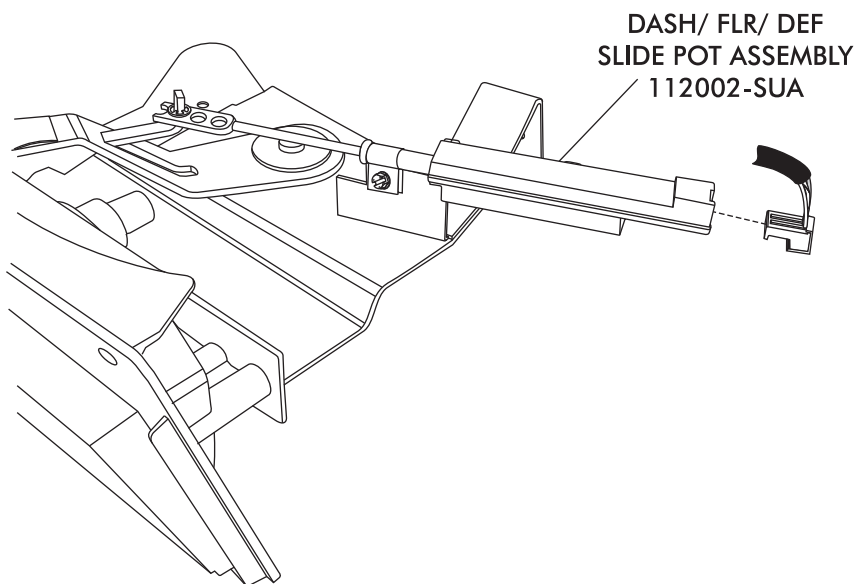
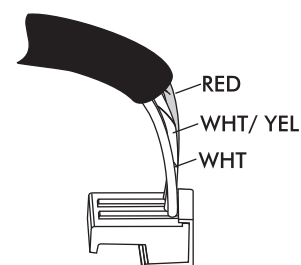


FIGURE 7



**DASH/FLR/DEF SLIDE
POT ASSEMBLY**

- ONCE WIRES ARE CORRECTLY PLUGGED INTO SLIDE POT ASSEMBLY, SECURE WIRES TO THE SLIDE POT 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 SLIDE POT HOUSING FORCING A BEND IN EACH WIRE AS THEY PASS OVER THE STEP IN 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 CAN NOT MOVE. SEE FIGURE 8.

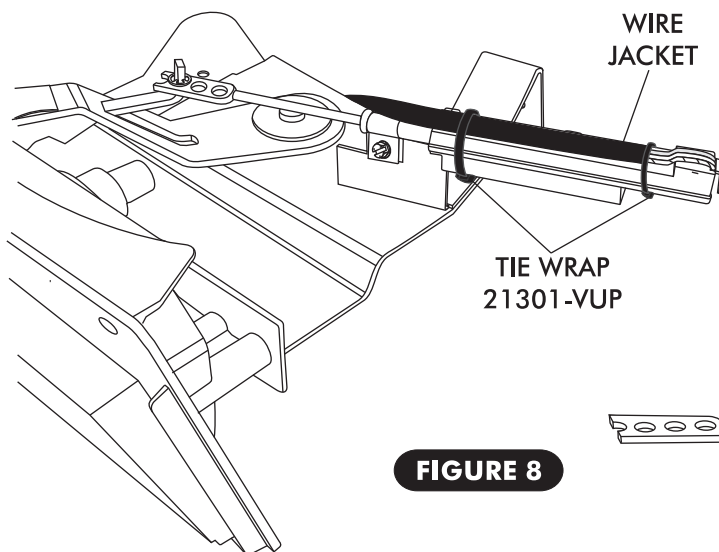
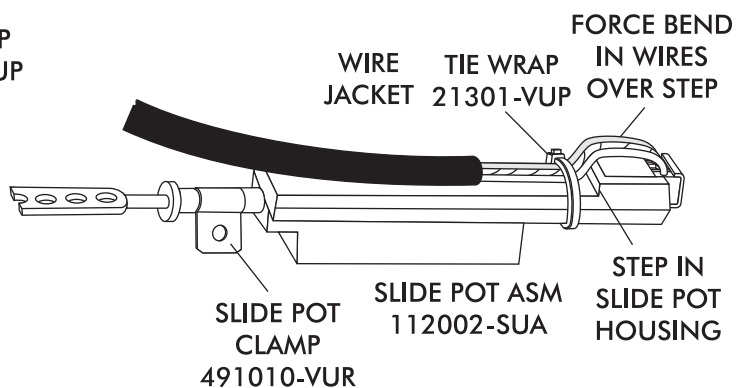


FIGURE 8





COLD/HOT SLIDE POT MOUNTING HOLE MODIFICATION

- DRILL 1/8 HOLE IN CONTROL PANEL AS SHOWN IN FIGURE 9 BELOW.

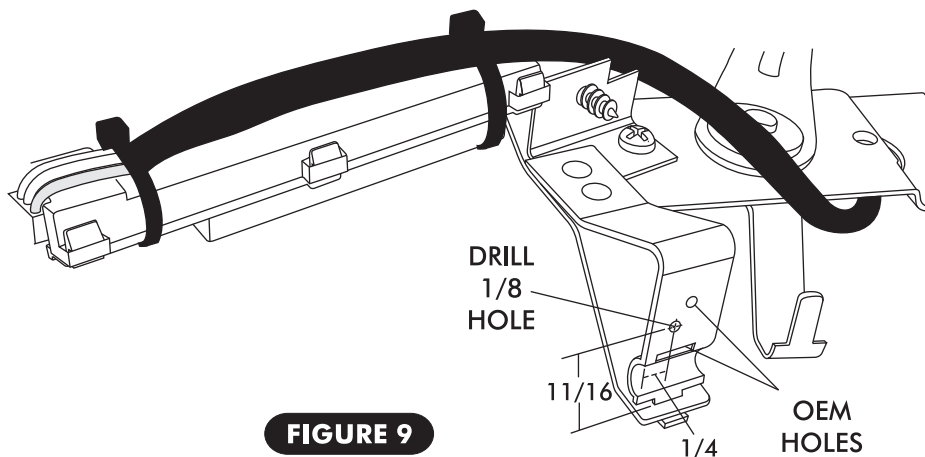


FIGURE 9

SLIDE POT ASSEMBLY INSTALLATION

COLD/HOT SLIDE POT ASSEMBLY

- INSTALL SLIDE POT ASM ON THE COLD/HOT LEVER. SEE FIGURE 10 BELOW.
- INSTALL SLIDE POT LEVER PUSH ROD ON TO OEM CABLE MOUNTING STUD ON LEVER. SEE FIGURE 10 BELOW.
- SECURE THE SLIDE POT ASM TO THE CONTROL PANEL USING A #10 X 1/2 HX SHEET METAL SCREW. SEE FIGURE 10 BELOW.
- SECURE SLIDE POT LEVER PUSH ROD ON TO OEM CABLE MOUNTING STUD USING 3/16 PUSH-ON RING AS SHOWN IN FIGURE 10 BELOW.

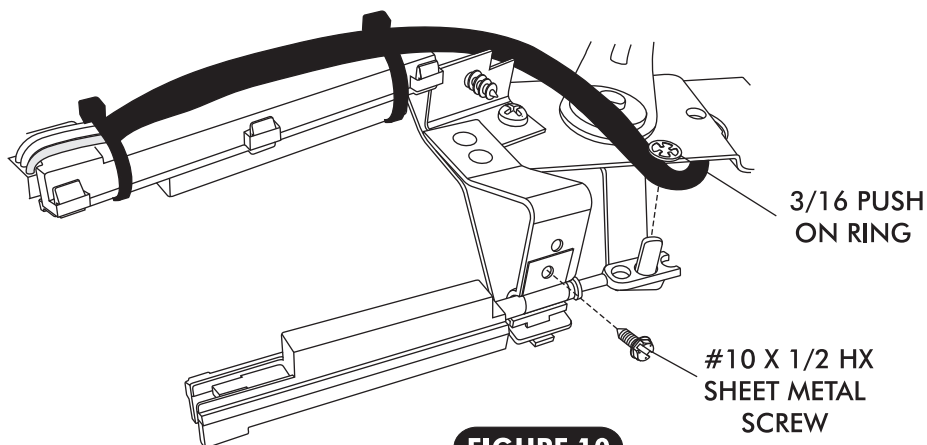
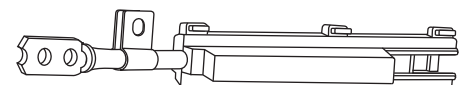


FIGURE 10



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 SLIDE POT ASSEMBLY AS SHOWN IN FIGURE 11 BELOW.

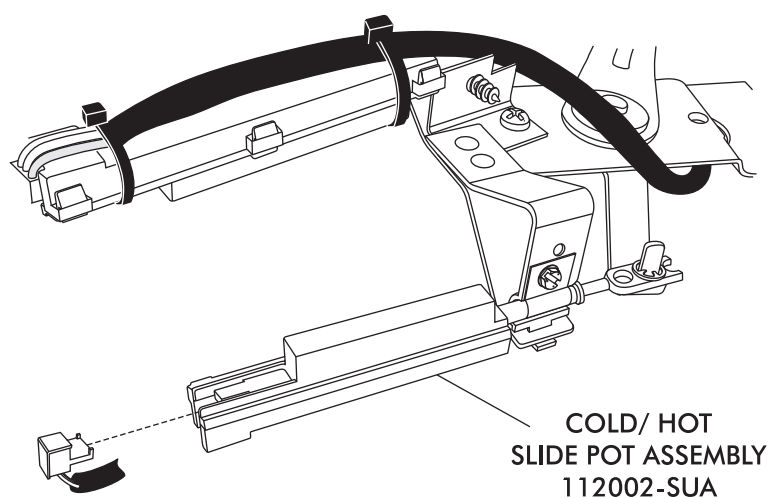
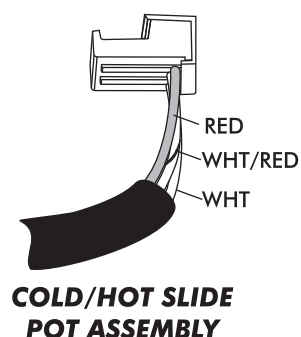


FIGURE 11



- ONCE WIRES ARE CORRECTLY PLUGGED INTO SLIDE POT ASSEMBLY, SECURE WIRES TO THE SLIDE POT 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 SLIDE POT HOUSING FORCING A BEND IN EACH WIRE AS THEY PASS OVER THE STEP IN 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 CAN NOT MOVE. SEE FIGURE 12.

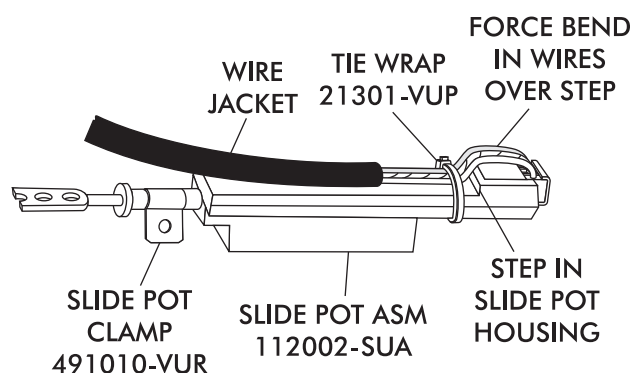
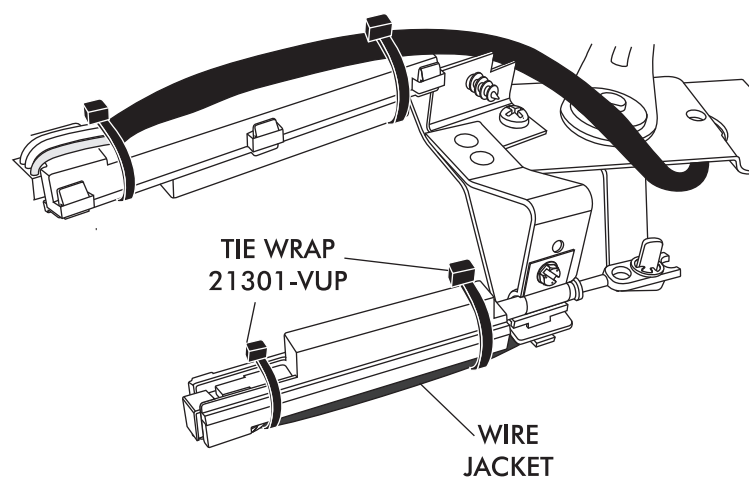


FIGURE 12



BLOWER SWITCH

- INSTALL THE BLOWER SWITCH PC BOARD ON O.E.M. BLOWER SWITCH AS SHOWN IN FIGURE 13 BELOW.
- PLUG IN THE REMAINING CONNECTOR WITH THE RED, WHT & WHT/GRN WIRES INTO THE BLOWER SWITCH PC BOARD AS SHOWN IN FIGURE 13 BELOW.

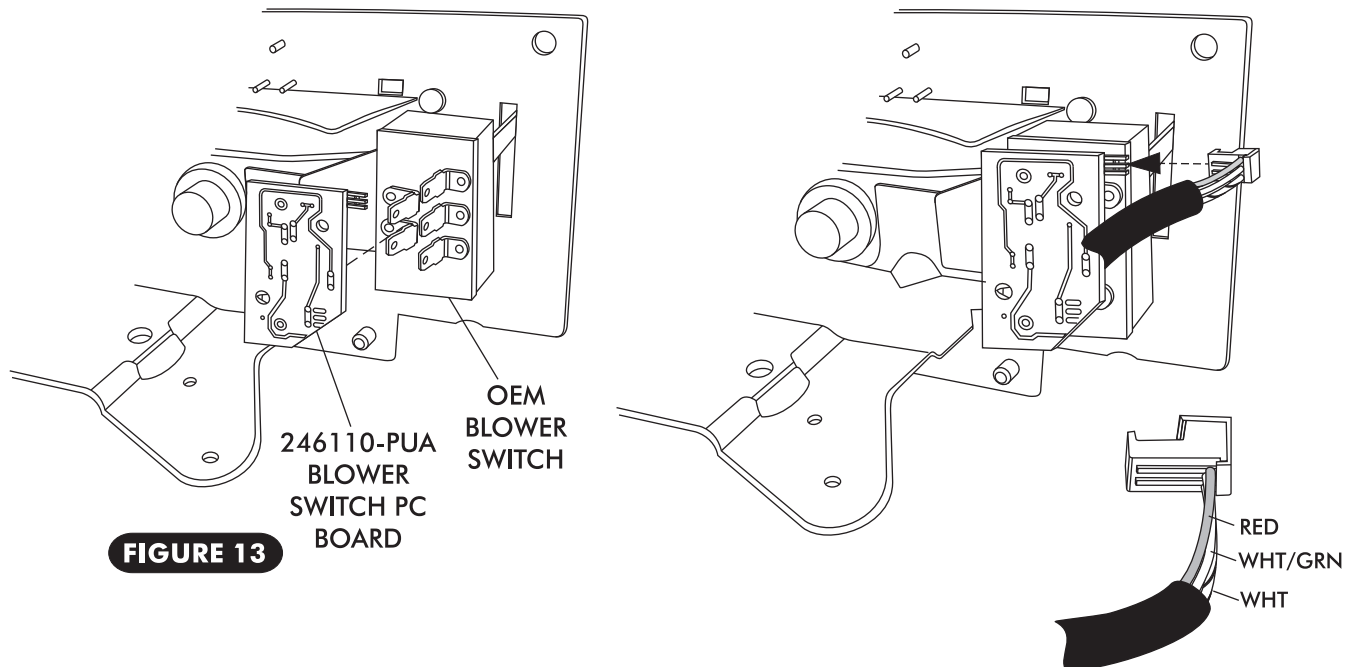


FIGURE 13

SECURING WIRING HARNESS

- SECURE THE WIRING HARNESS TO THE CONTROL PANEL USING A 5/16 NYLON CLAMP AND #10 X 1/2 HX SHEET METAL SCREW. SEE FIGURE 14 BELOW.
- USING THE SUPPLIED TIE-WRAPPS, TIE THE WIRES AND THE UNUSED WIRE TO THE CONTROL PANEL AS SHOWN IN FIGURE 14 BELOW. CONFIRM THAT WIRES ARE SECURE AND DO NOT INTERFERE WITH LEVER OPERATION OR SLIDE POT ASSEMBLY.

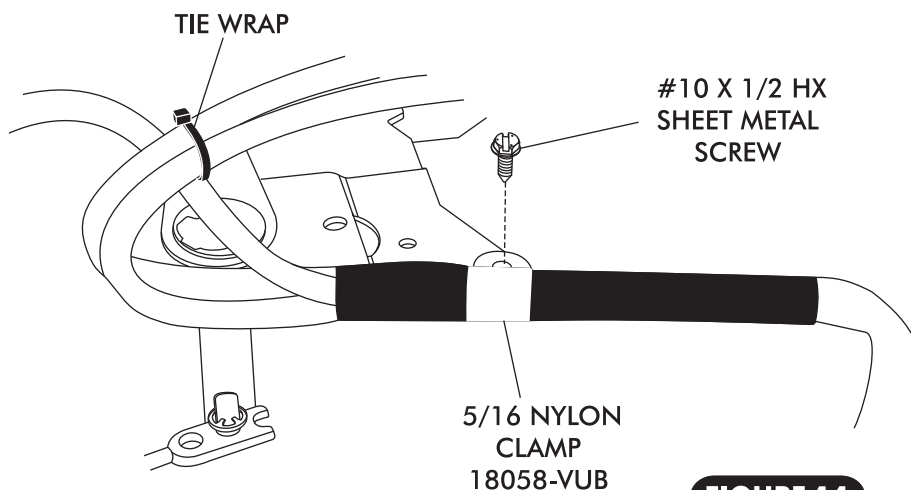


FIGURE 14



FINAL STEPS

- ❑ INSTALL CONTROL PANEL IN DASH. TO EASE INSTALLATION, ROTATE CONTROL PANEL SLIGHTLY AND PASS THE SLIDE POT ASSEMBLIES THROUGH DASH OPENING FIRST. AS THE SLIDE POT ASSEMBLIES PASS THROUGH THE DASH OPENING ROTATE THE CONTROL PANEL BACK THE OPPOSITE DIRECTION TO FIT CONTROL PANEL IN DASH.
NOTE: MAKE SURE SLIDE POT ASSEMBLIES CLEAR DUCT HOSE BEHIND THE DASH OPENING. DO NOT FORCE THE CONTROL PANEL IN DASH, FORCING THE CONTROL PANEL IN DASH WILL DAMAGE SLIDE POT ASSEMBLIES AND/OR DUCT HOSE.

- ❑ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE. SEE FIGURE 15 BELOW.

- ❑ WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 14.

- ❑ CALIBRATION PROCEDURE AND OPERATION INSTRUCTIONS:

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

LOCATE THE GRAY WIRE WITH UNUSED CONNECTOR IN THE WIRING HARNESS NEAR THE TWO CABLE HARNESS RELAYS. THIS 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.

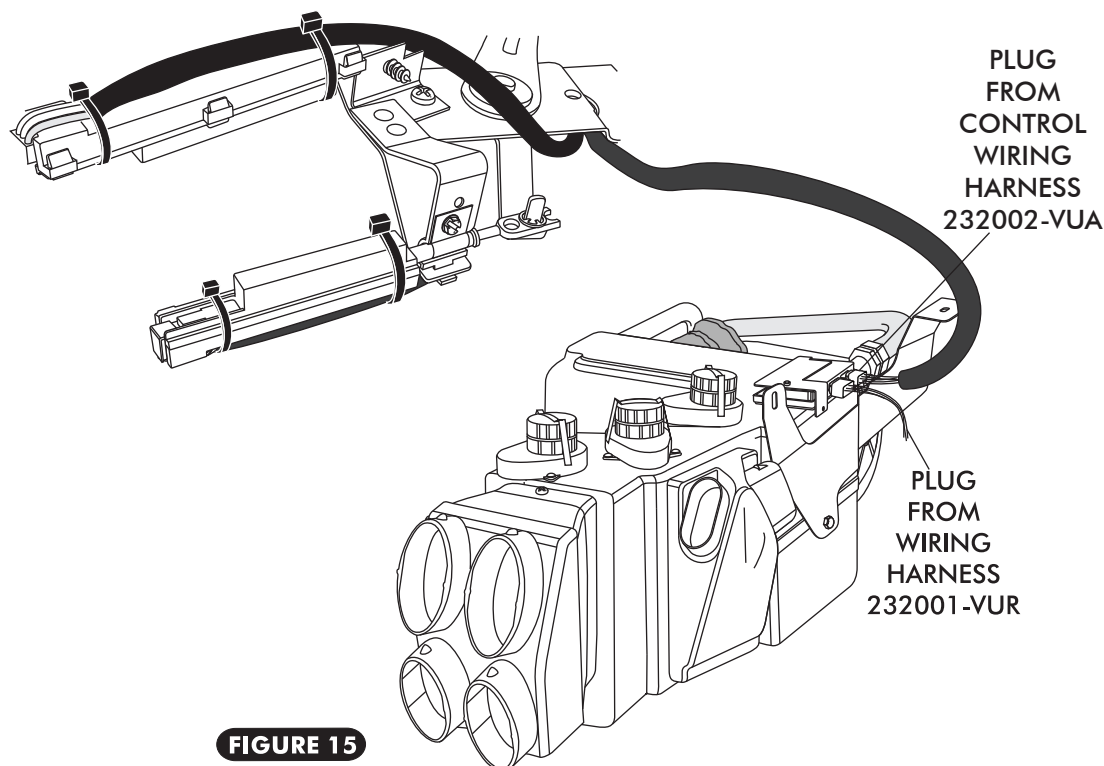


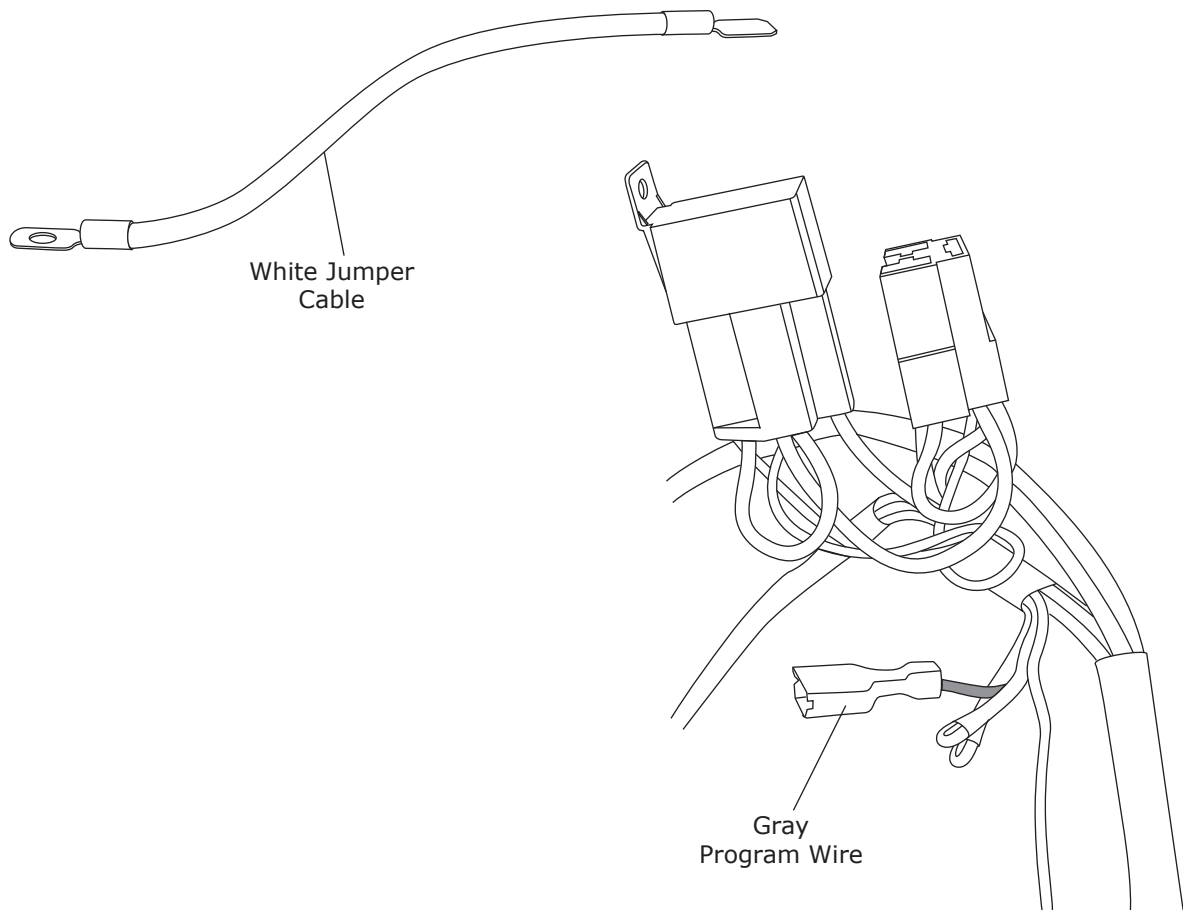
FIGURE 15



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.

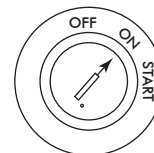
In preparation for calibration, you will need to attach the supplied white ground jumper wire to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the relays. During the calibration procedure, you will connect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



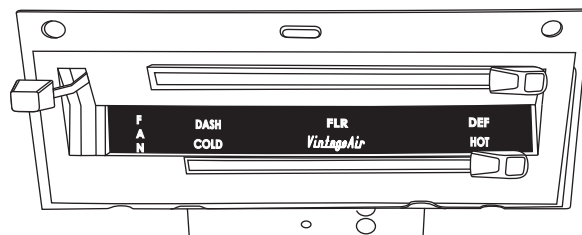


Control Panel Calibration Procedure (Cont.)

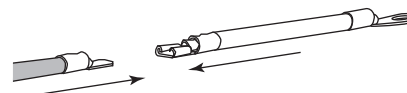
1. Turn on the ignition switch (Do not start the engine).



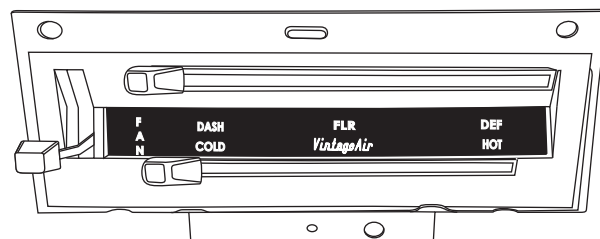
2. Move the control levers/knobs to the position shown.



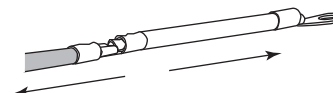
3. Connect the white jumper wire to the gray program wire. Wait for the blower speed to change (Approximately 5 seconds).



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.

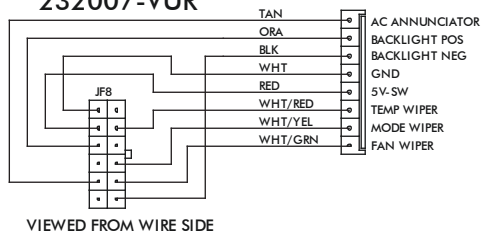


6. Confirm proper operation of controls. Repeat procedure if necessary. When finished, tape over program wire connector with electrical tape to prevent accidental contact with chassis ground.



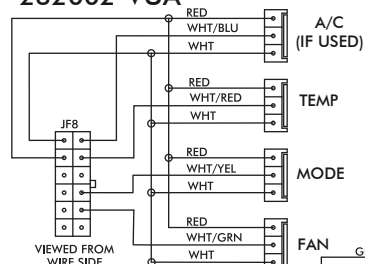
Wiring Diagram

232007-VUR



VIEWED FROM WIRE SIDE

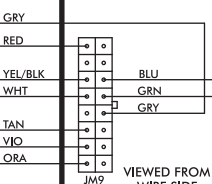
232002-VUA



VIEWED FROM WIRE SIDE

GEN IV ECU

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

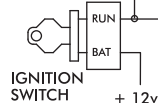


VIEWED FROM WIRE SIDE

PROGRAM

* DASH LAMP
(IF USED)

*** WIDE OPEN
THROTTLE SWITCH
(OPTIONAL)



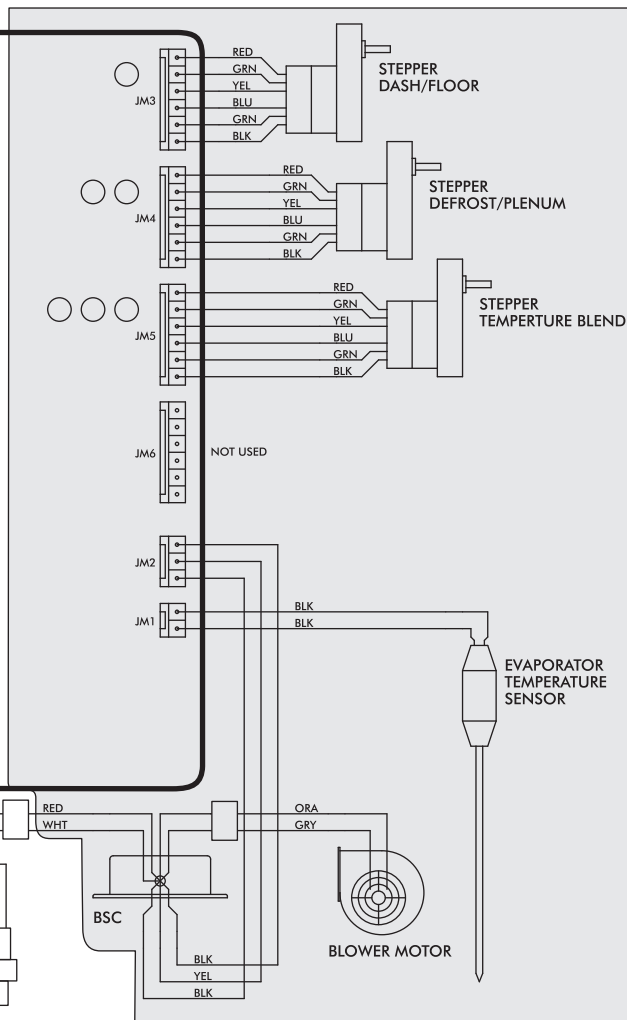
IGNITION SWITCH +12v

** CIRCUIT
BREAKER
30 AMP

COMPRESSOR
RELAY

30 86 87 85

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 Routed to Avoid a Short Circuit).
- Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.



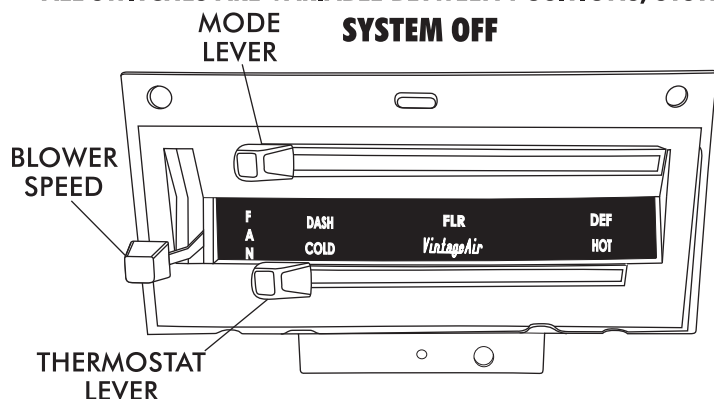
OPERATION OF CONTROLS

NOTE:

WHEN BATTERY POWER IS FIRST CONNECTED TO THE ECU, THE COMPUTER GOES THROUGH AN INITIALIZATION SEQUENCE. THIS INITIALIZATION MAY TAKE UP TO 30 SECONDS. DURING INITIALIZATION THE BLOWER WILL NOT OPERATE, BUT THE DOORS INSIDE THE UNIT WILL BE OPERATING. A LOW BATTERY OR DISCONNECTING THE BATTERY MAY ALSO TRIGGER A RE-INITIALIZATION. DURING START UP, A LOW BATTERY MAY DROP BELOW 7 VOLTS, TRIGGERING RE-INITIALIZATION.

THE COLD LEVER TOGGLES BETWEEN COLD AND HOT MODES. FOR A/C MODE SLIDE THE COLD LEVER ALL THE WAY UP TO ENGAGE THE COMPRESSOR. SLIDE THE COLD KNOB LEVER DOWN TO SELECT DESIRED TEMPERATURE. FOR HEAT MODE SLIDE THE COLD LEVER ALL THE WAY DOWN TO DISENGAGE THE COMPRESSOR. SLIDE THE COLD LEVER UP TO SELECT DESIRED TEMPERATURE.

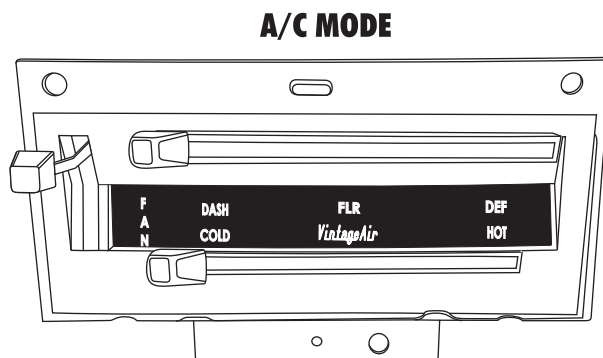
ALL SWITCHES ARE VARIABLE BETWEEN POSITIONS, SYSTEM WILL PERFORM A BLEND BETWEEN THE FUNCTIONS.



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

MODE LEVER
SLIDE THE LEVER TO THE "DASH" POSITION

THERMOSTAT LEVER
IN A/C MODE SLIDE THE THERMOSTAT LEVER ALL THE WAY LEFT TO THE COLD POSITION, FOR MAXIMUM COOLING (SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

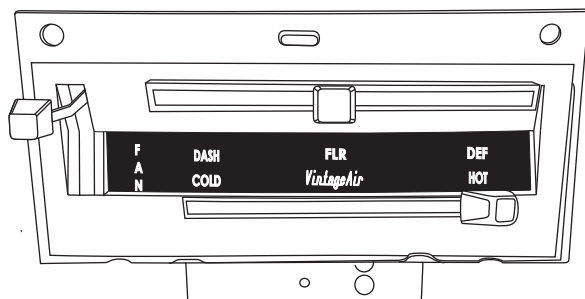


BLOWER SPEED
SLIDE LEVER UP TO DESIRED BLOWER SPEED, FROM OFF TO HI

MODE LEVER
SLIDE THE LEVER TO THE "DASH" POSITION

THERMOSTAT LEVER
IN A/C MODE SLIDE THE THERMOSTAT LEVER ALL THE WAY LEFT TO THE COLD POSITION TO ENGAGE COMPRESSOR, FOR MAXIMUM COOLING (SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

HEAT MODE

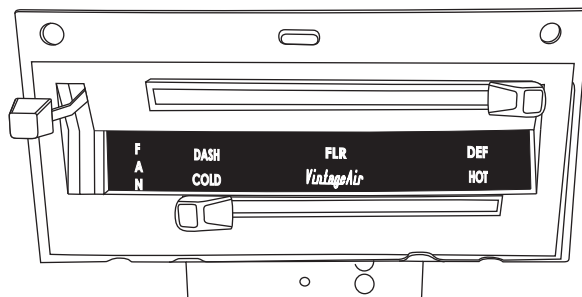


BLOWER SPEED
SLIDE LEVER UP TO DESIRED BLOWER SPEED, FROM OFF TO HI

MODE LEVER
SLIDE THE LEVER TO THE "FLR" POSITION

THERMOSTAT LEVER
IN HEAT MODE SLIDE THE THERMOSTAT LEVER ALL THE WAY RIGHT TO THE HOT POSITION, FOR MAXIMUM HEATING ((SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

DEFROST/ DE-FOG MODE



BLOWER SPEED
SLIDE LEVER UP TO DESIRED BLOWER SPEED, FROM OFF TO HI

MODE LEVER
SLIDE THE LEVER TO THE "DEF" POSITION

THERMOSTAT LEVER
IN DEF MODE SLIDE THE THERMOSTAT LEVER ALL THE WAY LEFT TO THE COLD POSITION TO ENGAGE COMPRESSOR. FOR MAXIMUM COOLING (SLIDE LEVER LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)



CONTROL PANEL KIT PACKING LIST

CONTROL KIT
475170

No.	QTY.	PART No.	DESCRIPTION	
1.	1	484075	69-70 MUSTANG CNTRL PNL MODE LABEL ASM	_____
2.	2	112002-SUA	SLIDE POT ASM	_____
3.	1	232002-VUA	GEN IV UNIVERSAL CONTROL HARNESS	_____
4.	2	65976-VUE	3/16" PUSH-ON RING	_____
5.	2	491010-VUR	SLIDE POT CLAMP	_____
6.	5	21301-VUP	4" TIE WRAP	_____
7.	3	18247-VUB	#10 x 1/2" SHEET METAL SCREW	_____
8.	1	231520	GROUND WIRE	_____
9.	1	18058-VUB	5/16" NYLON CABLE CLAMP	_____
10.	1	246110-PUA	BLOWER SWITCH PC BOARD	_____
11.	1	18249-VUB	10/24 x 3/8 PAN MS	_____
12.	1	18260-VUB	10/24 NUT w/ STAR WASHER	_____
13.	1	642074	69-70 MUSTANG w/AC SLIDE POT BRKT	_____

CHECKED BY: _____
PACKED BY: _____
DATE: _____

