

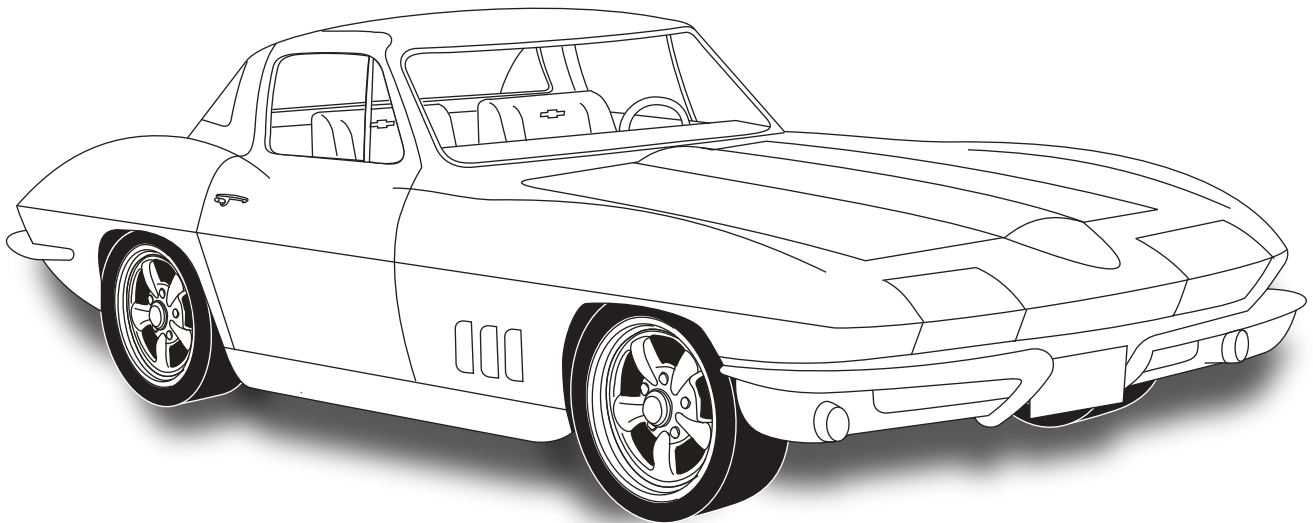


an ISO 9001:2008 Registered Company

## **1963-66 CORVETTE**

WITHOUT FACTORY A/C

561163



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# EVAPORATOR KIT PACKING LIST

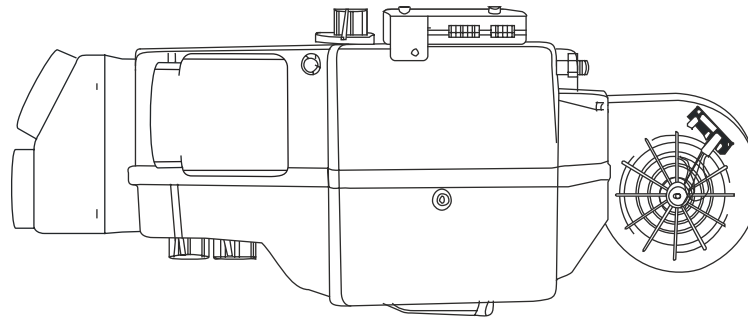
EVAPORATOR KIT  
561163

No.	QTY.	PART No.	DESCRIPTION
1.	1	744009	63-67 VETTE EVAP SUB CASE
2.	1	781063	ACC KIT 63-66 VETTE

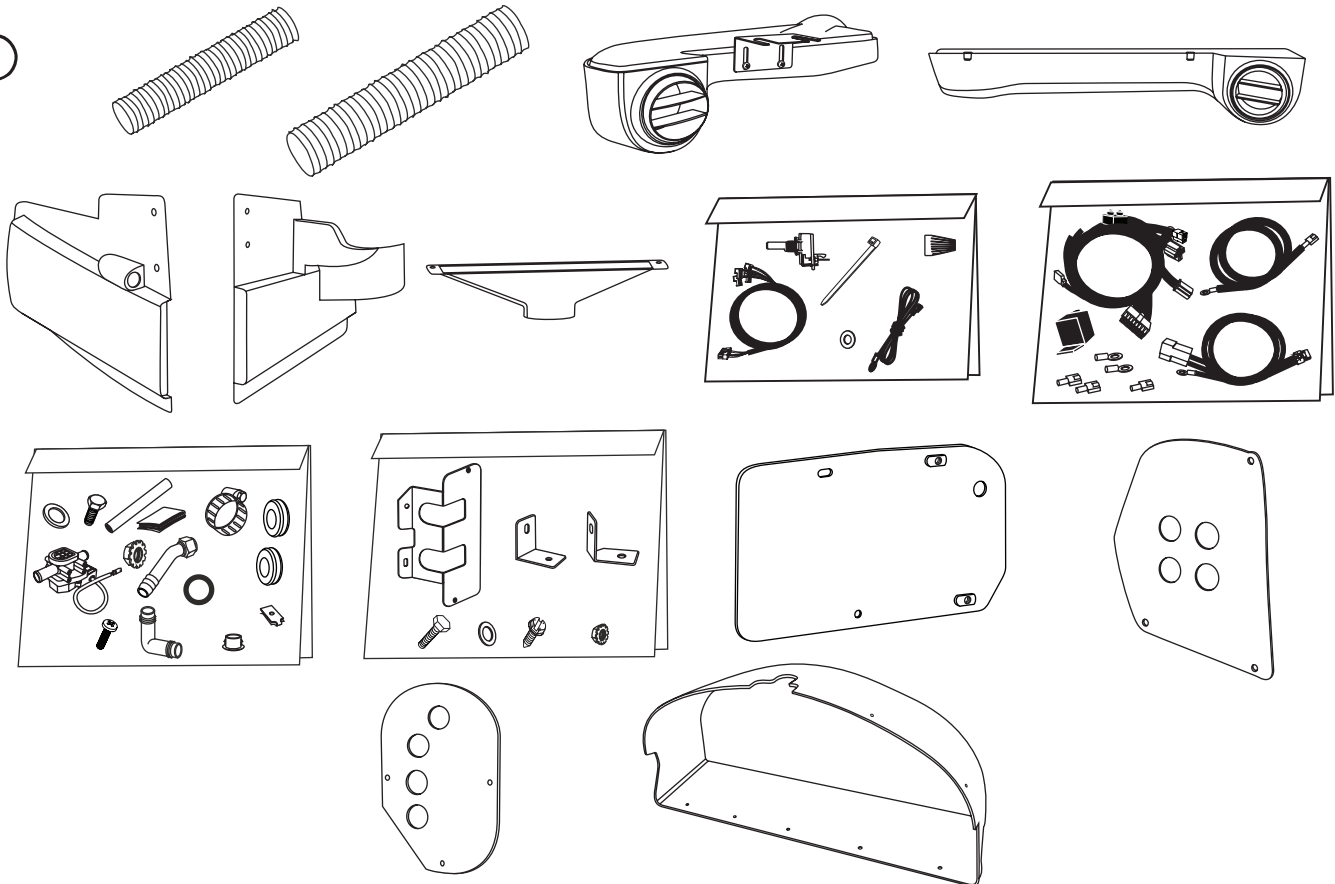
**\*\* BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

1

**63-67 VETTE  
EVAP SUB CASE  
744009**



2



**ACCESSORY KIT  
781063**

**NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES. REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES.**

3



## Important Notice—Please Read

*For Maximum System Performance, Vintage Air Recommends the Following:*

**NOTE: Vintage Air systems are designed to operate with R134a refrigerant only. Use of any other refrigerant could damage your A/C system and/or vehicle, and possibly cause a fire, in addition to potentially voiding the warranties of the A/C system and its components.**

### Refrigerant Capacities:

**Vintage Air System:** 1.8 lbs. (1 lb., 12 oz.) of **R134a**, charged by weight with a quality charging station or scale. **NOTE: Use of the proper type and amount of refrigerant is critical to system operation and performance.**

**Other Systems:** Consult manufacturer's guidelines.

### Lubricant Capacities:

**New Vintage Air-supplied Sanden Compressor:** No additional oil needed (Compressor is shipped with proper oil charge).

**All Other Compressors:** Consult manufacturer (Some compressors are shipped dry and will need oil added).

### Safety Switches

Your Vintage Air system is equipped with a binary pressure safety switch. A binary switch disengages the compressor clutch in cases of extreme low pressure conditions (Refrigerant Loss) or excessively high head pressure (406 PSI) to prevent compressor damage or hose rupture. A trinary switch combines Hi/Lo pressure protection with an electric fan operation signal at 254 PSI, and should be substituted for use with electric fans. Compressor safety switches are extremely important since an A/C system relies on refrigerant to circulate lubricant.

### Service Info:

**Protect Your Investment:** Prior to assembly, it is critical that the compressor, evaporator, A/C hoses and fittings, hardlines, condenser and receiver/drier remained capped. Removing caps prior to assembly will allow moisture, insects and debris into the components, possibly leading to reduced performance and/or premature failure of your A/C system. This is especially important with the receiver/drier.

Additionally, when caps are removed for assembly, **BE CAREFUL!** Some components are shipped under pressure with dry nitrogen.

**Evacuate the System for 35-45 Minutes:** Ensure that system components (Drier, compressor, evaporator and condenser) are at a temperature of at least 85° F. On a cool day, the components can be heated with a heat gun **or** by running the engine with the heater on before evacuating. Leak check and charge to specifications.

### Bolts Passing Through Cowl and/or Firewall:

To ensure a watertight seal between the passenger compartment and the vehicle exterior, for all bolts passing through the cowl and/or firewall, Vintage Air recommends coating the threads with silicone prior to installation.

### Heater Hose (Not Included With This Kit):

Heater hose may be purchased from Vintage Air (Part# 31800-VUD) or your local parts retailer. Routing and required length will vary based on installer preference.



## Important Wiring Notice—Please Read

*Some Vehicles May Have Had Some or All of Their Radio Interference Capacitors Removed. There Should Be a Capacitor Found At Each of the Following Locations:*

- 1. On the positive terminal of the ignition coil.**
- 2. If there is a generator, on the armature terminal of the generator.**
- 3. If there is a generator, on the battery terminal of the voltage regulator.**

Most alternators have a capacitor installed internally to eliminate what is called "whining" as the engine is revved. If whining is heard in the radio, or just to be extra cautious, a radio interference capacitor can be added to the battery terminal of the alternator.

It is also important that the battery lead is in good shape and that the ground leads are not compromised. There should be a heavy ground from the battery to the engine block, and additional grounds to the body and chassis.

If these precautions are not observed, it is possible for voltage spikes to be present on the battery leads. These spikes come from ignition systems, charging systems, and from switching some of the vehicle's other systems on and off. Modern computer-operated equipment can be sensitive to voltage spikes on the power leads, which can cause unexpected resets, strange behavior, and/or permanent damage.

Vintage Air strives to harden our products against these types of electrical noise, but there is a point where a vehicle's electrical system can be degraded so much that nothing can help.

Radio interference capacitors should be available at most auto and truck parts suppliers. They typically are cylindrical in shape, a little over an inch long, a little over a half inch in diameter, and they have a single lead coming from one end of the cylinder with a terminal on the end of the wire, as well as a mounting clip which is screwed into a good ground on the vehicle. The specific value of the capacitance is not too significant in comparison to ignition capacitors that are matched with the coil to reduce pitting of the points.

- Care must be taken, when installing the compressor lead, not to short it to ground. The compressor lead must not be connected to a condenser fan or to any other auxiliary device. Shorting to ground or connecting to a condenser fan or any other auxiliary device may damage wiring, the compressor relay, and/or cause a malfunction.
- When installing ground leads on Gen IV systems, the blower control ground and ECU ground must be connected directly to the negative battery post.
- For proper system operation, the heater control valve must be connected to the ECU.

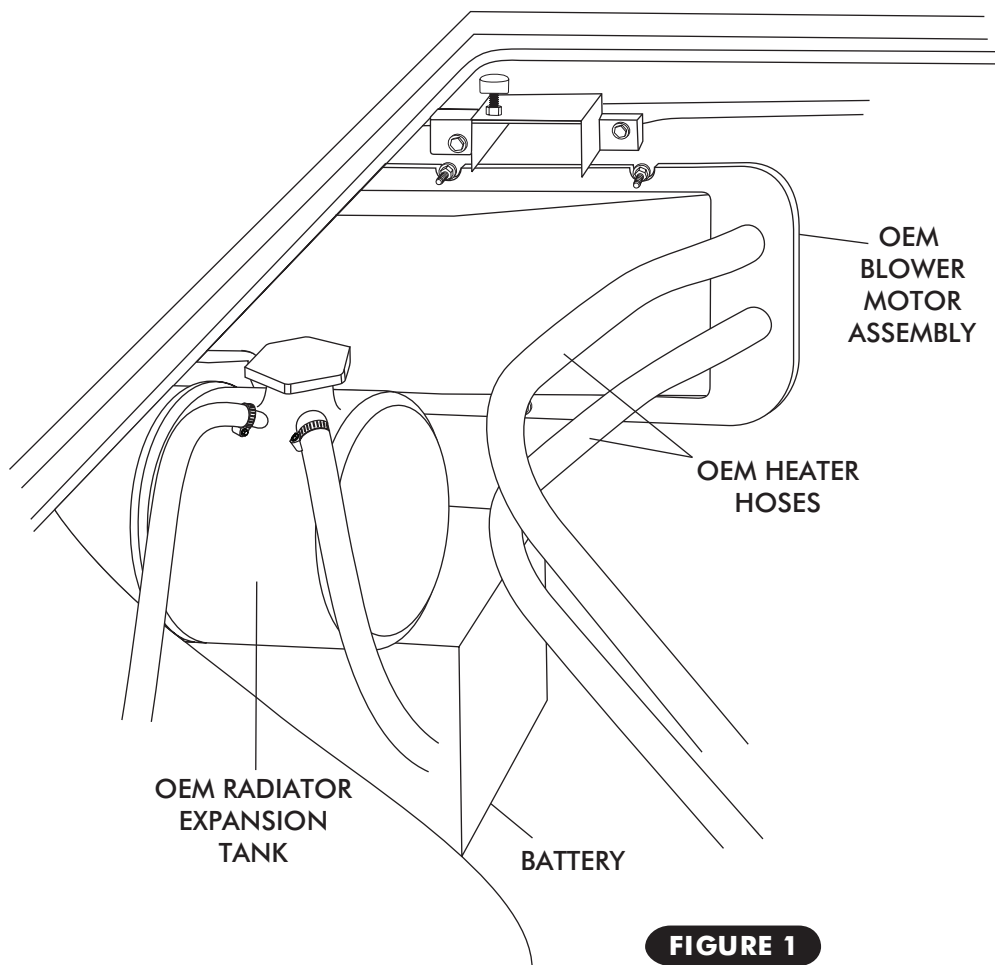


**BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS, ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS, & DIAGRAMS.**

## **ENGINE COMPARTMENT**

### **REMOVE THE FOLLOWING**

- HOOD FOR EASE OF INSTALLATION
- DRAIN RADIATOR.
- DISCONNECT BATTERY AND REMOVE, IF MOUNTED ON PASSENGER SIDE. IF MOUNTED ON DRIVER SIDE, DISCONNECT (-) TERMINAL.
- OEM BLOWER MOTOR ASSEMBLY (UNDER HOOD) (DISCARD).
- OEM HEATER HOSES (DISCARD). SEE FIGURE 1.
- REMOVE OEM RADIATOR EXPANSION TANK (RETAIN) (IF EQUIPPED).



**FIGURE 1**



## CONDENSER ASSEMBLY & INSTALLATION

- REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE CONDENSER KIT TO INSTALL THE CONDENSER.
- BINARY SWITCH INSTALLATION (REFER TO CONDENSER INSTRUCTIONS)

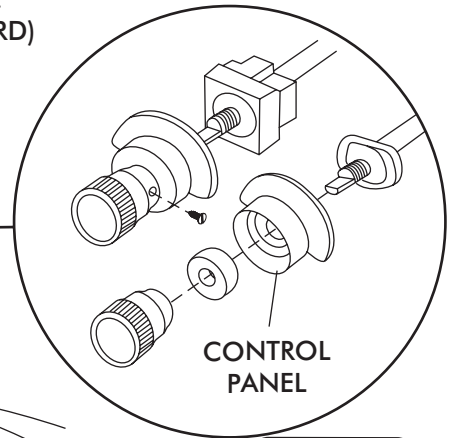
## COMPRESSOR & BRACKETS

- REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE BRACKET KIT TO INSTALL THE COMPRESSOR BRACKET.

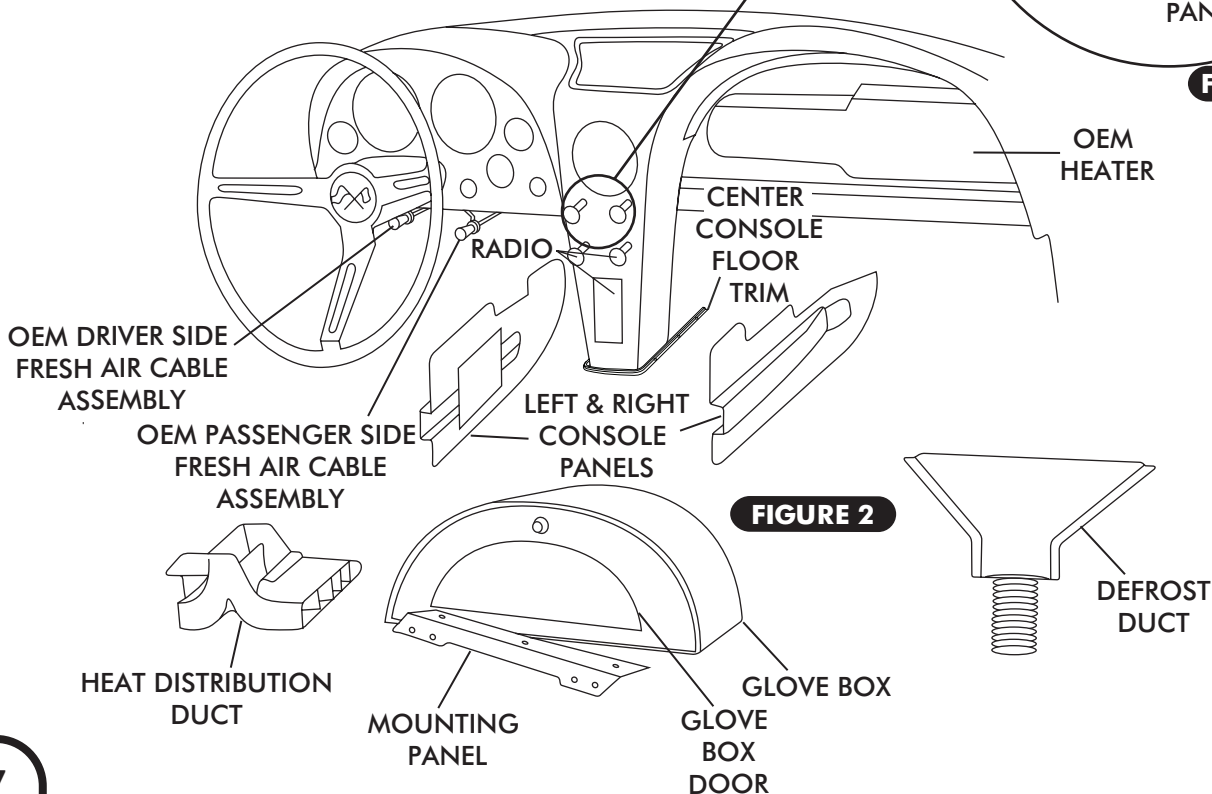
## PASSENGER COMPARTMENT

### REMOVE THE FOLLOWING:

- GLOVE BOX, DOOR AND MOUNTING PANEL (DISCARD GLOVE BOX) (RETAIN HARDWARE). (SEE FIGURE 2)
- RIGHT AND LEFT SIDE CONSOLE PANELS. (DISCARD) (RETAIN SCREWS)
- HEAT DISTRIBUTION DUCTS.(DISCARD)
- OEM HEATER. (DISCARD)
- OEM DEFROST DUCT. (DISCARD) (RETAIN NUTS)
- REMOVE OEM CONTROL KNOBS AND BEZELS (RETAIN) SEE FIGURE 2a.
- DISCONNECT ALL WIRES AND CABLE FROM CONTROL PANEL. (DISCARD)
- REMOVE RADIO AND CLOCK (RETAIN).
- PASSENGER SIDE KICK PANEL (RETAIN).
- REMOVE OEM PASSENGER SIDE FRESH AIR CABLE AND KICK PANEL ASSEMBLY (DISCARD)
- LOOSEN OEM DRIVER SIDE FRESH AIR CABLE ASSEMBLY FROM DASH, FOR LATER INSTALLATION.
- REMOVE OEM CENTER CONSOLE FLOOR TRIM (RETAIN) (63 MODELS ONLY)
- REMOVE CENTER FLOOR CONSOLE (RETAIN)



**FIGURE 2a**

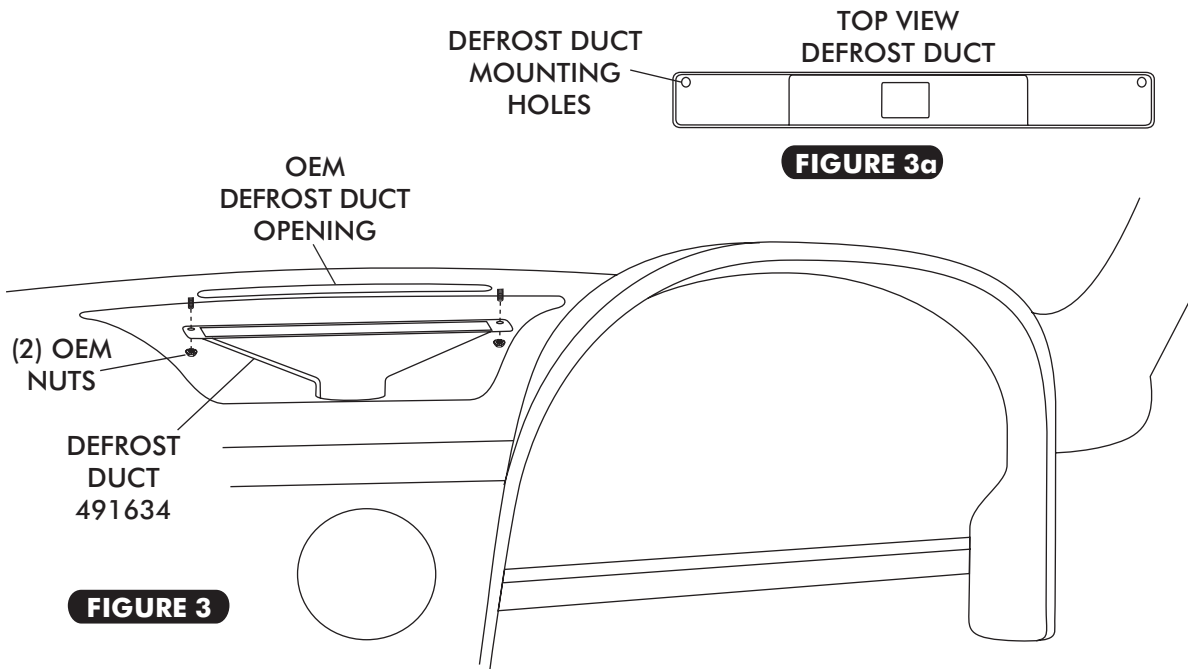


**FIGURE 2**



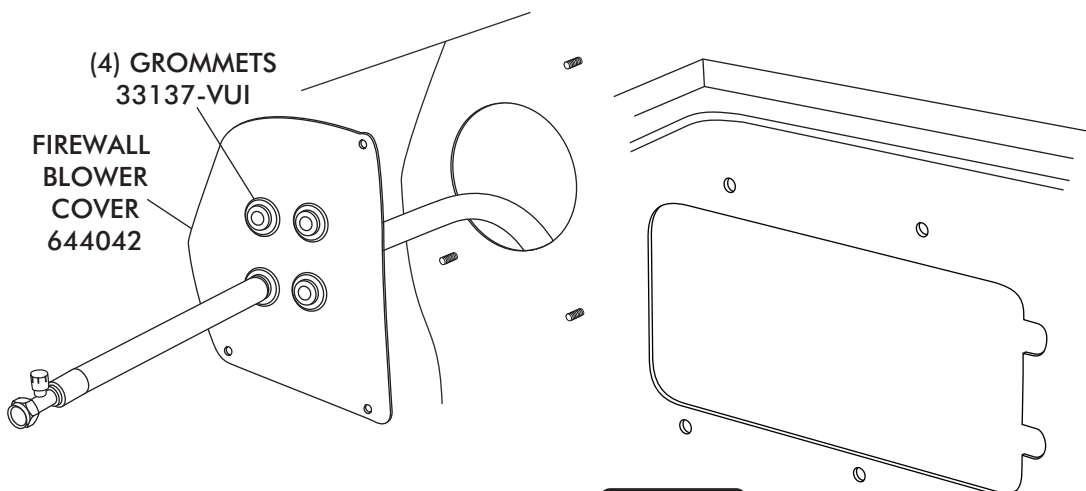
## DEFROST DUCT INSTALLATION

- INSTALL DEFROST DUCT UNDER DASH AS SHOWN IN FIGURE 3 BELOW. SECURE USING OEM NUTS.  
**NOTE: DEFROST DUCT MOUNTING HOLES TOWARDS FIREWALL AS SHOWN BELOW IN FIGURE 3a.**



## FIREWALL BLOWER COVER INSTALLATION

- INSTALL (4) GROMMETS IN FIREWALL BLOWER COVER. SEE FIGURE 4a BELOW
- ROUTE #10 HOSE THROUGH FIREWALL BLOWER COVER AS SHOWN BELOW.
- DO NOT ATTACH TO FIREWALL AT THIS TIME.

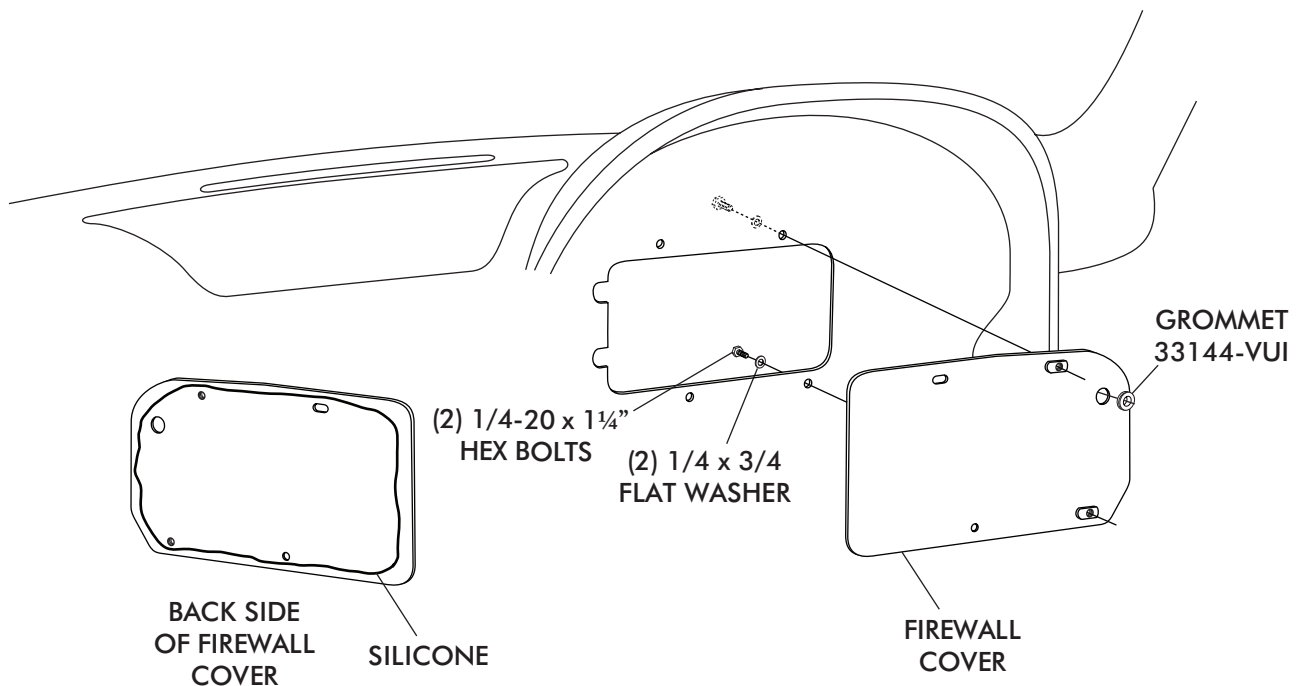






## FIREWALL COVER INSTALLATION

- APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 5, BELOW.
- FROM INSIDE THE CAR, INSTALL FIREWALL COVER ON FIREWALL USING (2) 1/4-20 x 1 1/4" HEX BOLTS AND (2) FLAT WASHERS, SEE FIGURE 5, BELOW. (NOTE: USE SEAM SEALER TO FILL GAP BETWEEN COVER & LIP IN FIREWALL BEFORE PAINTING.)
- INSTALL 3/8 GROMMET IN FIREWALL COVER AS SHOWN BELOW.

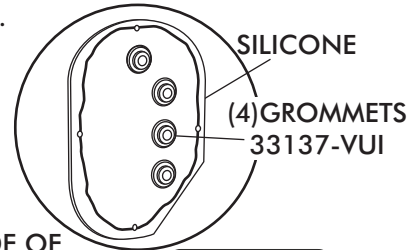


**FIGURE 5**

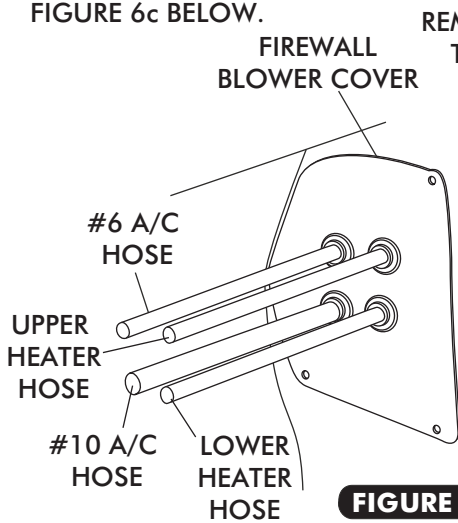


## KICK PANEL COVER INSTALLATION

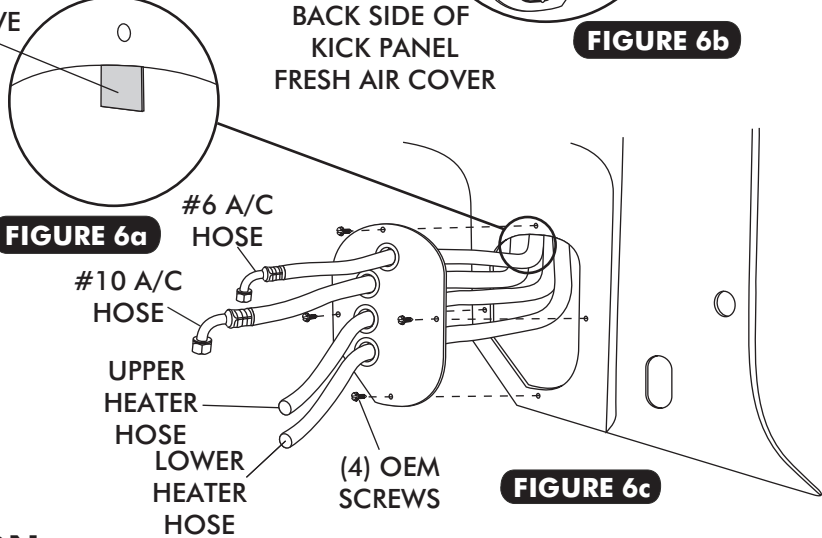
- ❑ INSTALL (4) GROMMETS IN KICK PANEL COVER, SEE FIGURE 6b BELOW.
- ❑ REMOVE TAB FROM KICK PANEL AS SHOWN IN FIGURE 6a.
- ❑ ROUTE A/C AND HEATER HOSE THROUGH FIREWALL BLOWER COVER AND KICK PANEL COVER AS SHOWN IN FIGURE 6 AND 6c, BELOW.
- ❑ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL COVER AS SHOWN IN FIGURE 6b, BELOW.
- ❑ SECURE KICK PANEL COVER USING OEM SCREWS, AS SHOWN IN FIGURE 6c BELOW.



**FIGURE 6b**



**FIGURE 6**

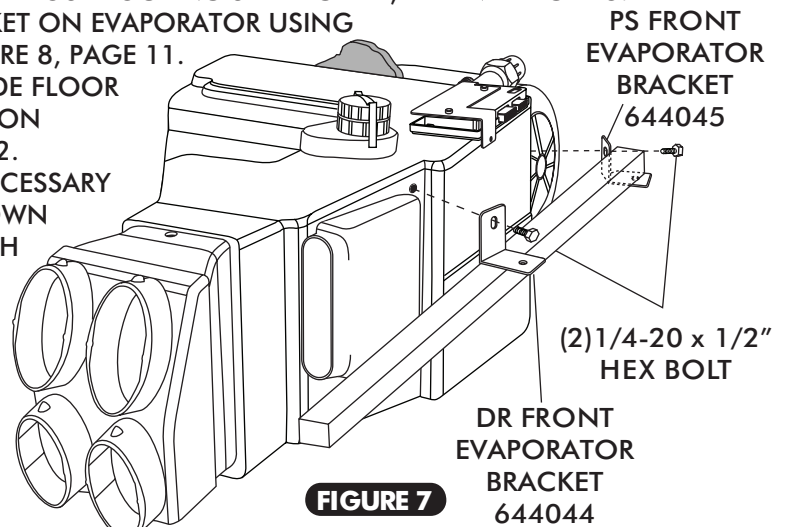


**FIGURE 6a**

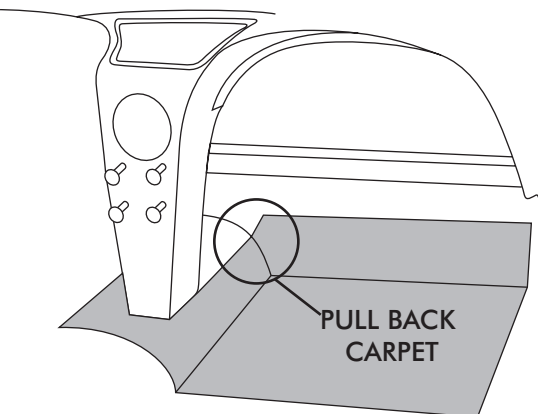
**FIGURE 6c**

## EVAPORATOR INSTALLATION

- ❑ ON A WORK BENCH INSTALL (2) HEATER FITTINGS WITH PROPERLY LUBRICATED O-RINGS. (SEE FIGURE 12, PAGE 13, AND FIGURE 8, PAGE 11.) FOR HEATER HOSE ROUTING SEE PAGE 12, 14 AND PAGE 15.
- ❑ INSTALL EVAPORATOR REAR MOUNTING BRACKET ON EVAPORATOR USING (2) 1/4-20 x 1/2 HEX BOLTS AS SHOWN IN FIGURE 8, PAGE 11.
- ❑ LAY EVAPORATOR SUBCASE ON PASSENGER SIDE FLOOR BOARD. INSTALL #6 AC HOSE & HEATER HOSE ON EVAPORATOR AS SHOWN IN FIGURE 9, PAGE 12.
- ❑ FOR EVAPORATOR INSTALLATION IT MAY BE NECESSARY TO PULL BACK CARPET FROM FIREWALL AS SHOWN BELOW. AFTER EVAPORATOR IS INSTALLED PUSH CARPET BACK IN PLACE.
- ❑ THIS WILL BE A VERY CLOSE FIT. TAKE CARE NOT TO DAMAGE STEPPER MOTORS DURING INSTALLATION.



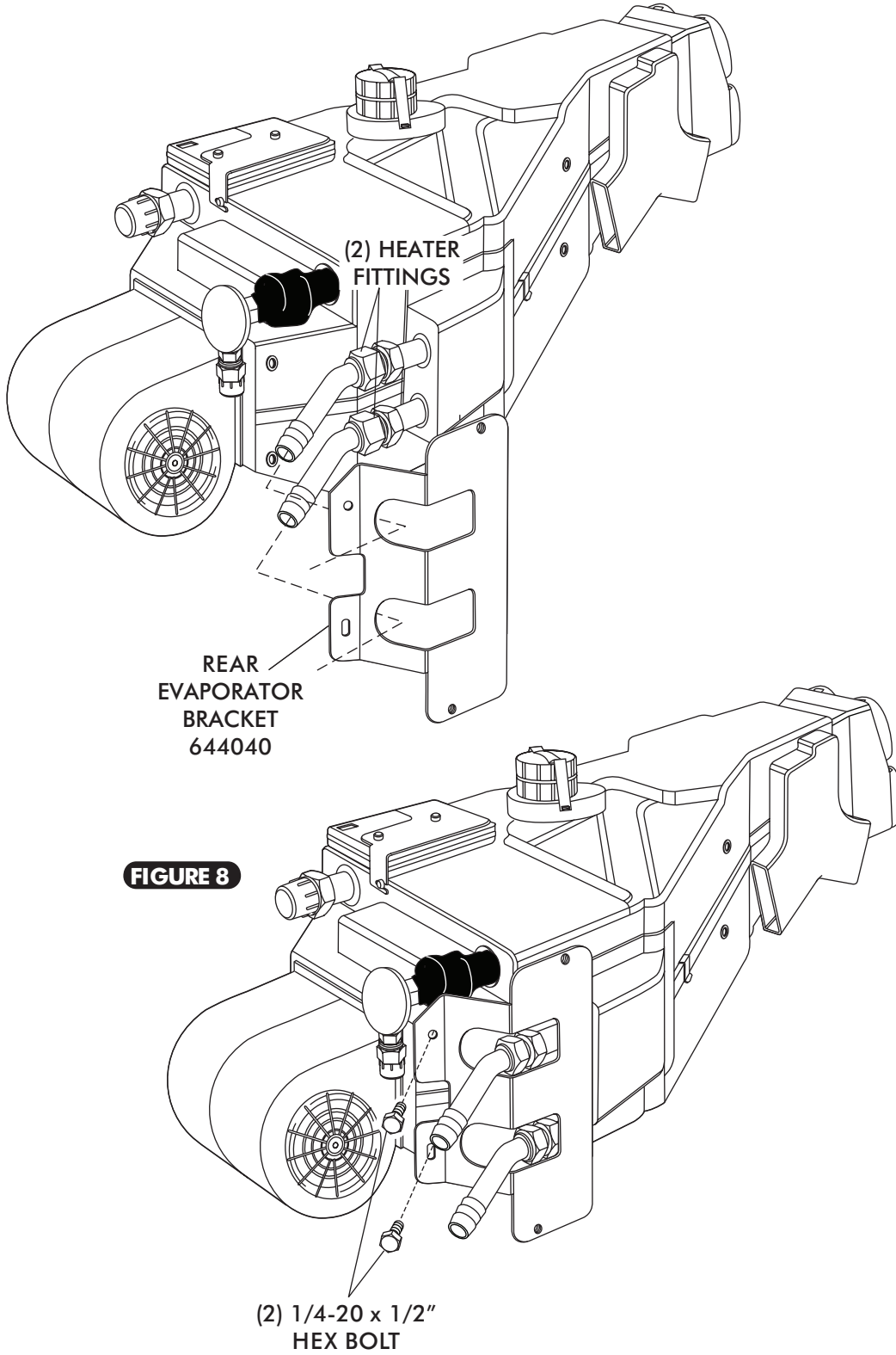
**FIGURE 7**



PULL BACK CARPET



# BRACKET INSTALLATION

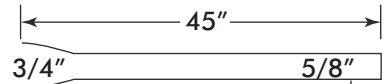




## EVAPORATOR INSTALLATION CONT.

- ❑ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING (2) 1/4-20 x 1 1/4" BOLTS AND (2) 1/4" FLAT WASHERS, SEE FIGURE 10 BELOW.
- ❑ INSTALL EVAPORATOR DRIVER/ PASSENGER FRONT MOUNTING BRACKETS ON EVAPORATOR USING (2) 1/4-20 x 1/2" HEX BOLTS AS SHOWN IN FIGURE 7, PAGE 10.
- ❑ SECURE PASSENGER SIDE FRONT MOUNTING BRACKET TO PASSENGER SIDE DASH BRACE USING #14 x 3/4" HEX SHEET METAL SCREW IN OEM HOLE. **NOTE:** IN SOME MODELS IT MAY REQUIRE TO DRILL 3/16" HOLE, USE DIMENSION BELOW. (SEE FIGURE 10 BELOW.)
- ❑ DRILL 3/16" HOLE IN PASSENGER SIDE DASH BRACE USING DRIVER SIDE FRONT MOUNTING BRACKET AS TEMPLATE. (SEE FIGURE 10 BELOW).
- ❑ SECURE DRIVER SIDE FRONT MOUNTING BRACKET TO PASSENGER SIDE DASH BRACE USING #14 x 3/4" HEX SHEET METAL SCREW. (SEE FIGURE 10 BELOW.)
- ❑ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL MOUNTING BOLTS. (**NOTE: TIGHTEN THE BOLTS ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKETS.**)
- ❑ CONNECT #10 AC HOSE TO EVAPORATOR AS SHOWN IN FIGURE 10.
- ❑ (**NOTE: WRAP THE #10 FITTING CONNECTION WITH PRESS TAPE. SEE FIGURE 10.**)

**NOTE:** HEATER HOSE MODIFICATION REFER TO FIGURE 9



THIS END TO RADIATOR EXPANSION TANK (IF EQUIPPED) OR WATER PUMP      THIS END TO EVAPORATOR TOP FITTING

**OPTION 1**

GATES 18084

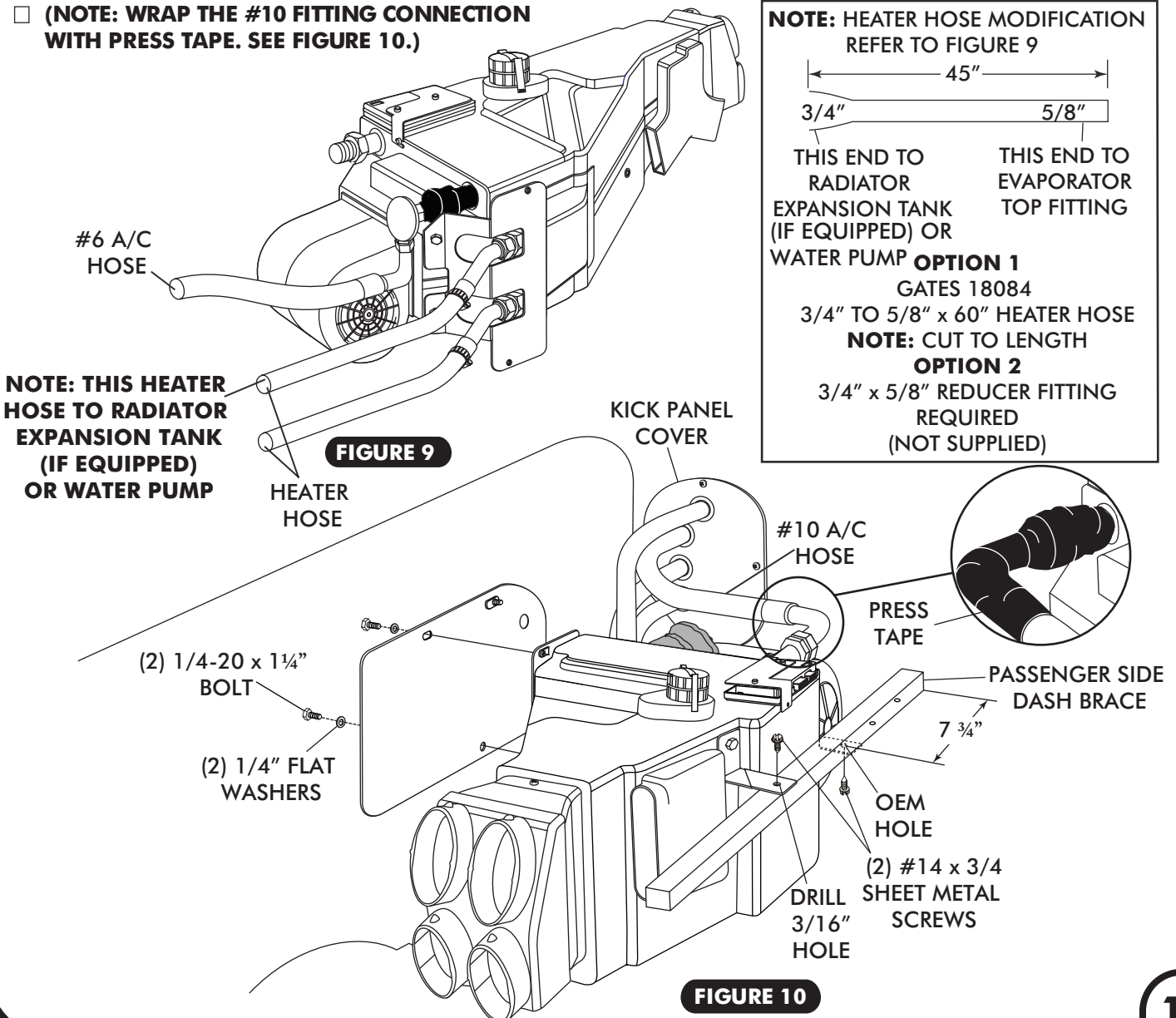
3/4" TO 5/8" x 60" HEATER HOSE

**NOTE:** CUT TO LENGTH

**OPTION 2**

3/4" x 5/8" REDUCER FITTING REQUIRED

(NOT SUPPLIED)

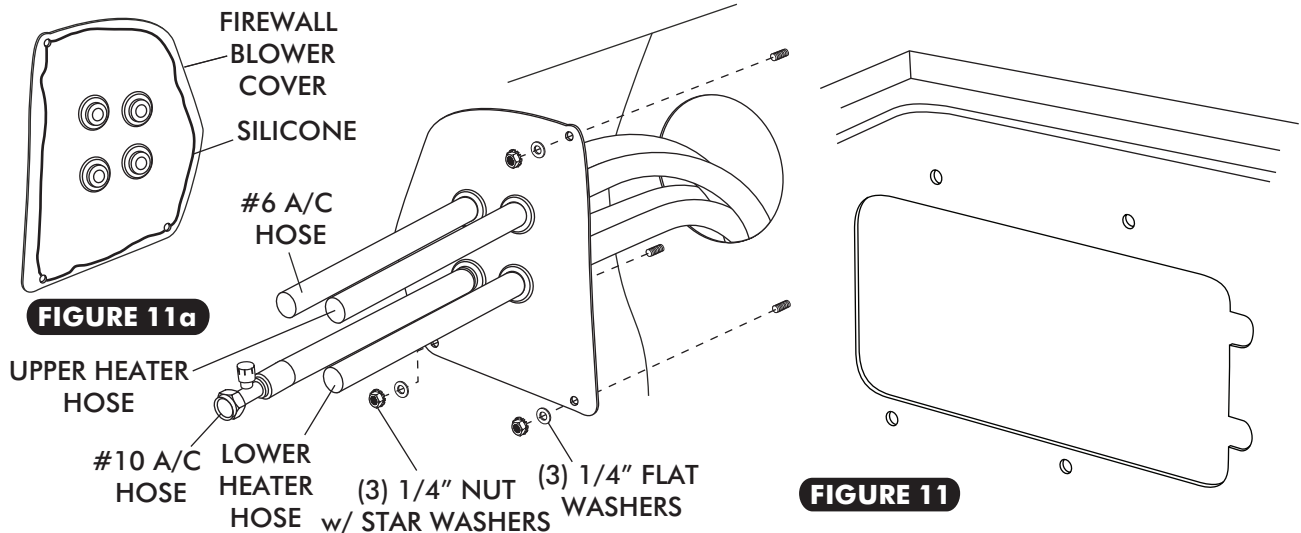


**FIGURE 10**

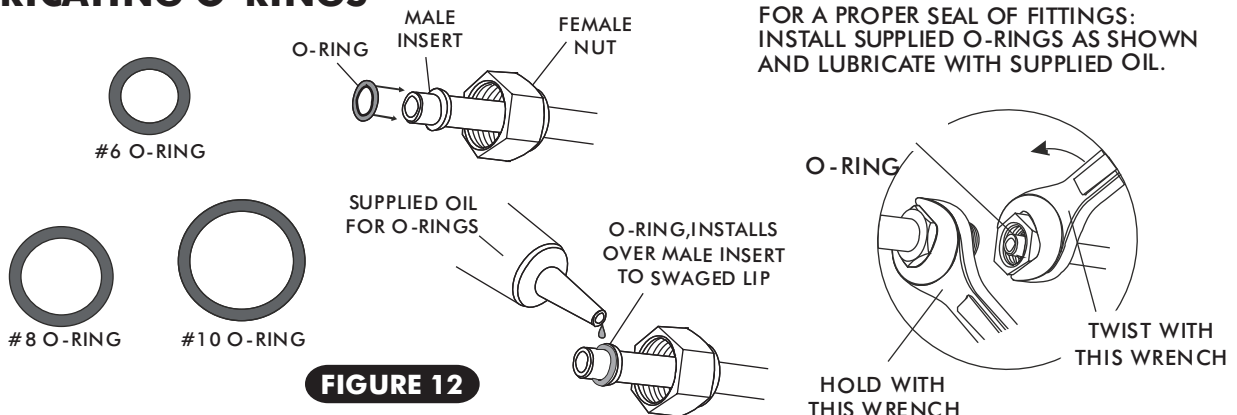


## FIREWALL BLOWER COVER INSTALLATION CONT.

- APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL BLOWER COVER AS SHOWN IN FIGURE 11a BELOW.
- ATTACH FIREWALL BLOWER COVER TO FIREWALL USING (3) 1/4" NUT w/ STAR WASHERS AND (3) FLAT WASHERS. SEE FIGURE 11 BELOW.



## LUBRICATING O-RINGS



FOR A PROPER SEAL OF FITTINGS:  
INSTALL SUPPLIED O-RINGS AS SHOWN  
AND LUBRICATE WITH SUPPLIED OIL.

## A/C HOSE INSTALLATION

### STANDARD HOSE KIT

- LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE 135° FEMALE FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE STRAIGHT FEMALE FITTING w/ 134a SERVICE PORT TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 13 PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 12 ABOVE.
- LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE #10 STRAIGHT FEMALE FITTING w/134a SERVICE PORT TO THE #10 SUCTION PORT ON THE COMPRESSOR. ROUTE THE 90° FEMALE FITTING TO THE #10 EVAPORATOR. SEE FIGURE 10, PAGE 12 AND FIGURE 13, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN 12 ABOVE.
- LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 12, ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE DRIER HARDLINE. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 9, PAGE 12 AND FIGURE 13, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 12, ABOVE.

### MODIFIED A/C HOSE KIT

- REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.

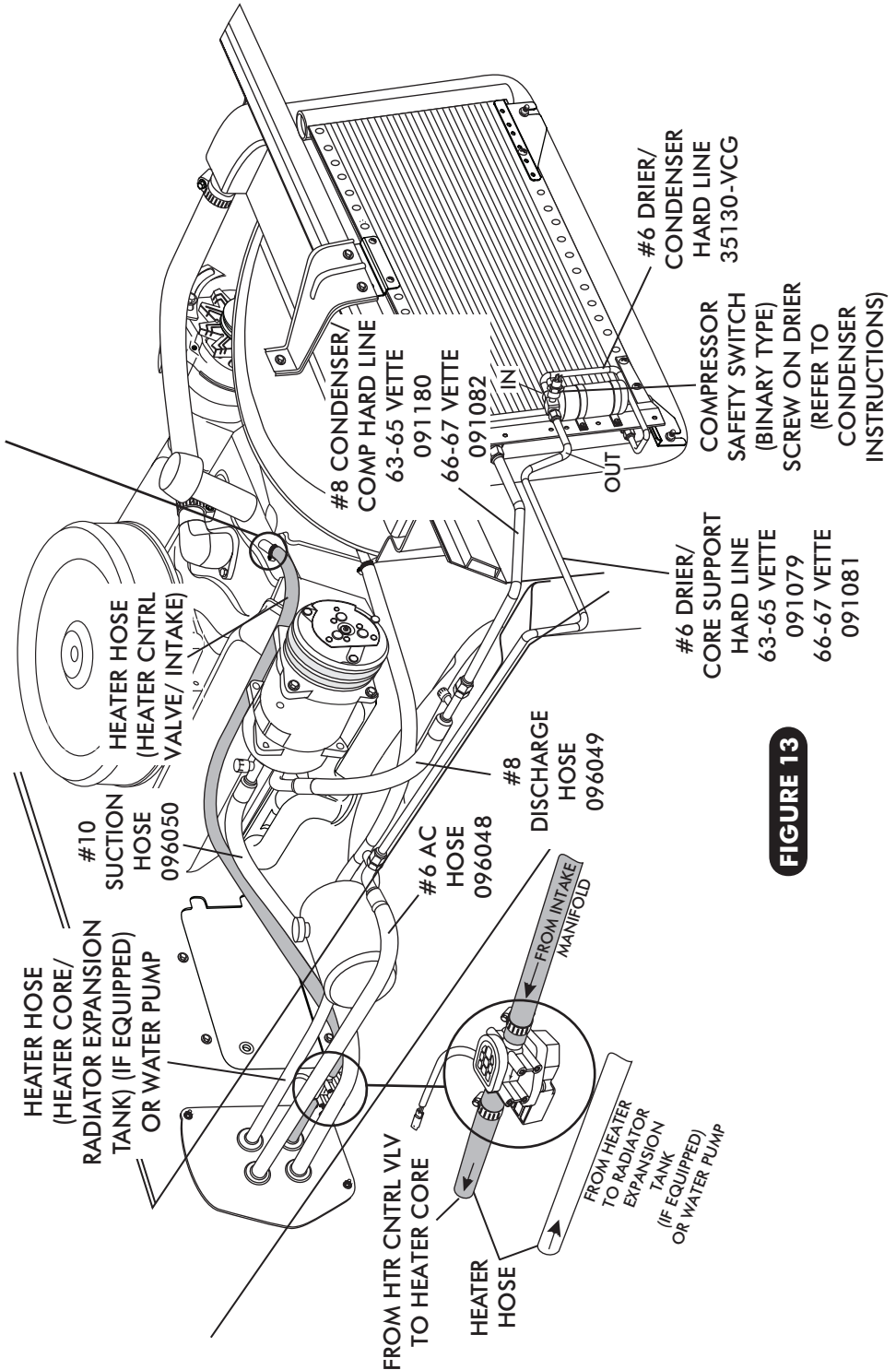


# HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

- ROUTE A PIECE OF HEATER HOSE FROM THE RADIATOR EXPANSION TANK (IF EQUIPPED) OR WATER PUMP TO THE TOP HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 9, PAGE 12 AND FIGURE 13 BELOW. SECURE USING HOSE CLAMPS. **NOTE: OEM RADIATOR EXPANSION TANK OUTLET IS 3/4". (OPTION 1) USE GATES HEATER HOSE PART # 18084 3/4" x 5/8" x 60" (REFER TO PAGE 12) FOR HEATER HOSE MODIFICATION. (OPTION 2) 3/4 x 5/8 REDUCER FITTING IS REQUIRED (NOT SUPPLIED)**
- ROUTE A PIECE OF HEATER HOSE FROM THE INTAKE TO THE BOTTOM HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 9, PAGE 12 AND FIGURE 13, BELOW. INSTALL HEATER CONTROL VALVE IN-LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE, SECURE USING HOSE CLAMPS AS SHOWN IN FIGURE 13, BELOW. **NOTE PROPER FLOW DIRECTION.**

## AC & HEATER HOSE ROUTING

NOTE: VINTAGE AIR SYSTEM REQUIRES 5/8" HOSE NIPPLE (NOT SUPPLIED)

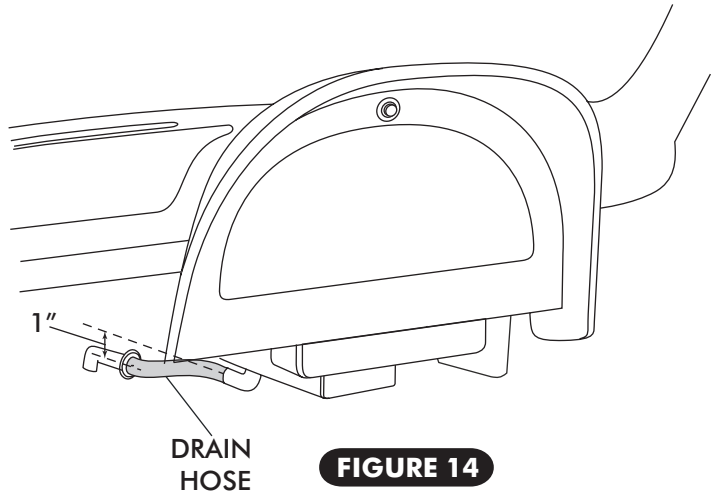
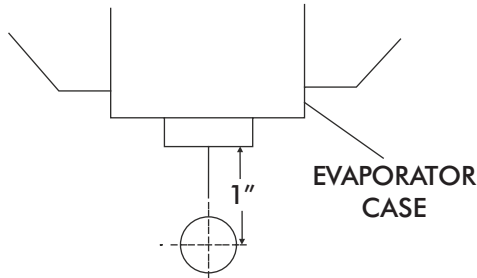


**FIGURE 13**



## DRAIN HOSE INSTALLATION

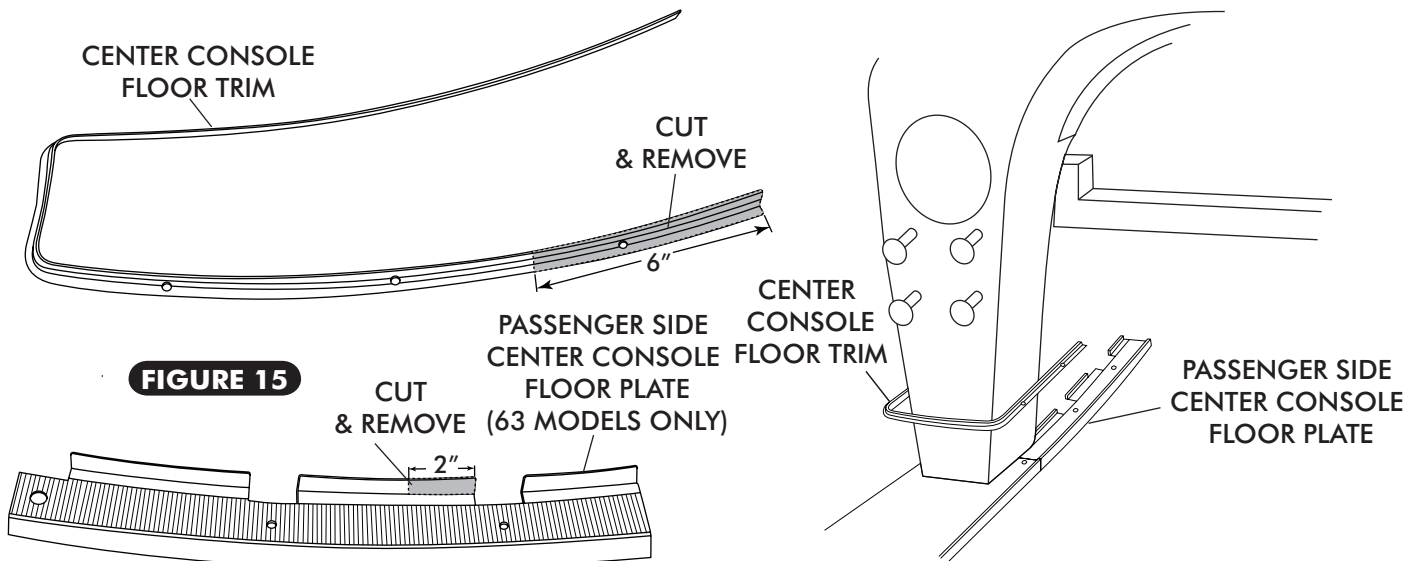
- LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- IN-LINE WITH DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL MEASURE 1" DOWN AND DRILL A 5/8" HOLE THROUGH THE FIREWALL. SEE FIGURE 14 BELOW.
- INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL 1/2" 90° DRAIN ELBOW ON DRAIN HOSE SEE FIGURE 14.



**FIGURE 14**

## CENTER CONSOLE TRIM MODIFICATION

- REMOVE THE CENTER CONSOLE FLOOR TRIM AND PASSENGER SIDE CENTER CONSOLE FLOOR PLATE.
- CUT & REMOVE 6" FROM CENTER CONSOLE FLOOR TRIM AS SHOWN BELOW IN FIGURE 15.
- CUT & REMOVE 2" FROM CENTER CONSOLE FLOOR PLATE AS SHOWN BELOW.
- REINSTALL CENTER CONSOLE FLOOR PLATE AND FLOOR TRIM.



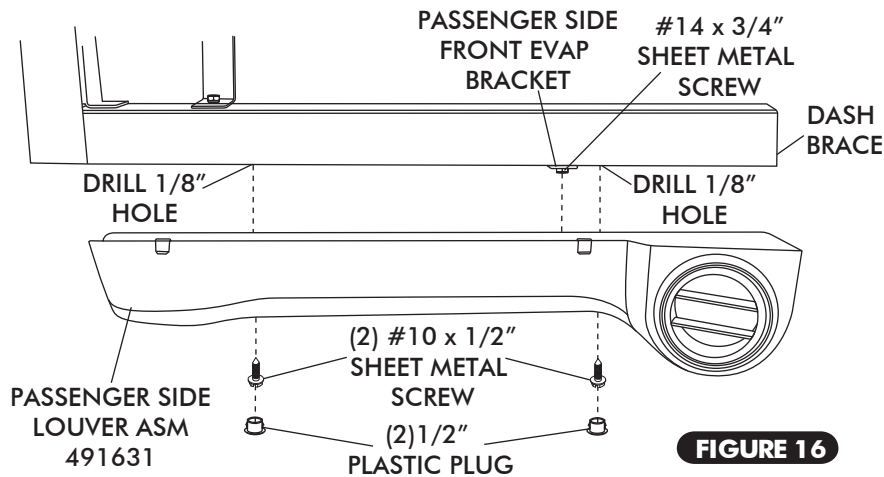
**FIGURE 15**

- INSTALL CONTROL SWITCHES AND WIRING. (SEE CONTROL PANEL INSTRUCTIONS)



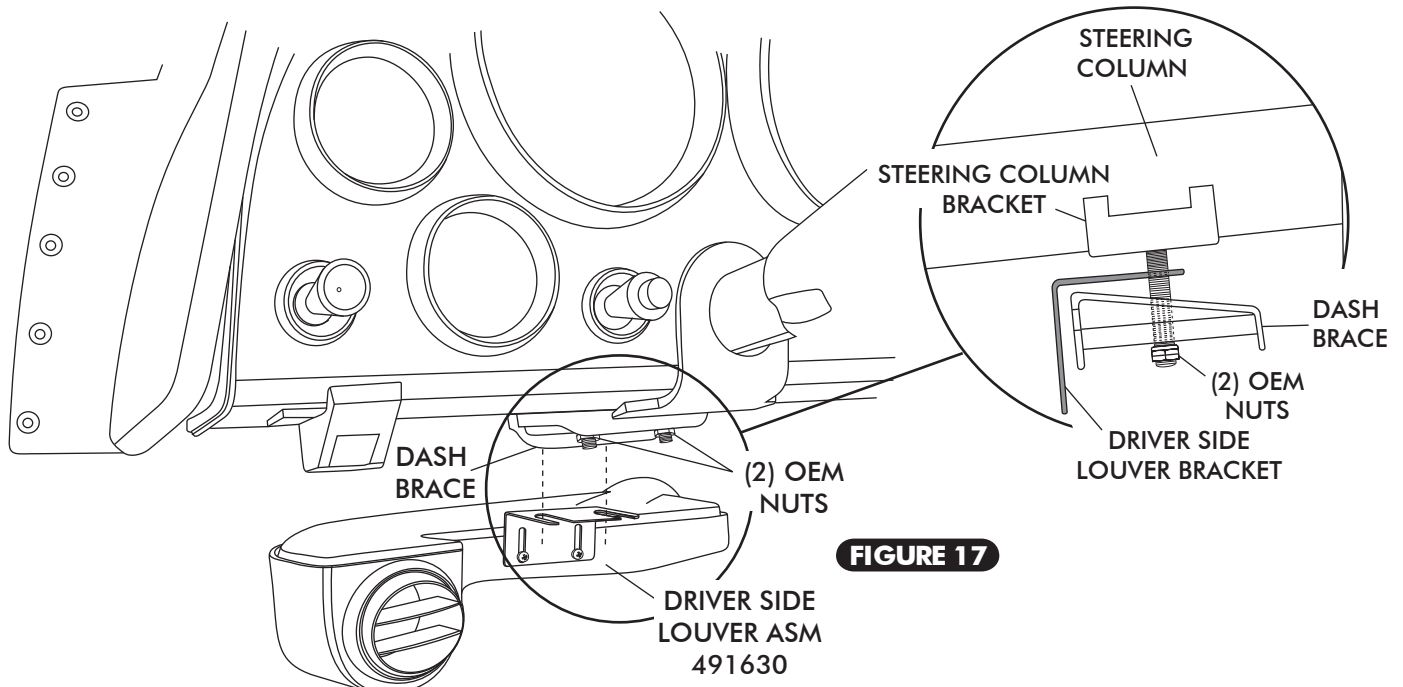
## PASSENGER SIDE UNDER DASH LOUVER INSTALLATION

- ALIGN PASSENGER SIDE UNDER DASH LOUVER TO DASH BRACE USING PASSENGER SIDE FRONT EVAP BRACKET AND #14 x 3/4" SHEET METAL SCREW, DRILL (2) 1/8" HOLES IN DASH BRACE AND SECURE USING (2) #10 x 1/2" SHEET METAL SCREW AS SHOWN BELOW IN FIGURE 16.
- INSTALL 1/2" PLASTIC PLUG IN LOUVER ASM.



## DRIVER SIDE UNDER DASH LOUVER INSTALLATION

- LOOSEN THE (2) OEM NUTS FROM STEERING COLUMN BRACKET. DROP STEERING COLUMN FROM DASH BRACE. SLIDE BRACKET BETWEEN DASH BRACE AND STEERING COLUMN BRACKET.
- ADJUST AND SECURE LOUVER HOUSING TO UNDER DASH STEERING COLUMN BRACKET USING OEM NUTS AS SHOWN IN FIGURE 17 BELOW.

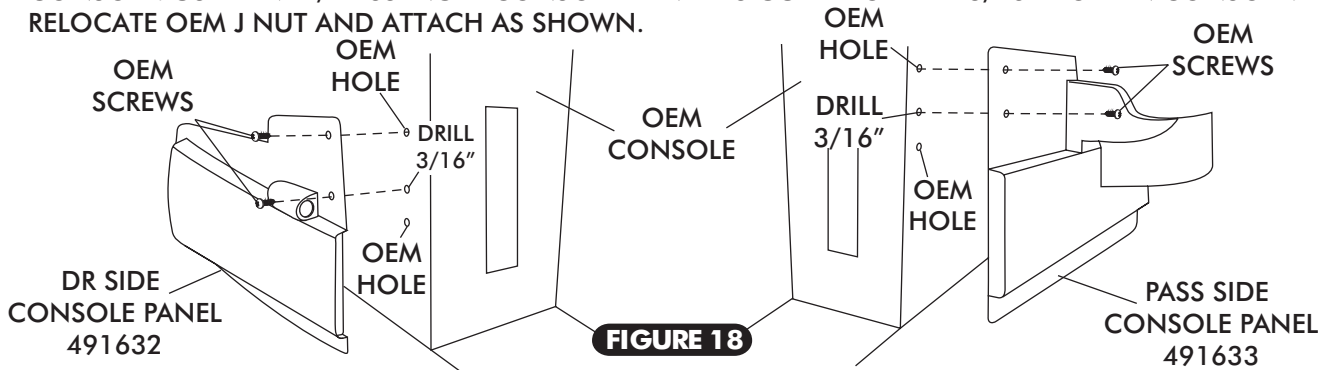






## DRIVER & PASSENGER SIDE CONSOLE PANEL INSTALLATION

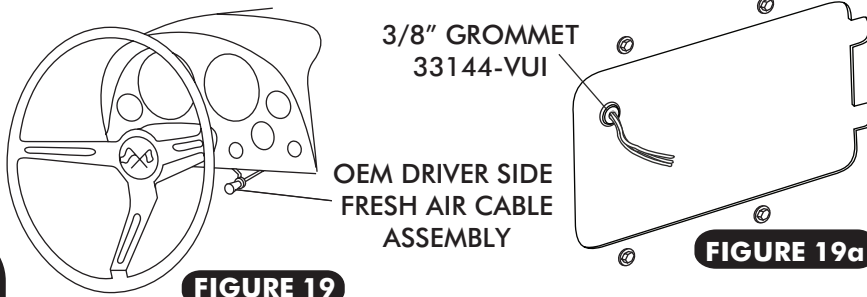
- INSTALL POWER ANTENNA SWITCH (65 AND 66 VETTE ONLY) REFER TO PAGE 24.
- INSTALL CONTROL SWITCHES AND WIRING. (SEE CONTROL PANEL INSTRUCTIONS)
- INSTALL DRIVER AND PASSENGER SIDE CONSOLE PANELS USING OEM SCREWS AS SHOWN BELOW IN FIGURE 18. **NOTE:** LOWER MOUNTING HOLE MUST BE DRILLED IN OEM CONSOLE TO MOUNT NEW CONSOLE. USE DRIVER/ PASSENGER CONSOLE PANEL AS GUIDE TO DRILL 3/16" HOLE IN CONSOLE. RELOCATE OEM J NUT AND ATTACH AS SHOWN.



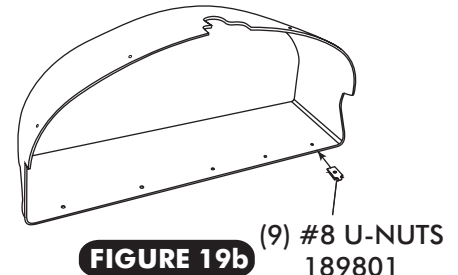
**FIGURE 18**

## FINAL STEPS

- INSTALL DUCT HOSES AS SHOWN IN FIGURE 20, PAGE 18.
- ROUTE A/C WIRES THROUGH 3/8" GROMMET AS SHOWN IN FIGURE 19 BELOW. (12 VOLT/ GROUND/ BINARY SWITCH/ HEATER VALVE).
- PLUG THE WIRING HARNESS IN THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 20, PAGE 18 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 19 AND 20.)
- INSTALL (9) #8 U-NUTS IN GLOVE BOX AS SHOWN IN FIGURE 19a.
- INSTALL NEW GLOVE BOX USING OEM SCREWS.
- REINSTALL CENTER FLOOR CONSOLE.
- REINSTALL KICK PANEL.
- RELOCATE OEM DRIVER SIDE FRESH AIR CABLE ASSEMBLY TO OEM PASSENGER SIDE MOUNTING LOCATION SEE FIGURE 19 BELOW.
- REINSTALL ALL PREVIOUSLY REMOVED ITEMS.
- FILL RADIATOR WITH AT LEAST A 50/50 MIXTURE OF APPROVED ANTIFREEZE AND DISTILLED WATER. IT IS THE OWNER'S RESPONSIBILITY TO KEEP THE FREEZE PROTECTION AT THE PROPER LEVEL FOR THE CLIMATE IN WHICH THE VEHICLE IS OPERATED. FAILURE TO FOLLOW ANTIFREEZE RECOMMENDATIONS WILL CAUSE HEATER CORE TO CORRODE PREMATURELY AND POSSIBLY BURST IN AC MODE AND/OR FREEZING WEATHER, VOIDING YOUR WARRANTY.
- DOUBLE CHECK ALL FITTINGS, BRACKETS AND BELTS FOR TIGHTNESS.
- VINTAGE AIR RECOMMENDS THAT ALL AC SYSTEMS BE SERVICED BY A CERTIFIED AUTOMOTIVE AIR CONDITIONING TECHNICIAN.
- EVACUATE THE SYSTEM FOR A MINIMUM OF 45 MINUTES PRIOR TO CHARGING AND LEAK CHECK PRIOR TO SERVICING.
- CHARGE THE SYSTEM TO THE CAPACITIES STATED ON THE INFORMATION PAGE (PAGE 4) OF THIS INSTRUCTION MANUAL.
- SEE OPERATION OF CONTROLS PROCEDURES ON PAGE 21.



**FIGURE 19**

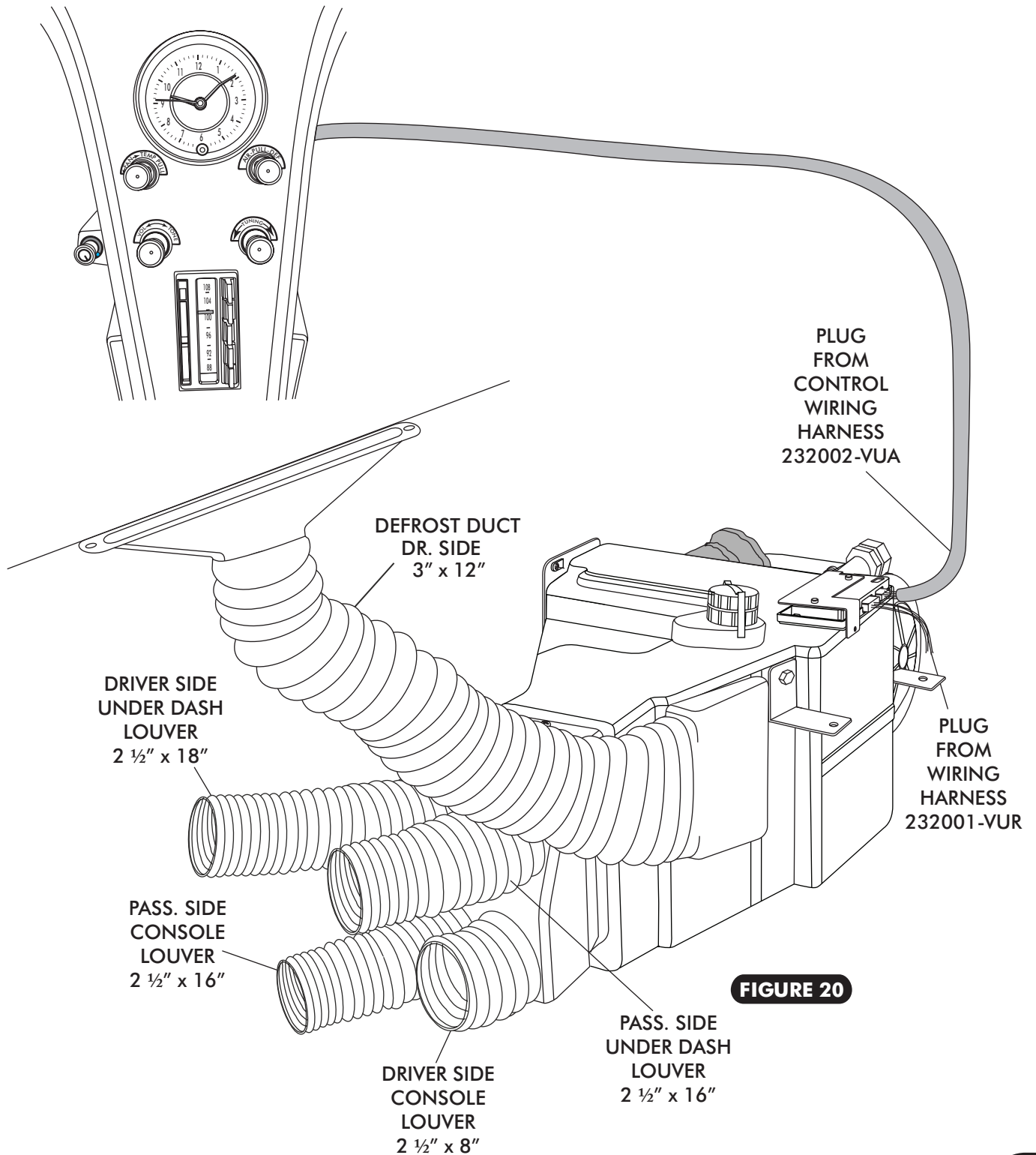


**FIGURE 19b**

(9) #8 U-NUTS  
189801



## CONTROL PANEL & DUCT HOSE ROUTING

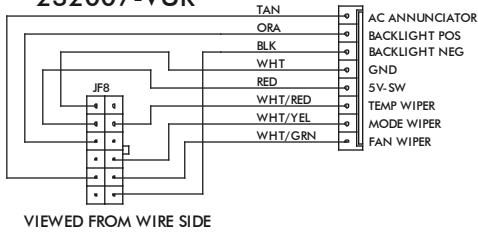


**FIGURE 20**



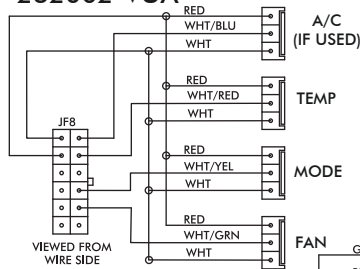
# Wiring Diagram

232007-VUR



VIEWED FROM WIRE SIDE

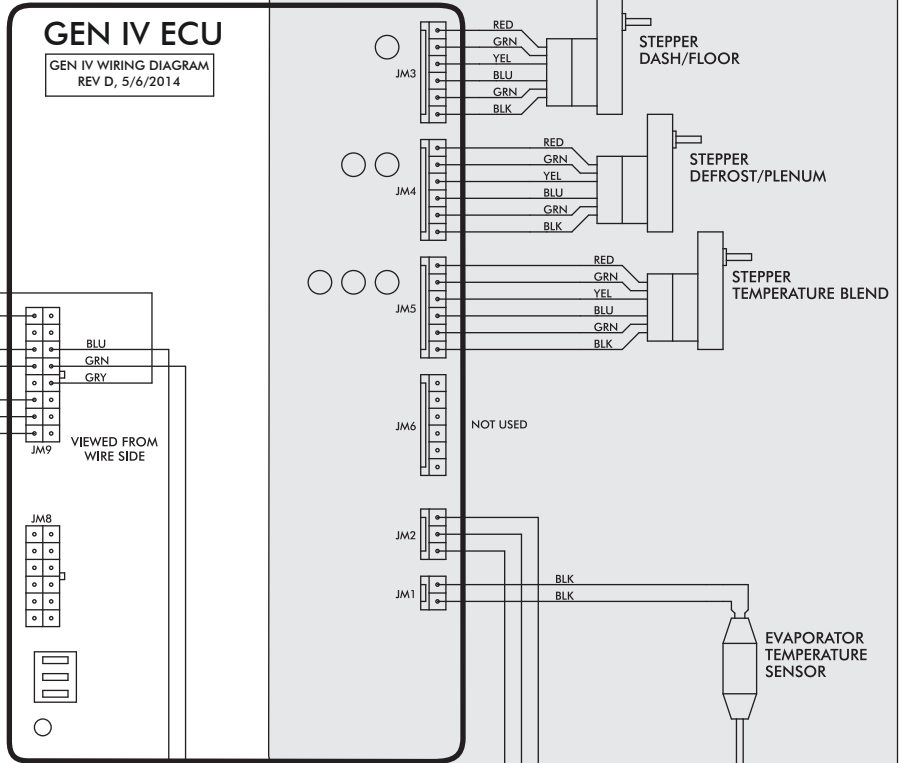
232002-VUA



VIEWED FROM WIRE SIDE

GEN IV ECU

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

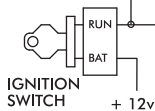


PRE-WIRED

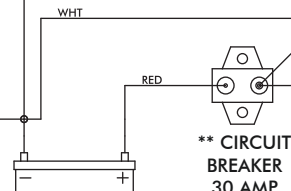
PROGRAM

N/A  
\* DASH LAMP  
(IF USED)

\*\*\* WIDE OPEN  
THROTTLE SWITCH  
(OPTIONAL)



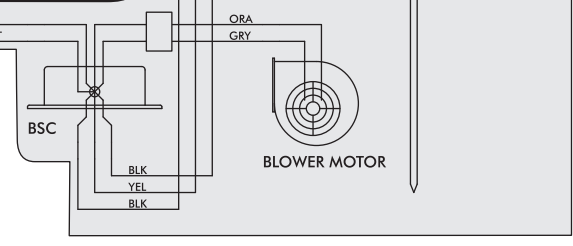
IGNITION SWITCH + 12v



\*\* CIRCUIT  
BREAKER  
30 AMP

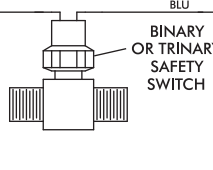


COMPRESSOR  
RELAY



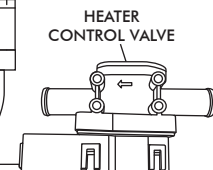
BSC

BLOWER MOTOR



BINARY  
OR TRINARY  
SAFETY  
SWITCH

CMR



HEATER  
CONTROL VALVE

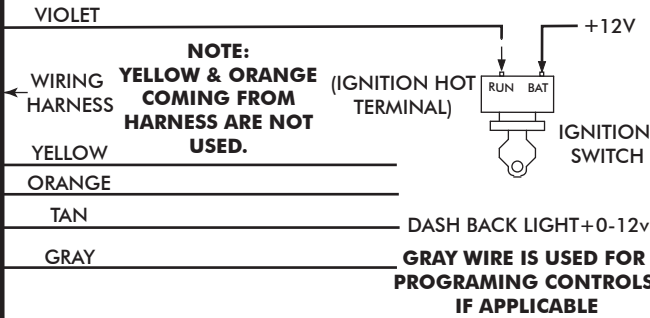
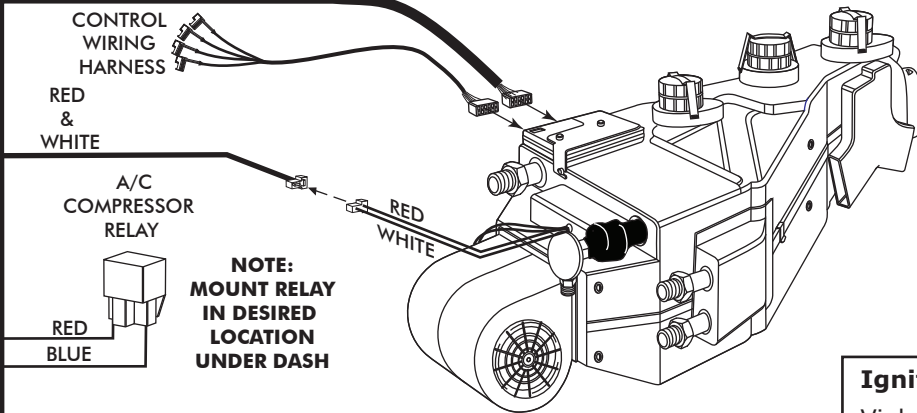
NOTE: = CHASSIS GROUND

- 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.



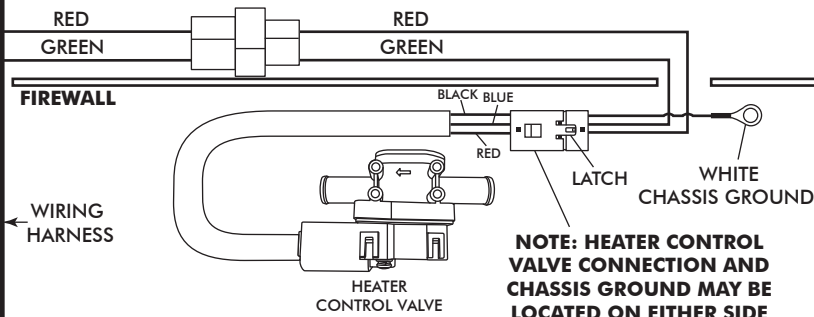
# Gen IV Wiring Connection Instruction

WIRING HARNESS

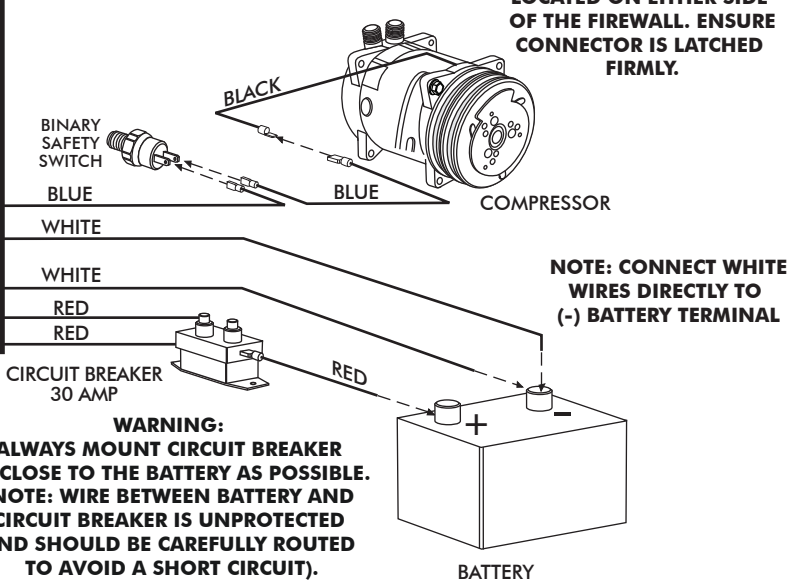


**Ignition Switch:**  
Violet 12V Ign Switch Source (Key On Accessory) Position Must Be Switched.

**Dash Light:**  
Tan Wire Used Only With Vintage Air Supplied Control Panel With LED Back Light.



**Heater Control Valve:**  
Install With Servo Motor Facing Down, As Shown. Note Flow Direction Arrow Molded Into Valve Body, And Install Accordingly.



**Binary/Trinary & Compressor:**  
Binary: Connect As Shown (Typical Compressor Wiring). Be Sure Compressor Body Is Grounded.  
Trinary Switch: Connect According To Trinary Switch Wiring Diagram.

**Circuit Breaker/Battery:**  
White **Must** Run To (-) Battery. Red May Run To (+) Battery Or Starter. Mount Circuit Breaker As Close to Battery As Possible.



## OPERATION OF CONTROLS

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

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**

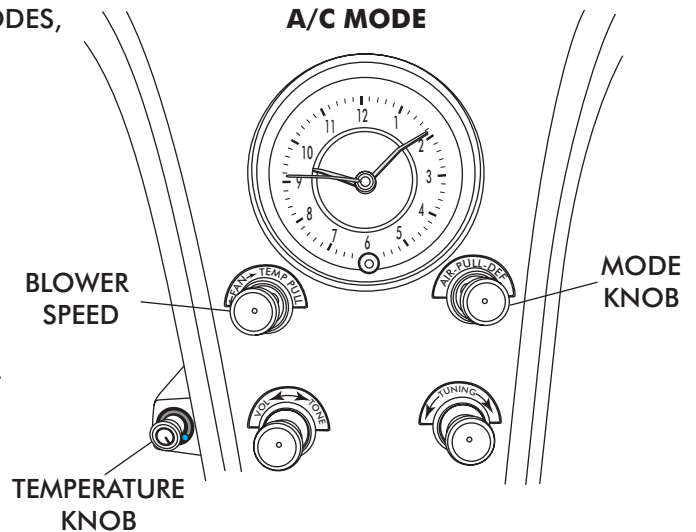
THIS KNOB CONTROLS THE BLOWER SPEED, FROM OFF TO HI

### **MODE KNOB**

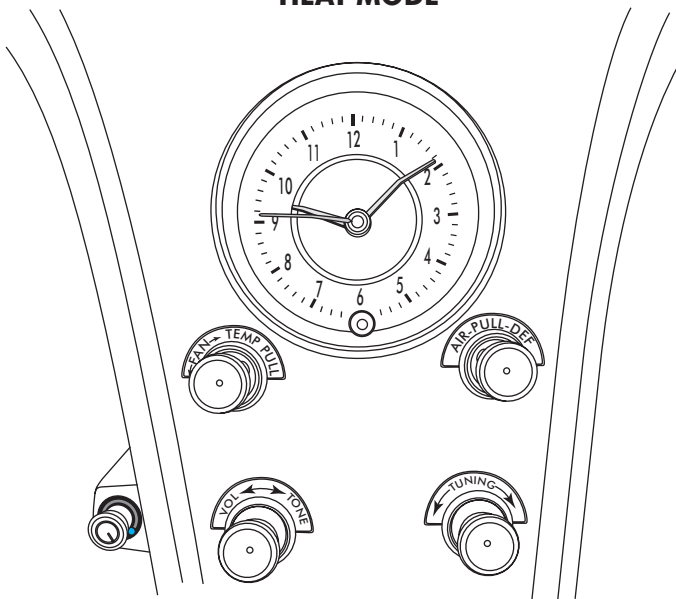
ROTATE THE KNOB TO THE LEFT TO DIRECT AIR FLOW TO THE DASH VENTS

### **TEMPERATURE KNOB**

ROTATE THE TEMPERATURE KNOB ALL THE WAY RIGHT TO THE COLD POSITION TO ENGAGE COMPRESSOR. (ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)



### **HEAT MODE**



### **BLOWER SPEED**

ROTATE KNOB RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI.

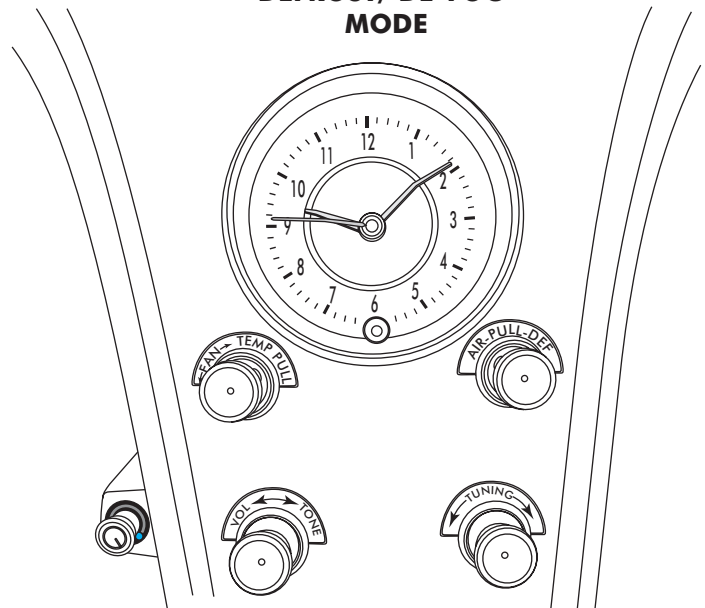
### **MODE KNOB**

ROTATE THE KNOB TO THE CENTER TO DIRECT AIR FLOW TO THE FLOOR.

### **TEMPERATURE KNOB**

ROTATE THE TEMPERATURE KNOB ALL THE WAY LEFT TO THE HOT POSITION. (ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE)

### **DEFROST/ DE-FOG MODE**



### **BLOWER SPEED**

ROTATE KNOB RIGHT TO DESIRED BLOWER SPEED FROM OFF TO HI.

### **MODE KNOB**

ROTATE THE KNOB TO THE RIGHT TO DIRECT AIR FLOW TO THE DEFROST VENTS.

### **TEMPERATURE KNOB**

ROTATE KNOB LEFT OR RIGHT TO ADJUST DESIRED TEMPERATURE. (COMPRESSOR IS AUTOMATICALLY ENGAGED)



# Troubleshooting Guide

Symptom	Condition	Checks	Actions	Notes
1a. Blower stays on high speed when ignition is on.	No other functions work.	Check for damaged pins or wires in control head plug.	Verify that all pins are inserted into plug. Ensure that no pins are bent or damaged in ECU.	Loss of ground on this wire renders control head inoperable.  See blower switch check procedure.
	All other functions work.	Check for damaged ground wire (white) in control head harness.	Verify continuity to chassis ground with white control head wire at various points.	
		Check for damaged blower switch or potentiometer and associated wiring.		
1b. Blower stays on high speed when ignition is on or off.		Unplug 3-wire BSC control connector from ECU. If blower shuts off, ECU is either improperly wired or damaged.	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU.	No other part replacements should be necessary.
		Unplug 3-wire BSC control connector from ECU. If blower stays running, BSC is either improperly wired or damaged.	Check to ensure that no BSC wiring is damaged or shorted to vehicle ground. The BSC operates the blower by ground side pulse width modulation switching. The positive wire to the blower will always be hot. If the "ground" side of the blower is shorted to chassis ground, the blower will run on HI.	
			Replace BSC (This will require removal of evaporator from vehicle).	
2. Compressor will not turn on (All other functions work).		System must be charged for compressor to engage.	Charge system or bypass pressure switch.	<b>Danger: Never bypass safety switch with engine running. Serious injury can result.</b>  To check for proper pot function, check voltage at white/blue wire. Voltage should be between 0V and 5V, and will vary with pot lever position.  Disconnected or faulty thermistor will cause compressor to be disabled.
		Check for faulty A/C potentiometer or associated wiring (Not applicable to 3-pot controls).	Check continuity to ground on white control head wire. Check for 5V on red control head wire.	
		Check for disconnected or faulty thermistor.	Check 2-pin connector at ECU housing.	
3. Compressor will not turn off (All other functions work).		Check for faulty A/C potentiometer or associated wiring.	Repair or replace pot/control wiring.	Red wire at A/C pot should have approximately 5V with ignition on. White wire will have continuity to chassis ground. White/Blue wire should vary between 0V and 5V when lever is moved up or down.
		Check for faulty A/C relay.	Replace relay.	



# Troubleshooting Guide (Cont.)

Symptom	Condition	Checks	Actions	Notes
4. System will not turn on, or runs intermittently.	Works when engine is not running; shuts off when engine is started (Typically early Gen IV, but possible on all versions).	Noise interference from either ignition or alternator.	Install capacitors on ignition coil and alternator. Ensure good ground at all points. Relocate coil and associated wiring away from ECU and ECU wiring. Check for burned or loose plug wires.	Ignition noise (radiated or conducted) will cause the system to shut down due to high voltage spikes. If this is suspected, check with a quality oscilloscope. Spikes greater than 16V will shut down the ECU. Install a radio capacitor at the positive post of the ignition coil (See radio capacitor installation bulletin). A faulty alternator or worn out battery can also result in this condition.
	Will not turn on under any conditions.	Verify connections on power lead, ignition lead, and both white ground wires.	Check for positive power at heater valve green wire and blower red wire. Check for ground on control head white wire.	
		Verify battery voltage is greater than 10 volts and less than 16.	Verify proper meter function by checking the condition of a known good battery.	
5. Loss of mode door function.	No mode change at all.	Check for damaged mode switch or potentiometer and associated wiring.		Typically caused by evaporator housing installed in a bind in the vehicle. Be sure all mounting locations line up and don't have to be forced into position.
	Partial function of mode doors.	Check for obstructed or binding mode doors.		
		Check for damaged stepper motor or wiring.		
6. Blower turns on and off rapidly.	Battery voltage is at least 12V.	Check for at least 12V at circuit breaker.	Ensure all system grounds and power connections are clean and tight.	System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
	Battery voltage is less than 12V.	Check for faulty battery or alternator.	Charge battery.	
		Check for damaged switch or pot and associated wiring.	Repair or replace.	
7. Erratic functions of blower, mode, temp, etc.				
8. When ignition is turned on, blower momentarily comes on, then shuts off. This occurs with the blower switch in the OFF position.				
		This is an indicator that the system has been reset. Be sure the red power wire is on the battery post, and not on a switched source. Also, if the system is pulled below 7V for even a split second, the system will reset.	Run red power wire directly to battery.	

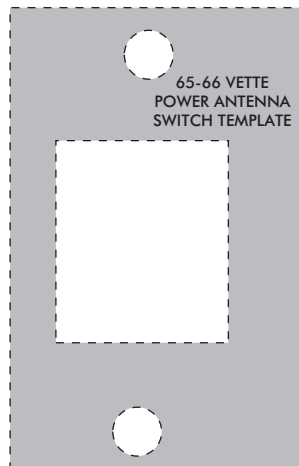
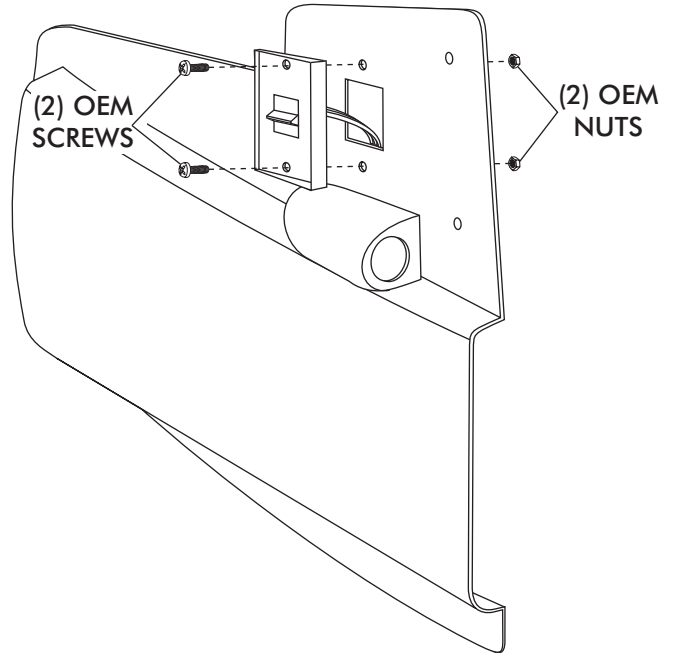
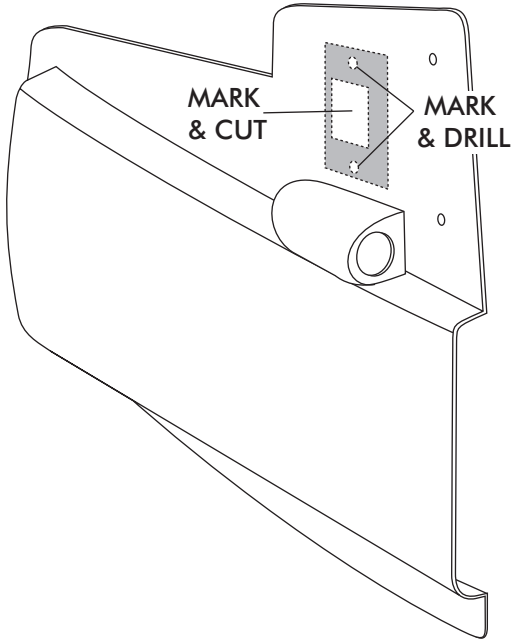






## POWER ANTENNA SWITCH INSTALLATION (65-66 VETTE ONLY)

- USING TEMPLATE PROVIDED BELOW MARK, DRILL AND CUT HOLES.
- INSTALL POWER ANTENNA SWITCH USING (2) OEM SCREWS AND (2) OEM NUTS AS SHOWN BELOW.









# EVAPORATOR KIT PACKING LIST

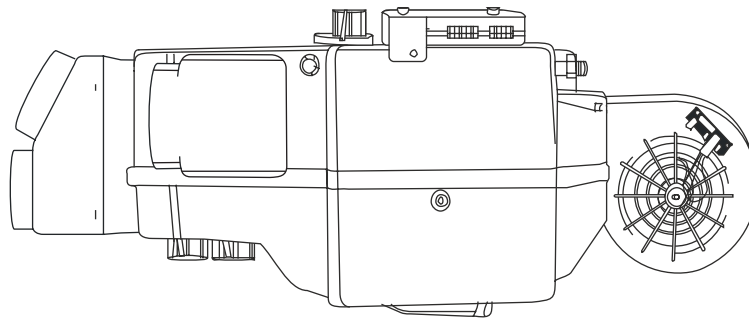
EVAPORATOR KIT  
561163

No.	QTY.	PART No.	DESCRIPTION
1.	1	744009	63-67 VETTE EVAP SUB CASE
2.	1	781063	ACC KIT 63-66 VETTE

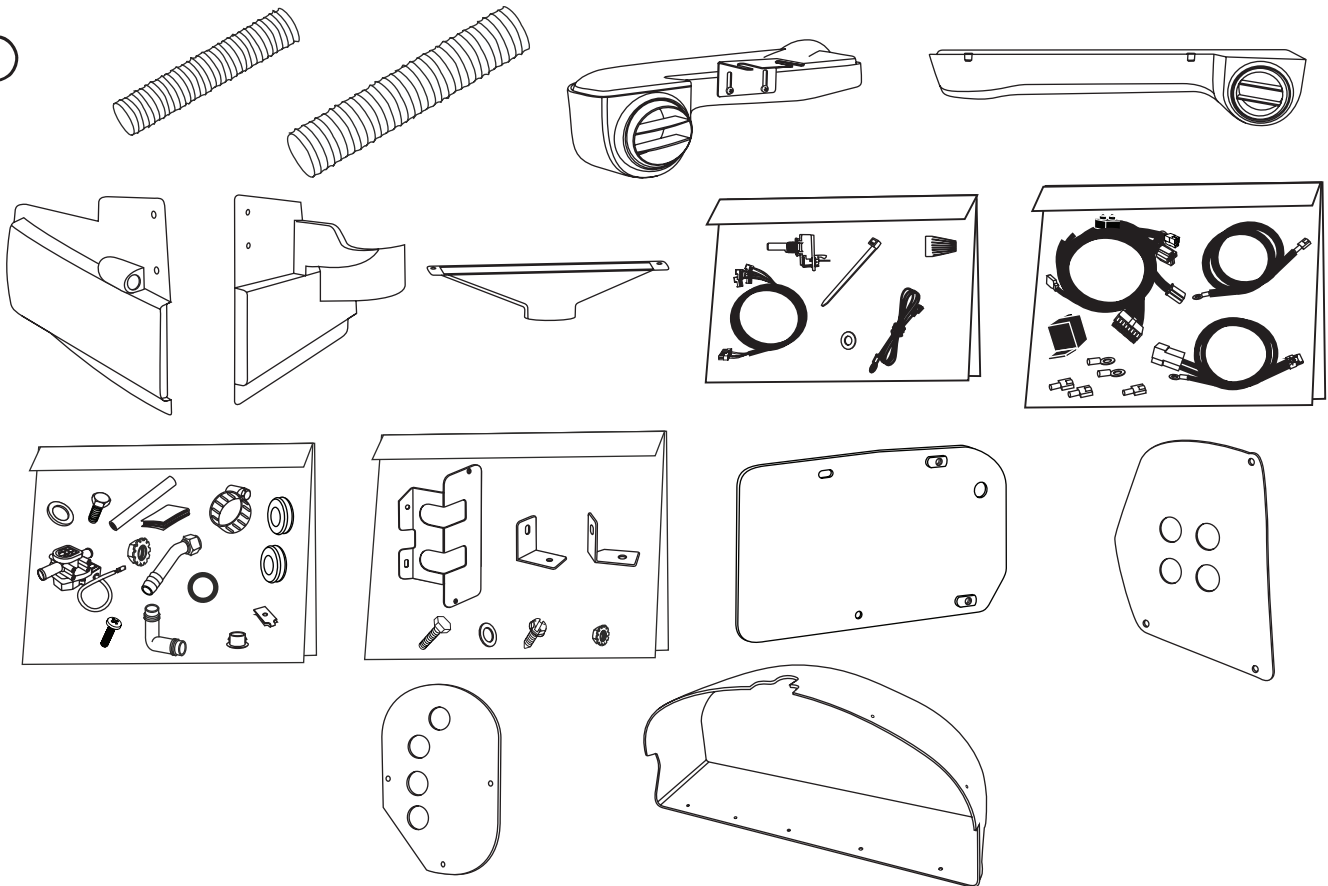
CHECK BY: \_\_\_\_\_  
 PACKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

①

**63-67 VETTE  
EVAP SUB CASE  
744009**



②



**ACCESSORY KIT  
781063**

**NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES.  
REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES.**