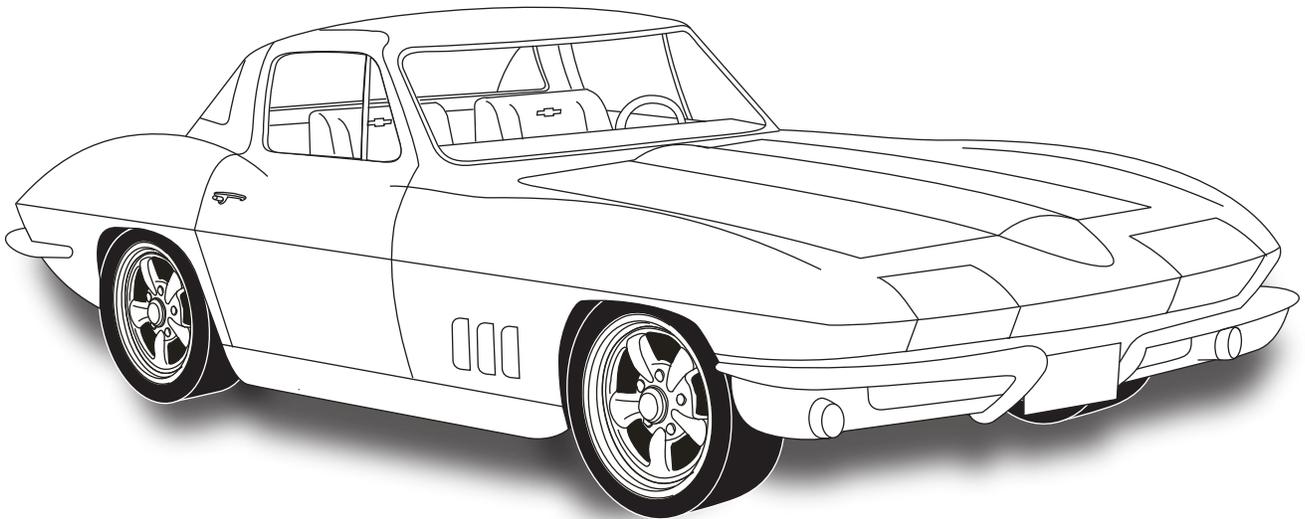




an ISO 9001:2008 Registered Company

# 1967 CORVETTE

WITH FACTORY AC  
564166



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



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# EVAPORATOR KIT PACKING LIST

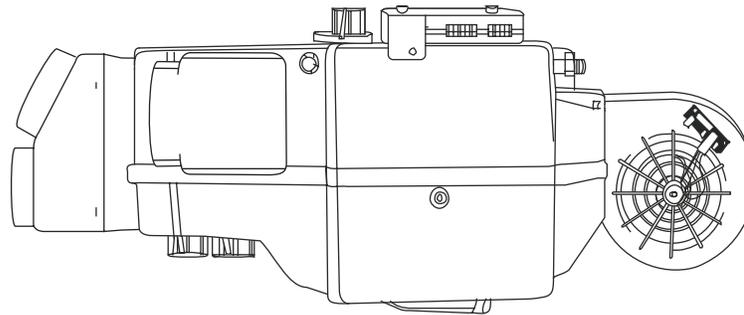
EVAPORATOR KIT  
564166

No.	QTY.	PART No.	DESCRIPTION
1.	1	744010	63-67 VETTE w/ AC EVAP SUB CASE
2.	1	784168	ACC KIT 67 VETTE w/ AC

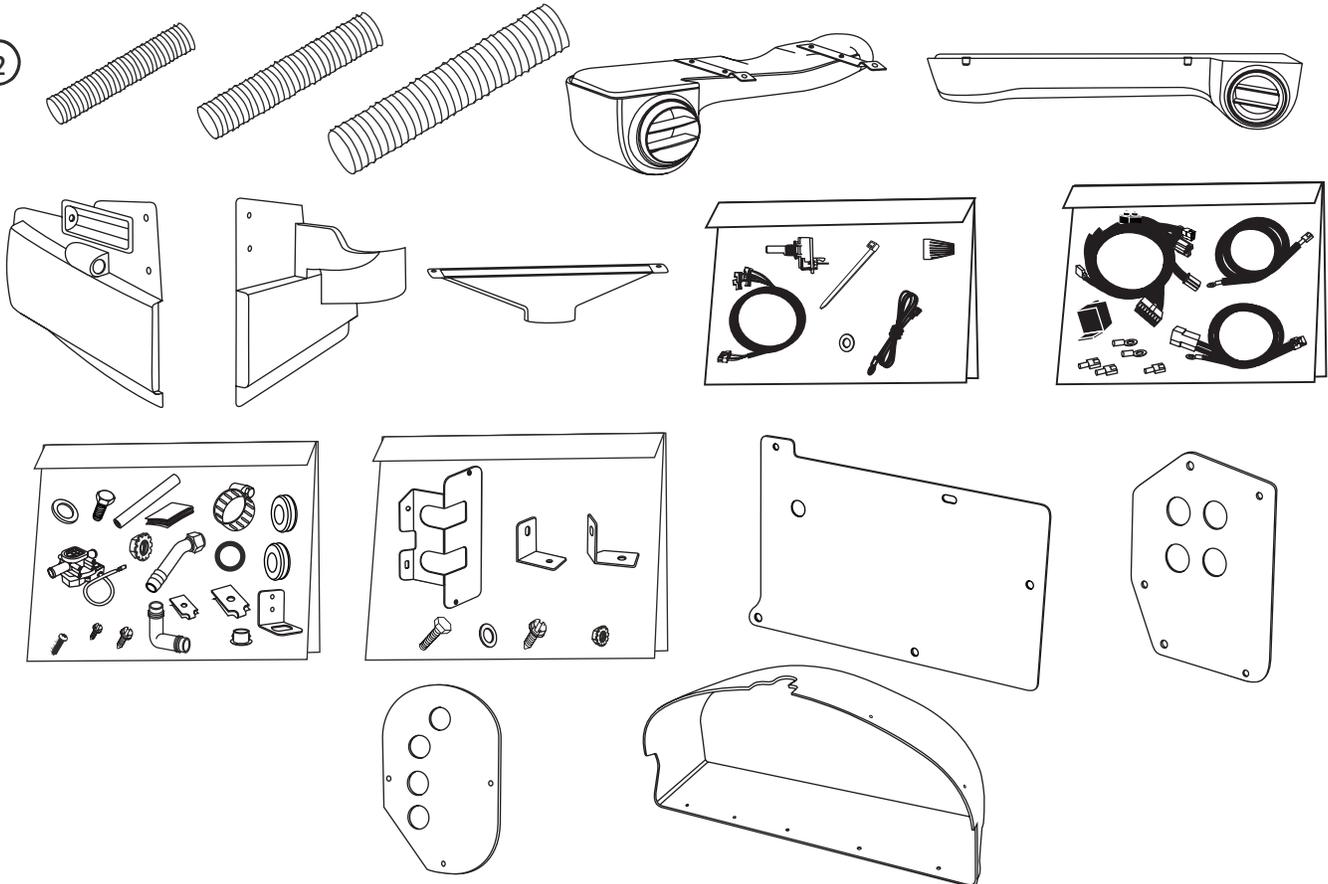
**\*\* BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

1

**63-67 VETTE w/ AC  
EVAP SUB CASE  
744010**



2



**ACCESSORY KIT  
784168**

**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:***

### **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.

### **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.

### **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:**

**Attention:** The following system components are capped: Compressor, evaporator, condenser & drier. Caps may be under pressure with dry nitrogen. Be careful removing caps. Do not remove caps prior to installation. Removing caps prior to installation will cause components to collect moisture and lead to premature failure and reduced performance.

Evacuate the system for 35-45 minutes with system components (Drier, compressor, evaporator and condenser) 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.

***Vintage Air Systems Are Designed to Operate With R134a Refrigerant Only! Use of Any Other Refrigerants Is a Fire Hazard and Could Damage Either Your Air Conditioning System or Your Vehicle.***

***Use of Any Other Refrigerants Will Void All Warranties of the Air Conditioning System and Components. Use of the Proper Type and Amount of Refrigerant Is Critical to Proper System Operation. Vintage Air Recommends Our Systems Be Charged By Weight With a Quality Charging Station or Scale.***

### **Refrigerant Capacity for Vintage Air Systems:**

*(For other systems, consult manufacturer's guidelines)*

#### **R134a System**

Charge with 1.8 lbs. (1 lb., 12 oz.) of refrigerant.

### **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).



## 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.

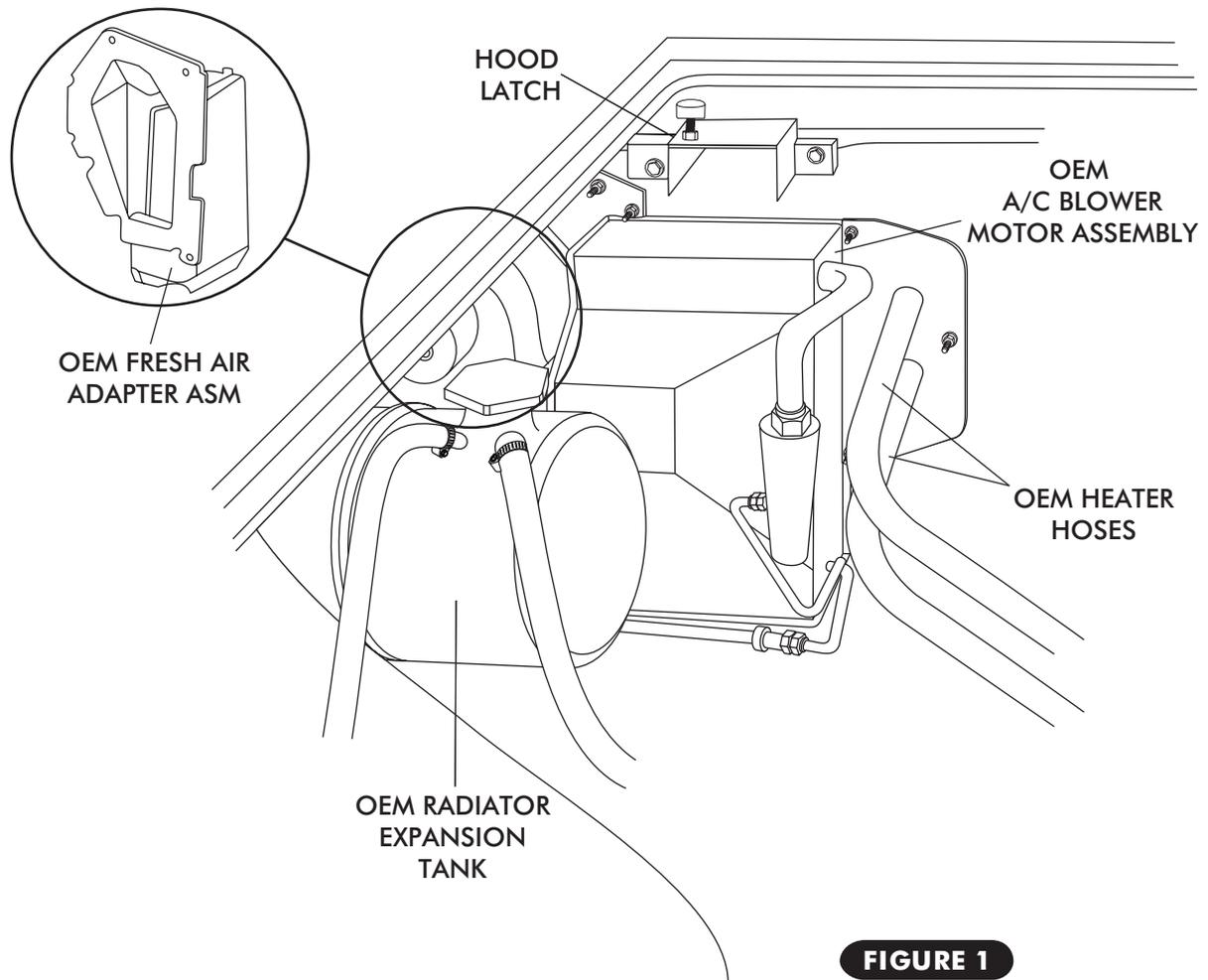


**BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS, ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS, & DIAGRAMS.**

## **ENGINE COMPARTMENT**

### **REMOVE THE FOLLOWING**

- HOOD AND HOOD LATCH FOR EASE OF INSTALLATION
- DISCONNECT BATTERY AND REMOVE, IF MOUNTED ON PASSENGER SIDE.  
IF MOUNTED ON DRIVER SIDE, DISCONNECT (-) TERMINAL.
- DRAIN RADIATOR.
- EVACUATE THE A/C SYSTEM IF NECESSARY
- OEM A/C BLOWER MOTOR ASSEMBLY (UNDER HOOD) (DISCARD).
- OEM FRESH AIR ADAPTER ASSEMBLY (DISCARD)
- OEM CONDENSER AND DRIER (DISCARD) SEE FIGURE 1
- OEM A/C LINES FROM COMPRESSOR TO EVAPORATOR (DISCARD).
- OEM COMPRESSOR AND BRACKET (DISCARD).
- OEM HEATER HOSES, A/C HOSES, AND HARDLINES (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)

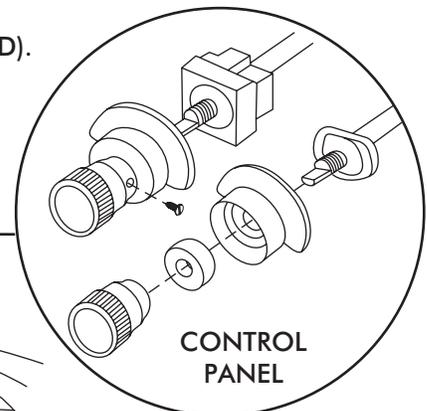
## COMPRESSOR & BRACKETS

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

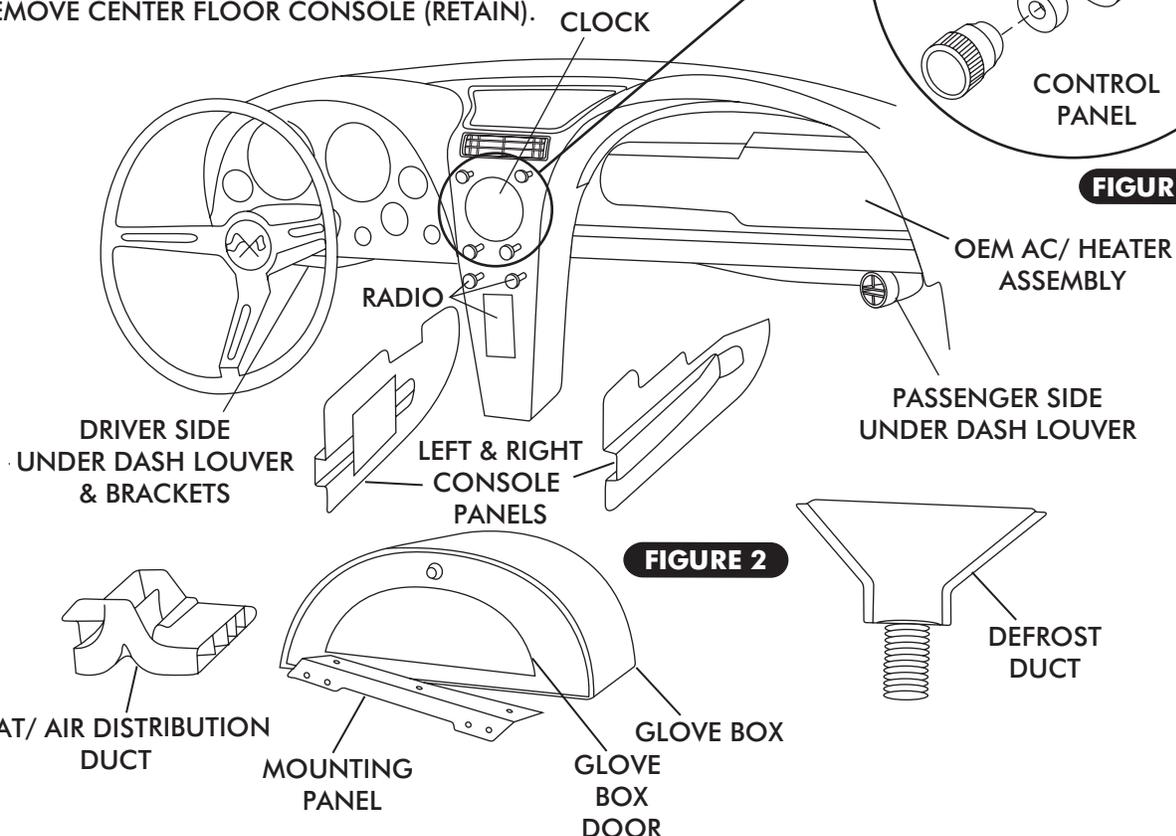
## PASSENGER COMPARTMENT

### 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)
- DRIVER AND PASSENGER SIDE UNDER DASH LOUVER, MOUNTING BRACKETS AND ALL DUCTING (DISCARD)
- HEAT/ AIR DISTRIBUTION DUCTS.(DISCARD)
- OEM AC/ HEATER ASSEMBLY. (DISCARD)
- OEM DEFROST DUCT. (DISCARD) (RETAIN NUTS)
- REMOVE OEM CENTER LOUVER ASSEMBLY WITH CONTROL, BEZEL (RETAIN) SEE FIGURE 2a.  
(REFER TO CONTROL PANEL INSTRUCTIONS FOR INSTALLATION)
- 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).
- REMOVE OEM DRIVER SIDE FRESH AIR CABLE FROM DRIVER SIDE CONSOLE PANEL.
- REMOVE CENTER FLOOR CONSOLE (RETAIN).



**FIGURE 2a**

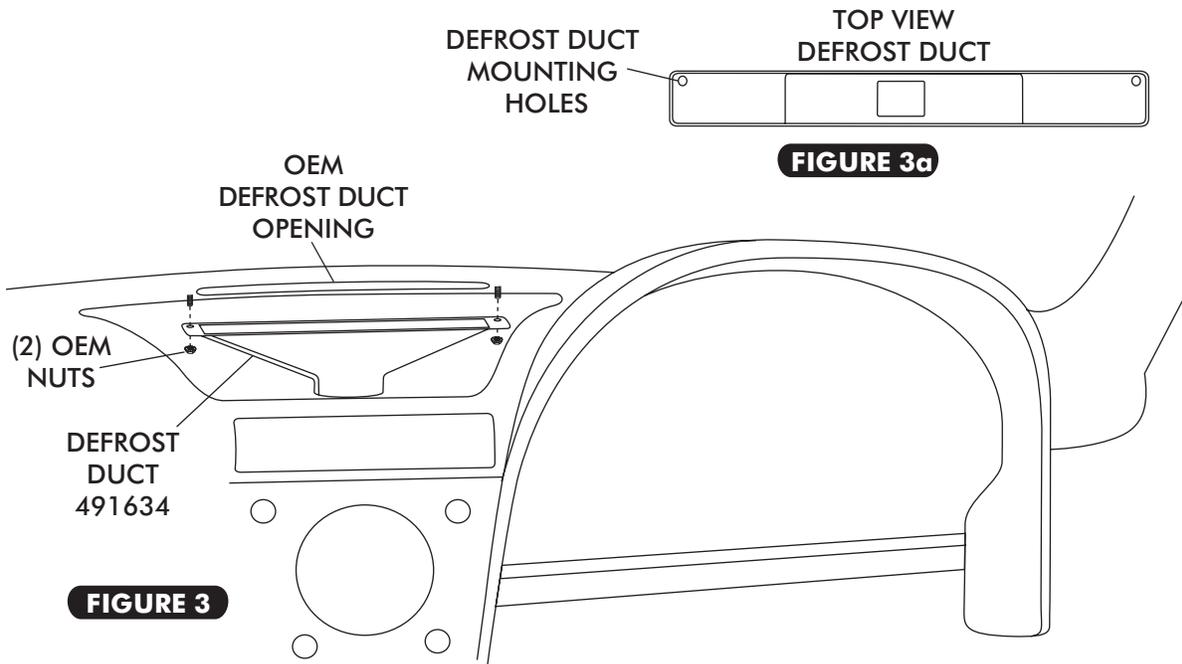


**FIGURE 2**



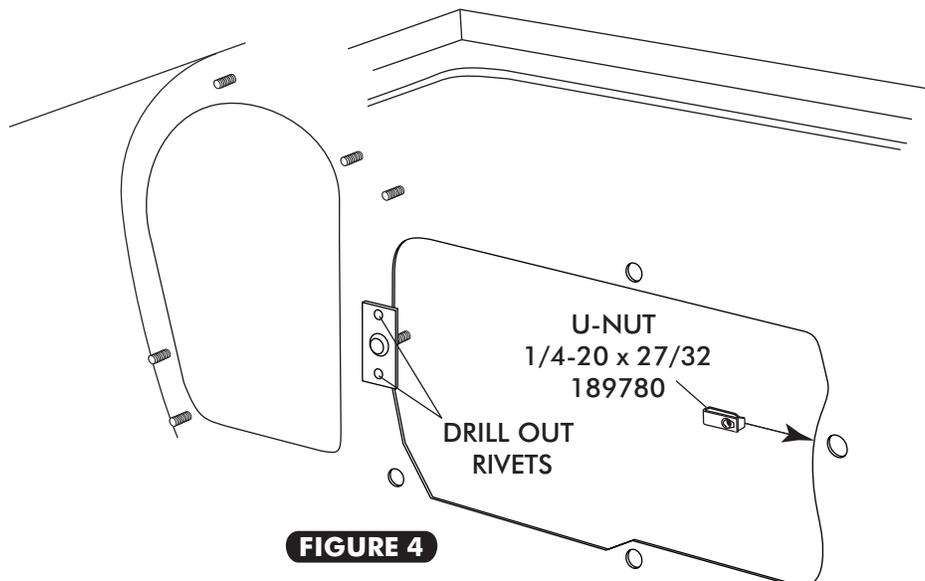
## DEFROST DUCT INSTALLATION

- 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 MODIFICATION

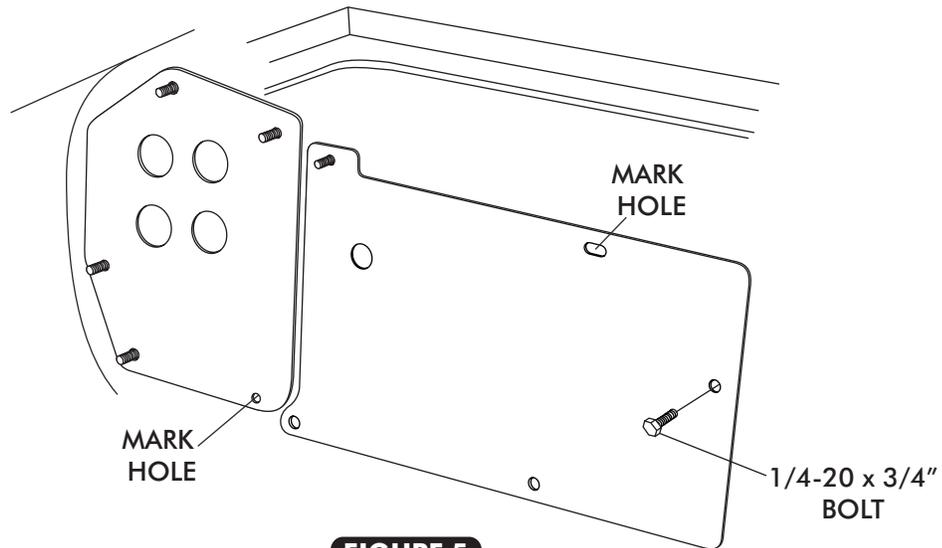
- REMOVE OEM STUD ON FIREWALL BY DRILLING OUT RIVETS. (SEE FIGURE 4 BELOW)
- INSTALL U-NUT 1/4-20 x 27/32 ON FIREWALL AS SHOWN BELOW.



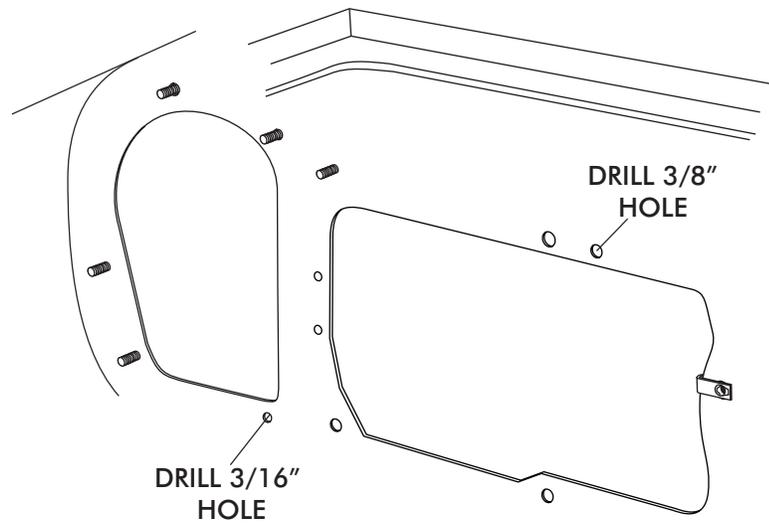


## FIREWALL MODIFICATION CONT.

- PLACE FIREWALL COVER ON FIREWALL AND SCURE USING 1/4-20 x 3/4" BOLT AS SHOWN BELOW.
- USING FIREWALL COVER AS TEMPLATE, MARK THE HOLE ON FIREWALL AS SHOWN BELOW.
- REMOVE FIREWALL COVER.
- PLACE BLOWER COVER ON FIREWALL AND MARK THE HOLE AS SHOWN BELOW.
- REMOVE BLOWER COVER.
- DRILL HOLES AS SHOWN BELOW IN FIGURE 5a.



**FIGURE 5**



**FIGURE 5a**

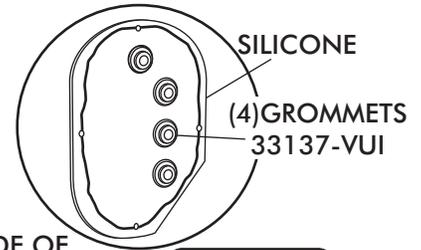


## KICK PANEL COVER INSTALLATION

- ❑ INSTALL (4) GROMMETS IN KICK PANEL COVER, SEE FIGURE 6b BELOW.
- ❑ ROUTE A/C AND HEATER HOSE THROUGH FIREWALL BLOWER COVER AND KICK PANEL COVER AS SHOWN IN FIGURE 6 AND 6b, BELOW.
- ❑ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL COVER AS SHOWN IN FIGURE 6a, BELOW.
- ❑ SECURE KICK PANEL COVER USING OEM SCREW, OEM NUT AND (2) #10 x 1" PAN HEAD SCREWS, AS SHOWN IN FIGURE 6c.

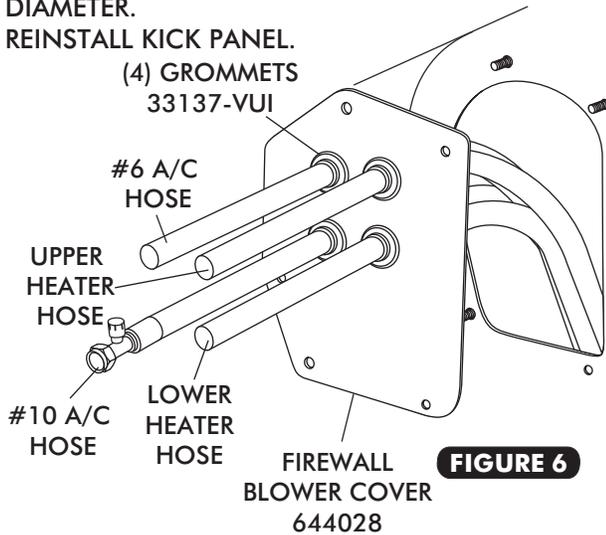
**NOTE:** NEED TO MATCH DRILL THE (2) CENTER HOLES 1/8" DIAMETER.

- ❑ REINSTALL KICK PANEL.

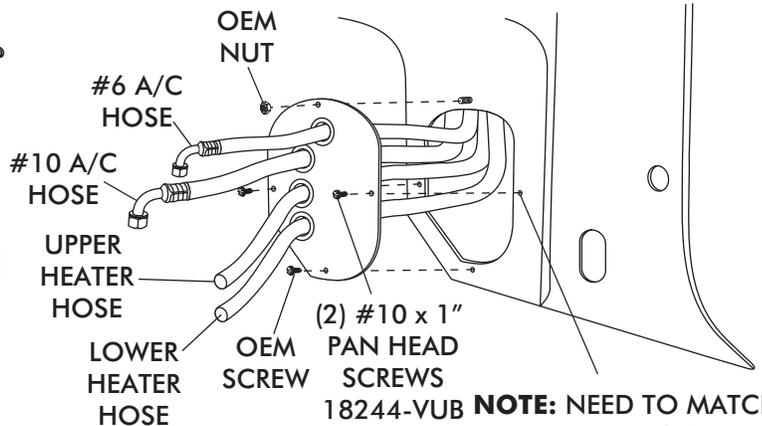


BACK SIDE OF KICK PANEL FRESH AIR COVER

**FIGURE 6a**



**FIGURE 6**

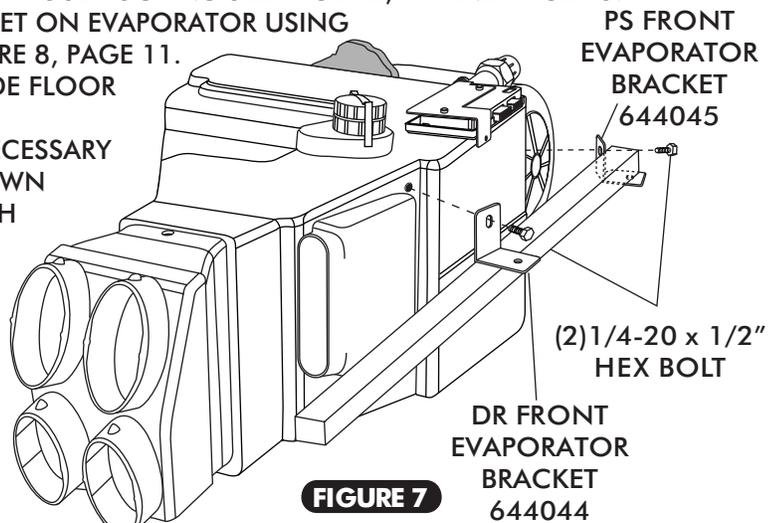


**FIGURE 6b**

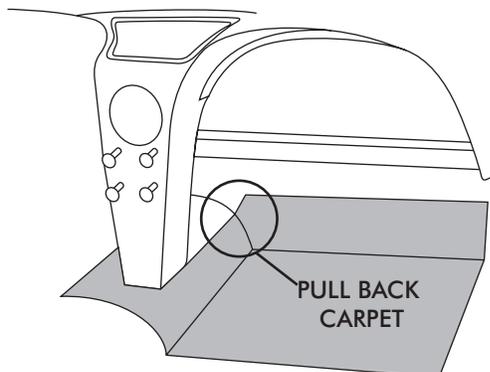
**NOTE:** NEED TO MATCH DRILL THE 2 CENTER HOLES 1/8" DIAMETER

## EVAPORATOR INSTALLATION

- ❑ ON A WORK BENCH INSTALL (2) HEATER FITTINGS WITH PROPERLY LUBRICATED O-RINGS. (SEE FIGURE 14, PAGE 14, 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.
- ❑ WHEN INSTALLING EVAPORATOR, 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.

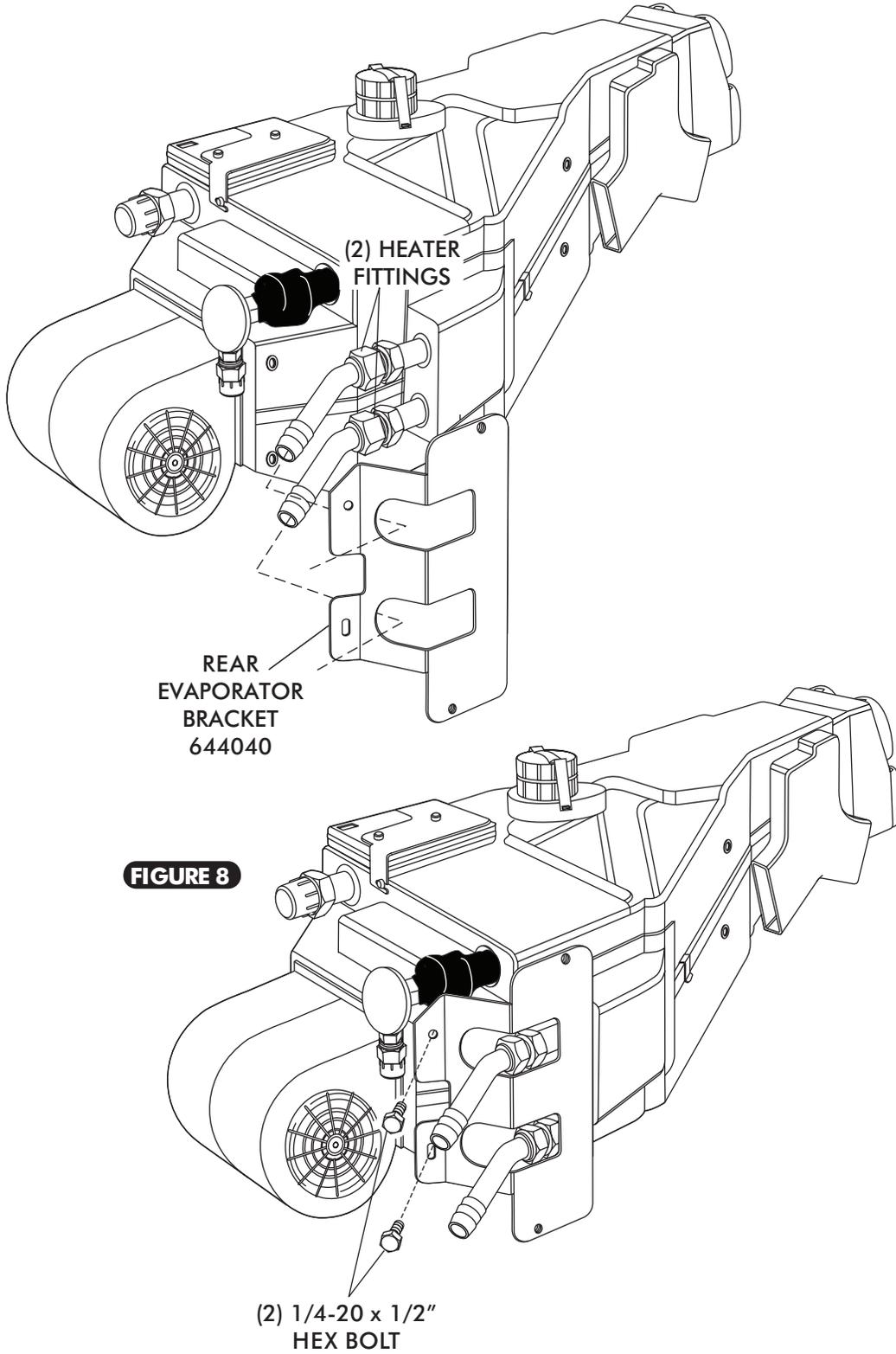


**FIGURE 7**





# BRACKET INSTALLATION

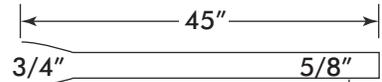




## EVAPORATOR INSTALLATION CONT.

- ❑ 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: ON SOME MODELS, IT MAY BE NECESSARY TO DRILL A 3/16" HOLE. USE DIMENSION IN 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.**
- ❑ CONNECT #6 AND 2 HEATER HOSES FROM OUTSIDE OF FIREWALL OPENING. (SEE FIGURE 9).

**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)

#6 A/C HOSE

**NOTE: THIS HEATER HOSE TO RADIATOR EXPANSION TANK (IF EQUIPPED) OR WATER PUMP**

HEATER HOSE

**FIGURE 9**

KICK PANEL COVER

#10 A/C HOSE

PRESS TAPE

PASSENGER SIDE DASH BRACE

(2) 1/4-20 x 1 1/4" BOLT

(2) 1/4" FLAT WASHERS

7 3/4"

OEM HOLE

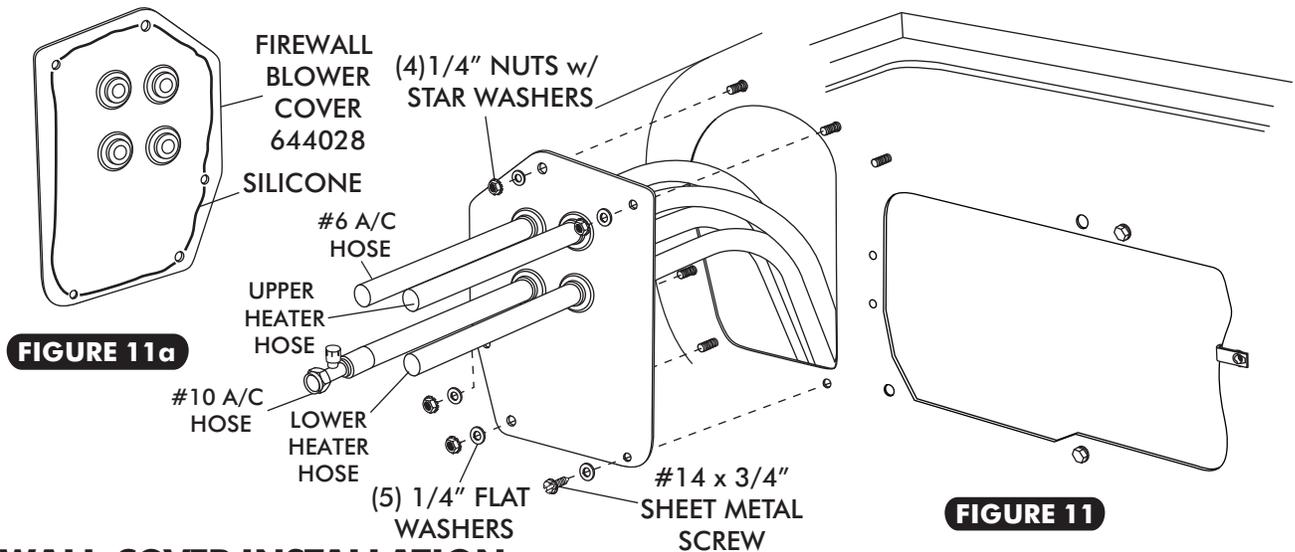
(2) #14 x 3/4" SHEET METAL SCREWS  
DRILL 3/16" HOLE

**FIGURE 10**



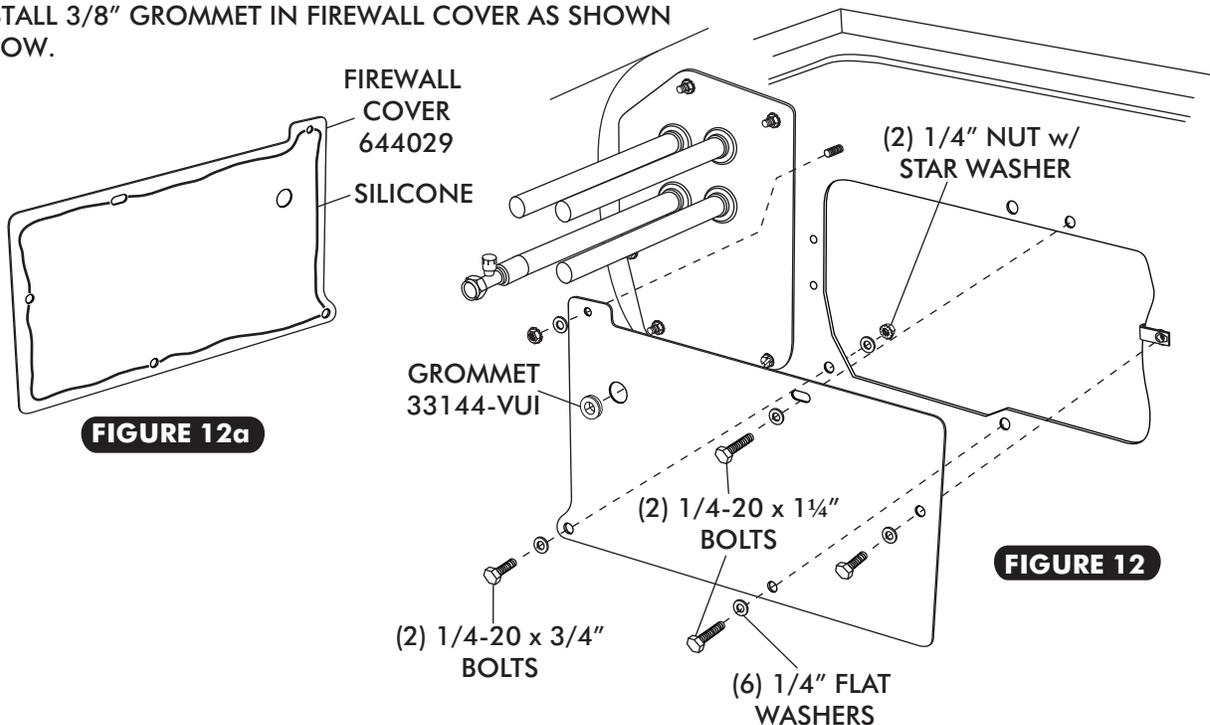
## FIREWALL BLOWER COVER INSTALLATION

- 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 (4) 1/4" NUTS w/ STAR WASHERS, (5) FLAT WASHERS AND #14 x 3/4" SHEET METAL SCREW. SEE FIGURE 11 BELOW.



## FIREWALL COVER INSTALLATION

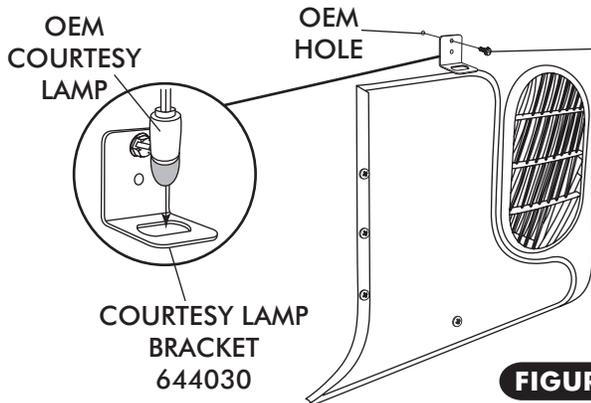
- SUPPORT BOTTOM OF EVAP, REMOVE (2) 1/4-20 x 1 1/4" BOLTS THRU FIREWALL/ EVAP BRKT.
- APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 12a BELOW.
- ATTACH FIREWALL COVER TO FIREWALL USING (2) 1/4-20 x 3/4" BOLTS, (2) 1/4-20 x 1 1/4" BOLTS (6) 1/4" FLAT WASHERS AND (2) 1/4" NUTS w/ STAR WASHERS. SEE FIGURE 12 BELOW.
- INSTALL 3/8" GROMMET IN FIREWALL COVER AS SHOWN BELOW.



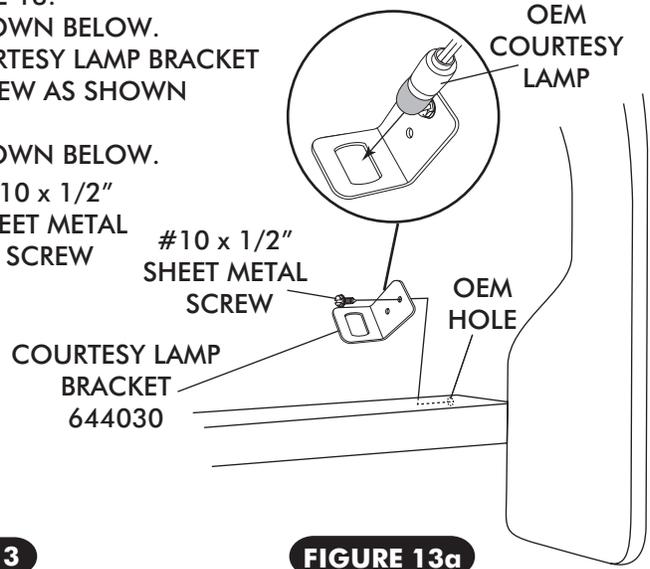


## DRIVER & PASSENGER SIDE COURTESY LAMP INSTALLATION

- USING OEM HOLE, SECURE DRIVER SIDE COURTESY LAMP BRACKET UNDER DASH USING #10 x 1/2" SHEET METAL SCREW AS SHOWN BELOW IN FIGURE 13.
- INSTALL OEM COURTESY LAMP IN BRACKET AS SHOWN BELOW.
- USING OEM HOLE, SECURE PASSENGER SIDE COURTESY LAMP BRACKET UNDER DASH USING #10 x 1/2" SHEET METAL SCREW AS SHOWN BELOW IN FIGURE 13a.
- INSTALL OEM COURTESY LAMP IN BRACKET AS SHOWN BELOW.

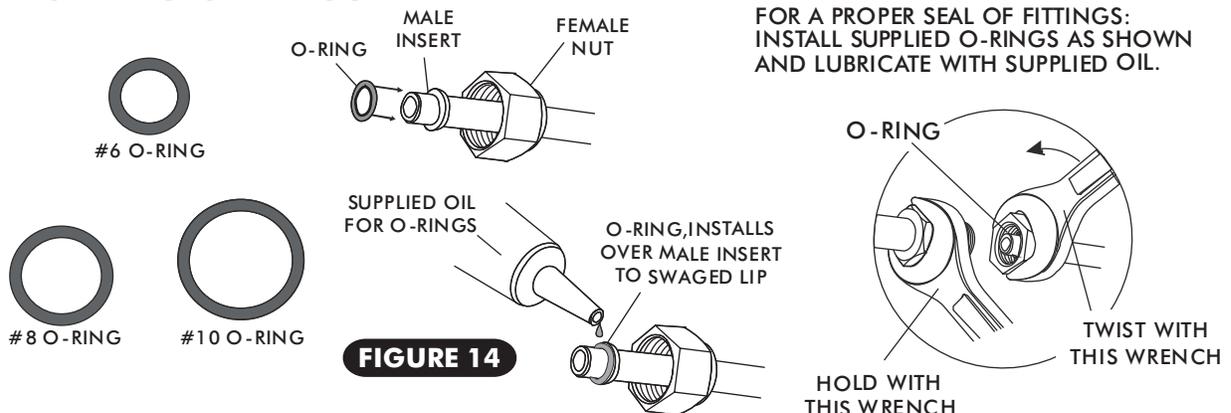


**FIGURE 13**



**FIGURE 13a**

## LUBRICATING O-RINGS



**FIGURE 14**

## A/C HOSE INSTALLATION

### STANDARD HOSE KIT

- LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 14, 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 OVER CORE SUPPORT. SEE FIGURE 15 PAGE 15. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 14 ABOVE.
- LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 14, 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 15, PAGE 15. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN 14 ABOVE.
- LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 14, 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 15, PAGE 15. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 14, ABOVE.

### MODIFIED A/C HOSE KIT

- REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.

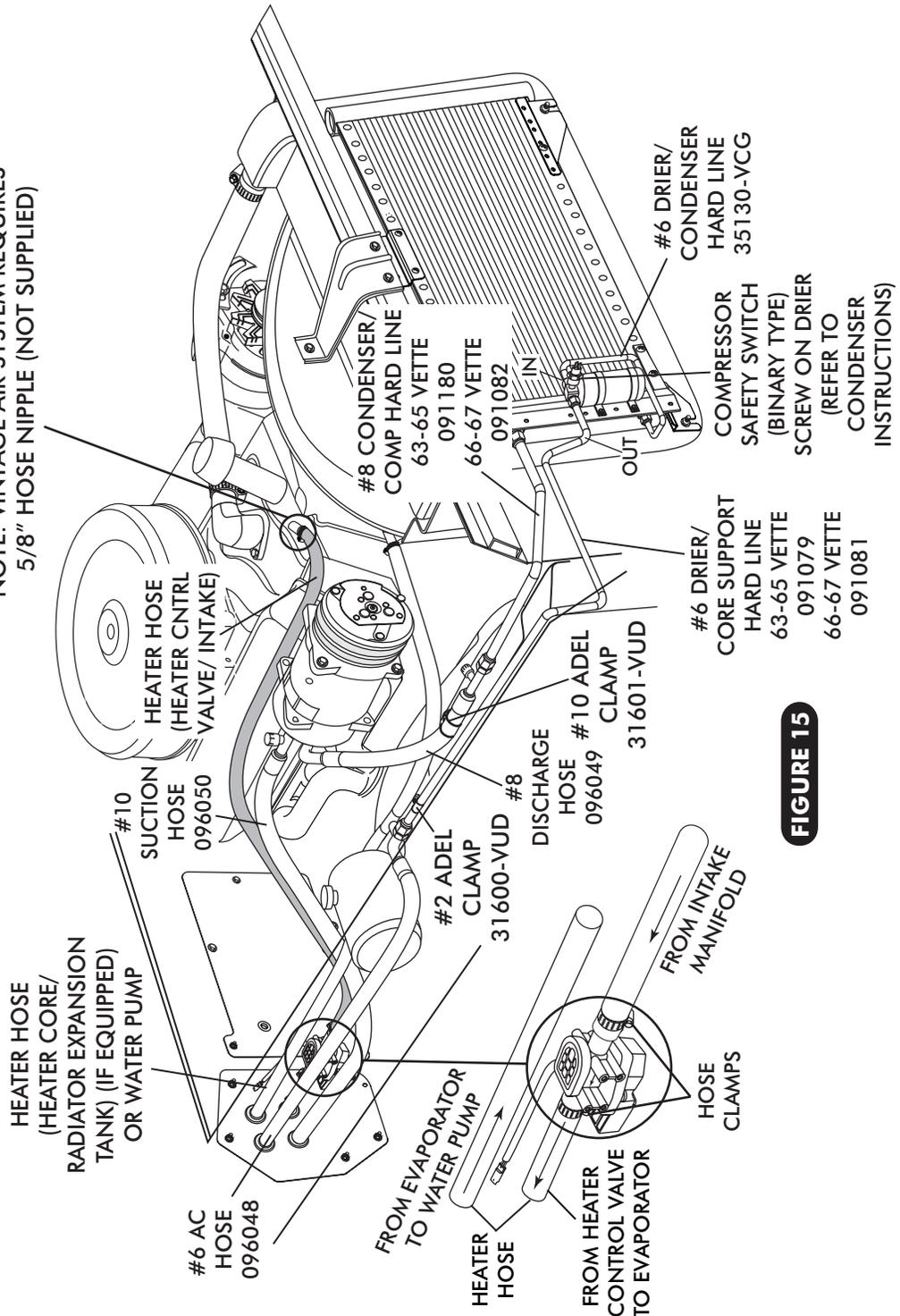


# HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

- ROUTE A 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 15 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 HEATER HOSE FROM THE INTAKE TO THE BOTTO

## AC & HEATER HOSE ROUTING

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

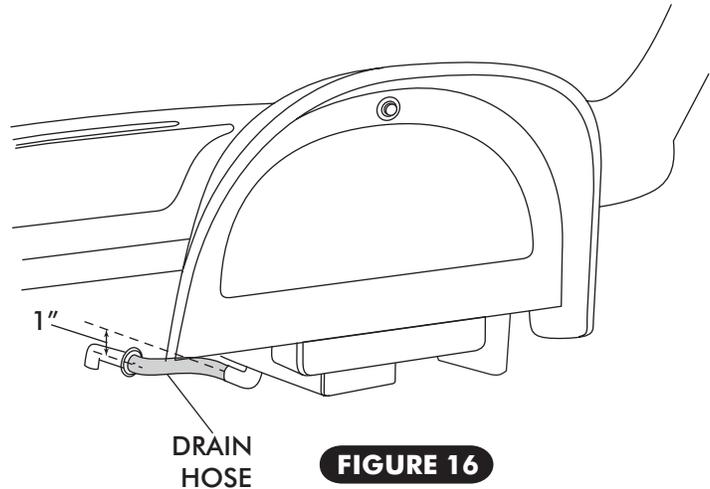
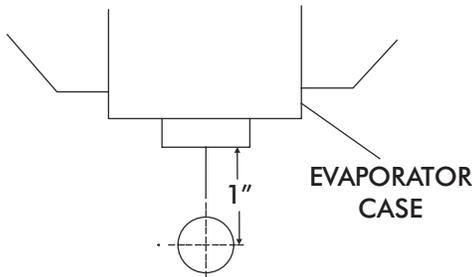


**FIGURE 15**



## DRAIN HOSE INSTALLATION

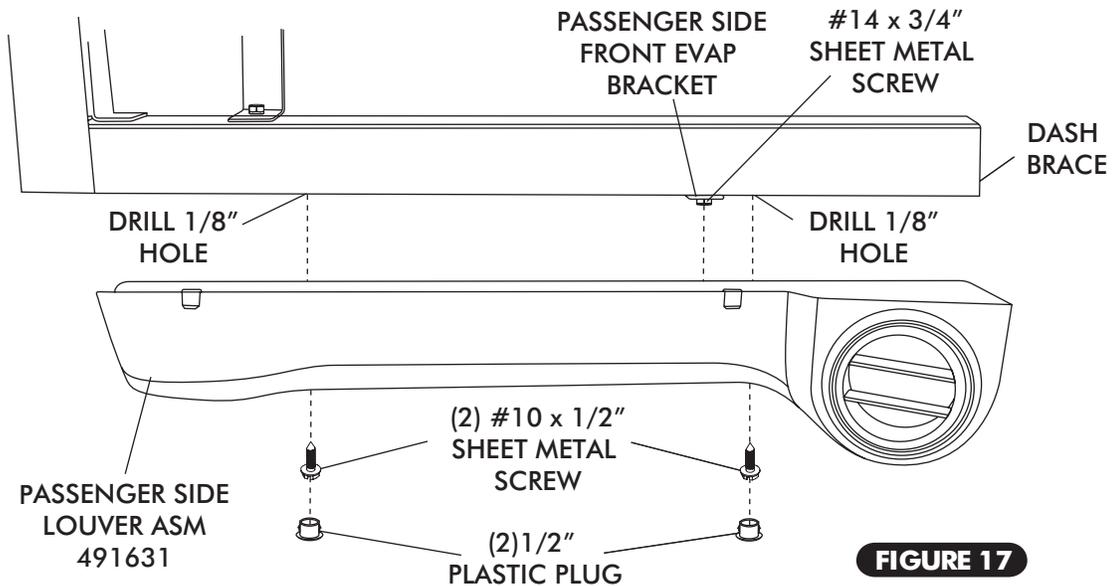
- LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- IN LINE WITH DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL. MEASURE 1" DOWN AND DRILL A 5/8" HOLE THROUGH THE FIREWALL. SEE FIGURE 16 BELOW.
- INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL 1/2" 90° DRAIN ELBOW ON DRAIN HOSE SEE FIGURE 16.



**FIGURE 16**

## 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 17.
- INSTALL (2) 1/2" PLASTIC PLUG IN LOUVER ASM.

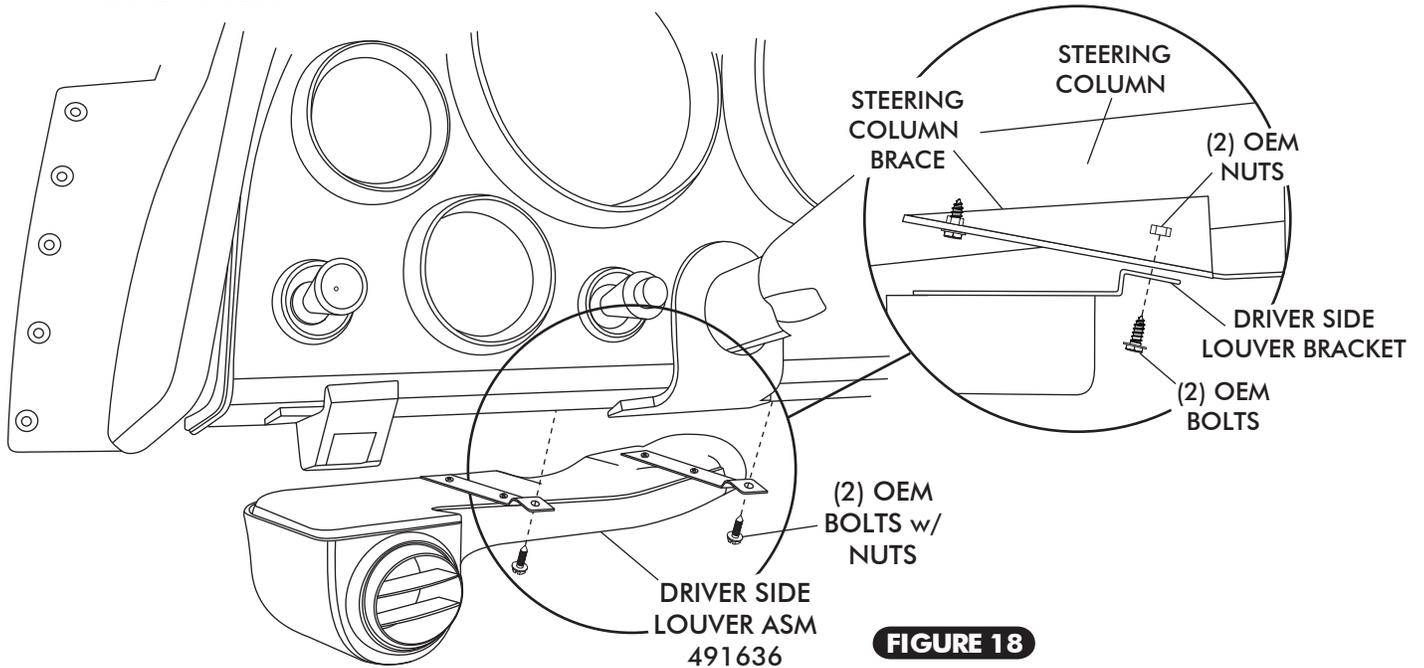


**FIGURE 17**



## DRIVER SIDE UNDER DASH LOUVER INSTALLATION

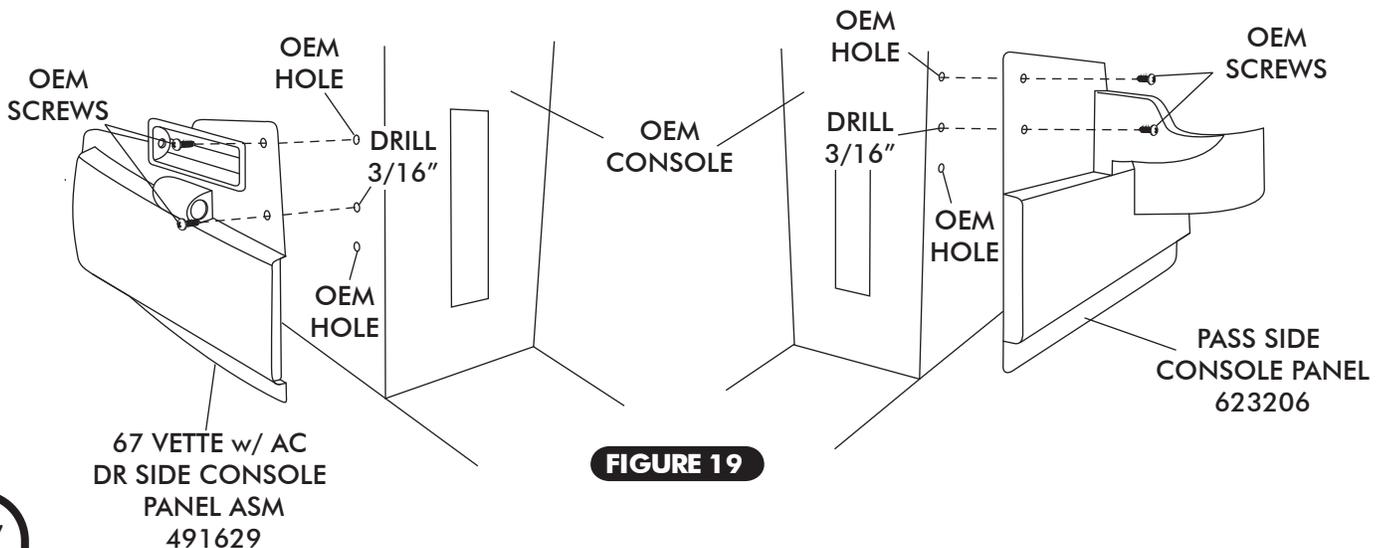
- REMOVE THE (2) BOLTS AND NUTS FROM STEERING COLUMN BRACE AND SECURE LOUVER HOUSING TO UNDER DASH STEERING COLUMN BRACE USING THE (2) OEM BOLTS AND NUTS AS SHOWN IN FIGURE 18 BELOW.



**FIGURE 18**

## DRIVER & PASSENGER SIDE CONSOLE PANEL INSTALLATION

- INSTALL CONTROL SWITCHES AND WIRING. (SEE CONTROL PANEL INSTRUCTIONS)
- INSTALL DRIVER SIDE FRESH AIR CABLE ASSEMBLY IN NEW DRIVER SIDE CONSOLE PANEL.
- INSTALL DRIVER AND PASSENGER SIDE CONSOLE PANELS USING OEM SCREWS AS SHOWN BELOW IN FIGURE 19. **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.**

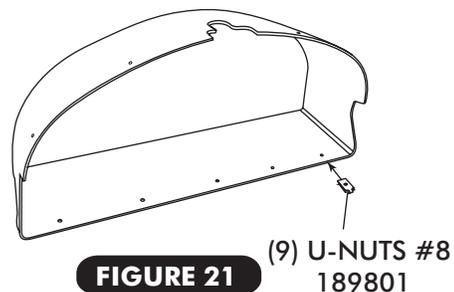
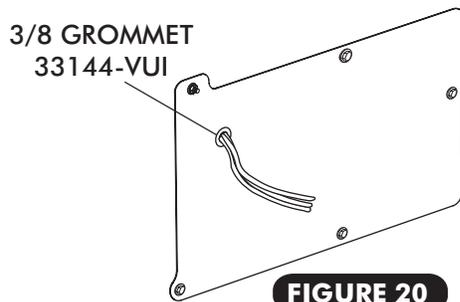


**FIGURE 19**



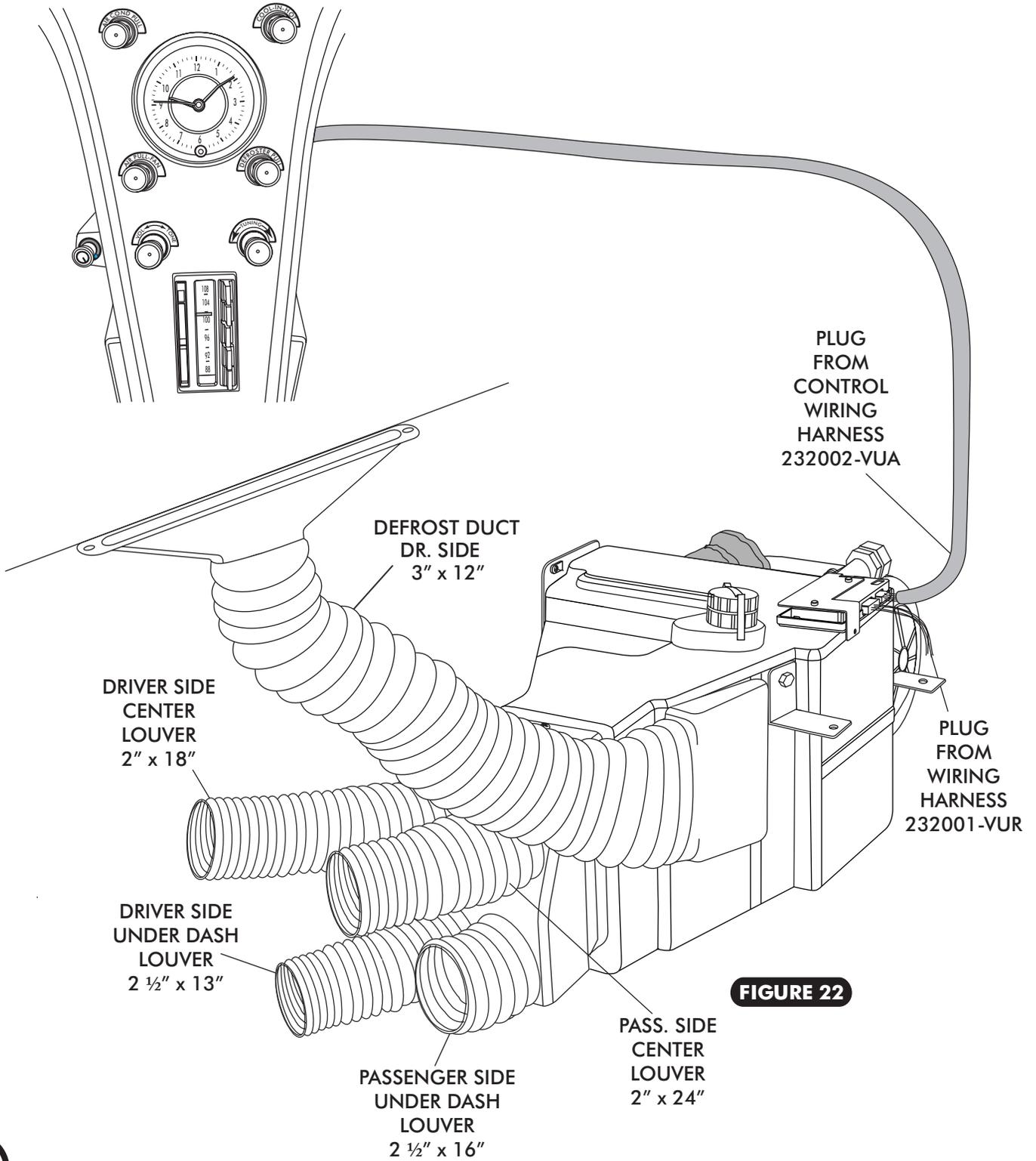
## FINAL STEPS

- INSTALL DUCT HOSES AS SHOWN IN FIGURE 22, PAGE 19.
- ROUTE A/C WIRES THROUGH 3/8" GROMMET AS SHOWN IN FIGURE 20 BELOW. (12 VOLT/ GROUND/ BINARY SWITCH/ HEATER VALVE).
- PLUG THE WIRING HARNESS I THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 22, PAGE 19 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 20 AND 21).
- INSTALL (9) U-NUTS #8 IN GLOVE BOX AS SHOWN IN FIGURE 21.
- INSTALL NEW GLOVE BOX USING OEM SCREWS.
- REINSTALL CENTER FLOOR CONSOLE.
- REINSTALL KICK PANEL
- 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 A/C MODE AND/OR FREEZING WEATHER, VOIDING YOUR WARRANTY.
- DOUBLE CHECK ALL FITTINGS, BRACKETS AND BELTS FOR TIGHTNESS.
- VINTAGE AIR RECOMMENDS THAT ALL A/C 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 22.





## CONTROL PANEL & DUCT HOSE ROUTING

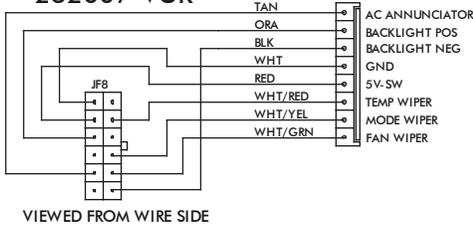


**FIGURE 22**



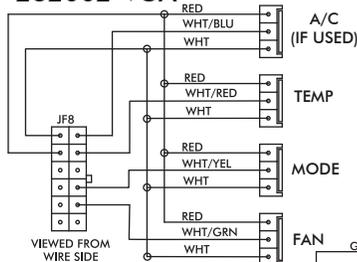
# Wiring Diagram

232007-VUR



VIEWED FROM WIRE SIDE

232002-VUA

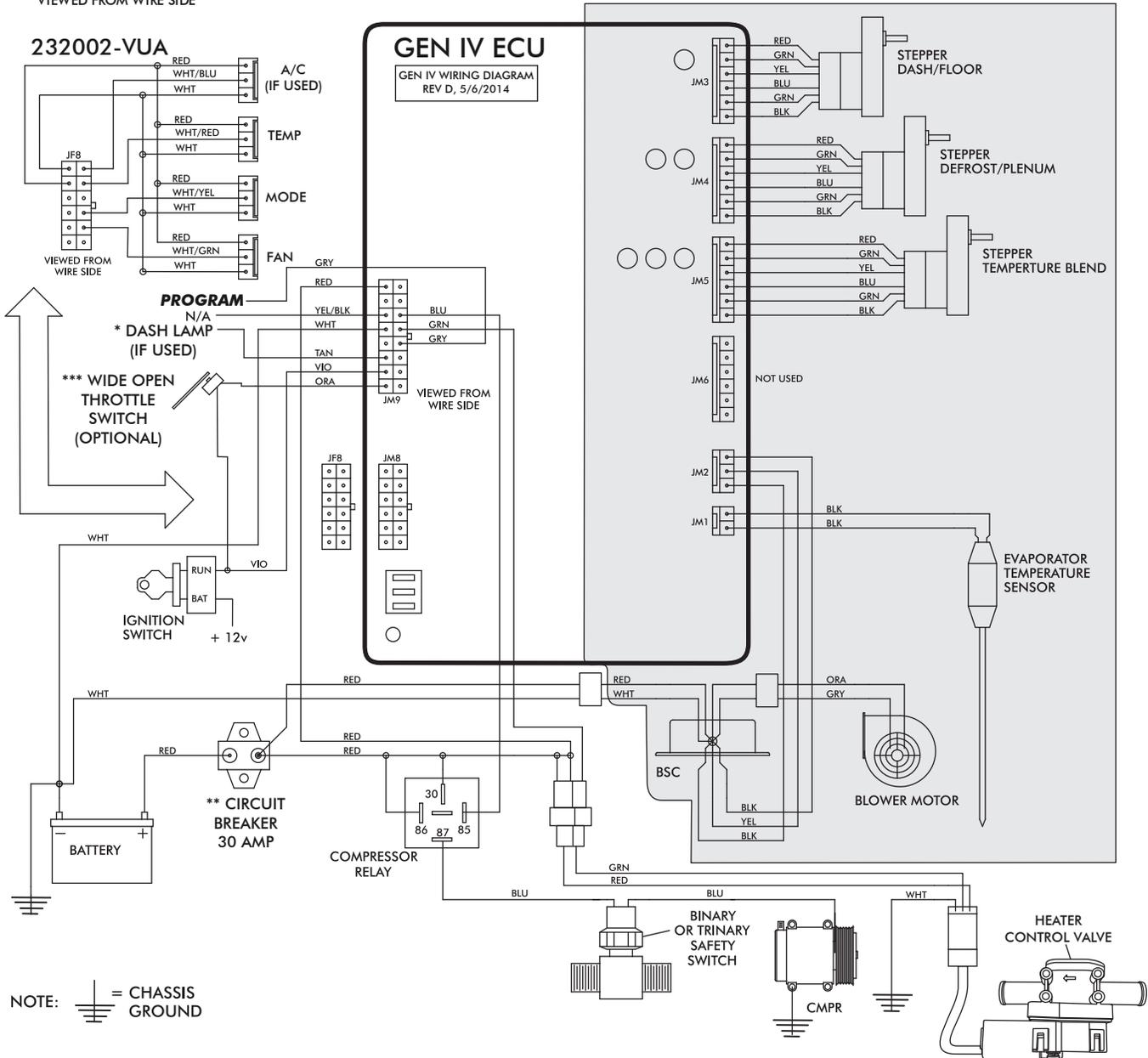


VIEWED FROM WIRE SIDE

GEN IV ECU

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

PRE-WIRED



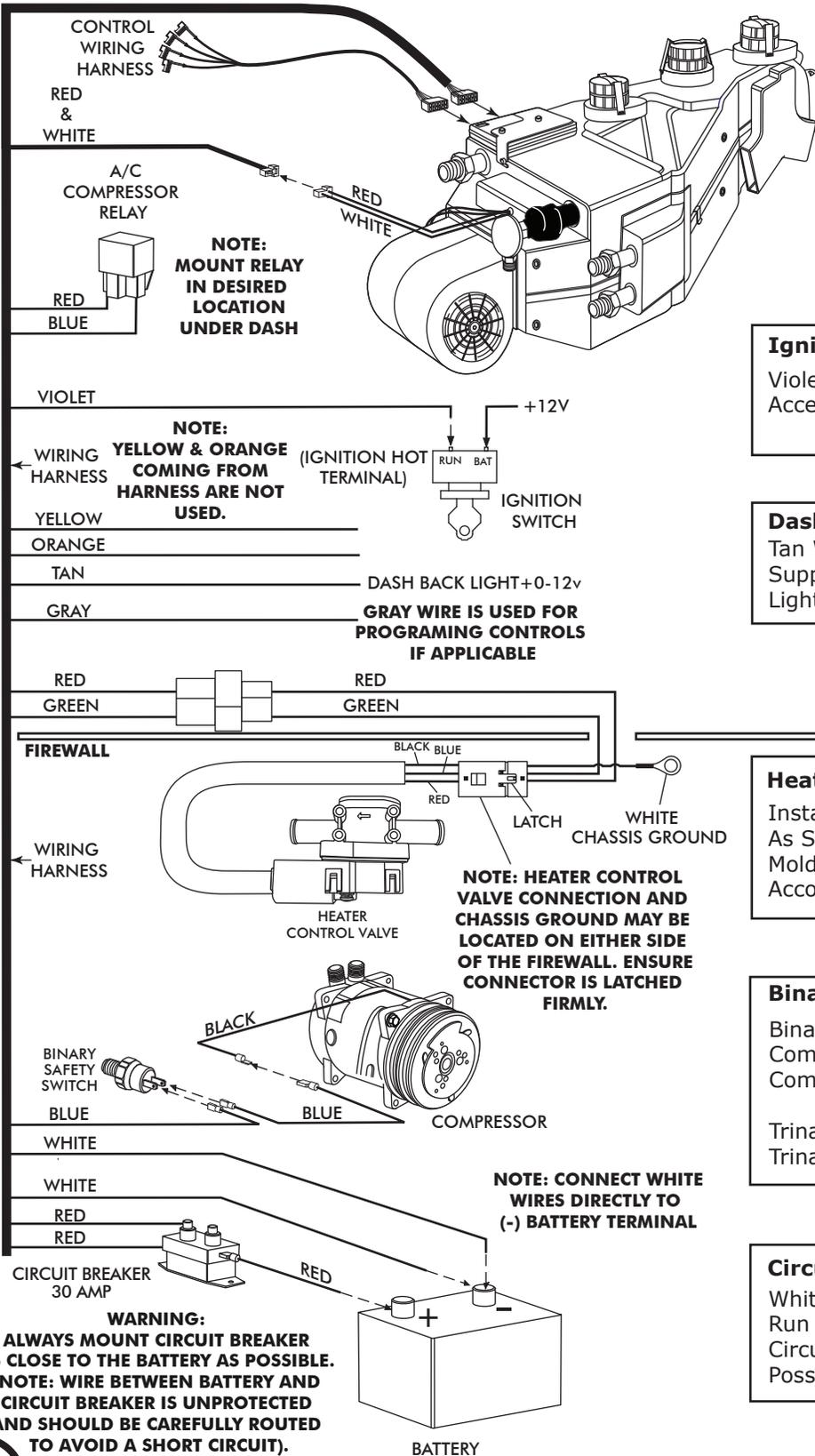
NOTE: = CHASSIS GROUND

- 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



**NOTE:**  
MOUNT RELAY  
IN DESIRED  
LOCATION  
UNDER DASH

**NOTE:**  
YELLOW & ORANGE  
COMING FROM  
HARNESS ARE NOT  
USED.

**GRAY WIRE IS USED FOR  
PROGRAMING CONTROLS  
IF APPLICABLE**

**NOTE: HEATER CONTROL  
VALVE CONNECTION AND  
CHASSIS GROUND MAY BE  
LOCATED ON EITHER SIDE  
OF THE FIREWALL. ENSURE  
CONNECTOR IS LATCHED  
FIRMLY.**

**NOTE: CONNECT WHITE  
WIRES DIRECTLY TO  
(-) BATTERY TERMINAL**

**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.

**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).



## OPERATION OF CONTROLS

ON GEN 4 SYSTEMS WITH THREE LEVER/KNOB CONTROLS, THE TEMPERATURE CONTROL TOGGLES BETWEEN ECONOMY AND A/C MODES. TO ACTIVATE A/C, MOVE THE TEMPERATURE LEVER ALL THE WAY TO COLD AND THEN BACK IT OFF TO THE DESIRED VENT TEMPERATURE. FOR ECONOMY/HEAT MODE, MOVE THE TEMPERATURE LEVER ALL THE WAY TO HOT AND THEN ADJUST TO THE DESIRED VENT TEMPERATURE. THE BLOWER WILL MOMENTARILY CHANGE SPEED EACH TIME YOU TOGGLE BETWEEN MODES TO INDICATE THE CHANGE.

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

### **BLOWER SPEED**

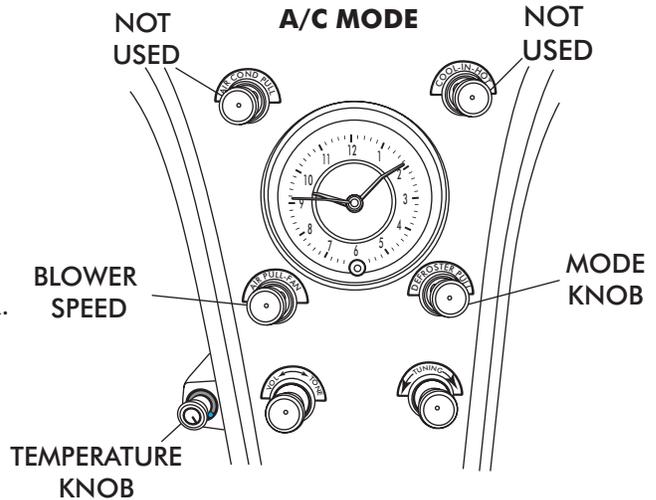
THIS KNOB CONTROLS THE BLOWER SPEED, FROM OFF TO HI

### **MODE KNOB**

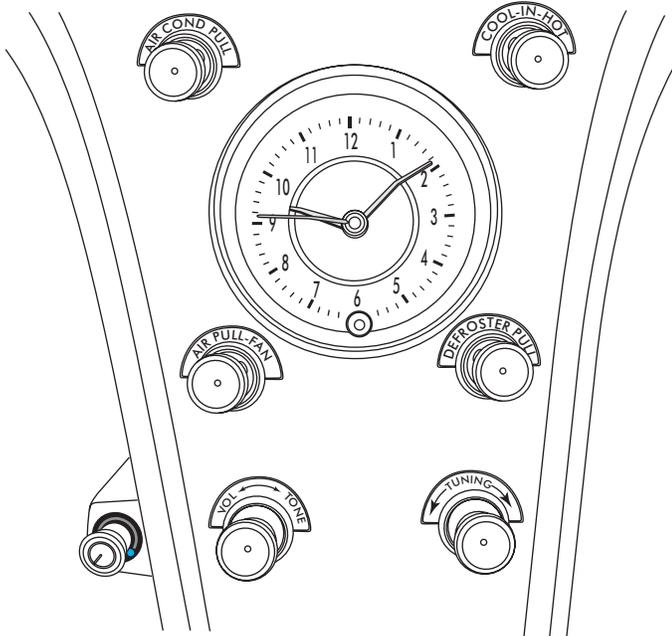
ROTATE THE KNOB TO THE LEFT TO DIRECT AIR FLOW TO THE DASH VENTS

### **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.

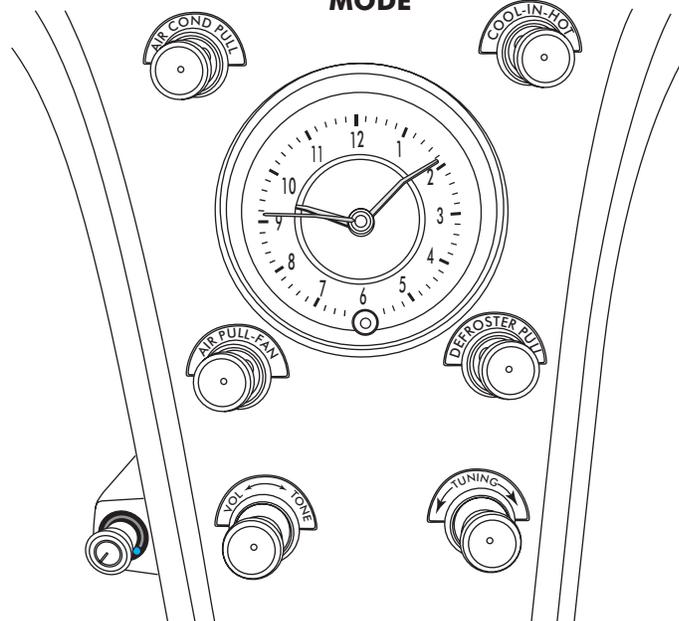
### **MODE KNOB**

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.
	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.	See blower switch check procedure.	
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 is not charged.	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.
		System is charged.	Check continuity to ground on white control head wire. Check for 5V on red control head wire.	
			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 (Not applicable to 3-pot controls).	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 disconnected or faulty thermistor.	Replace relay.	
		Check for faulty A/C potentiometer or associated wiring.		
		Check for faulty A/C 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.	
7. Erratic functions of blower, mode, temp, etc.		Check for damaged switch or pot and associated wiring.	Repair or replace.	
	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.	





# EVAPORATOR KIT PACKING LIST

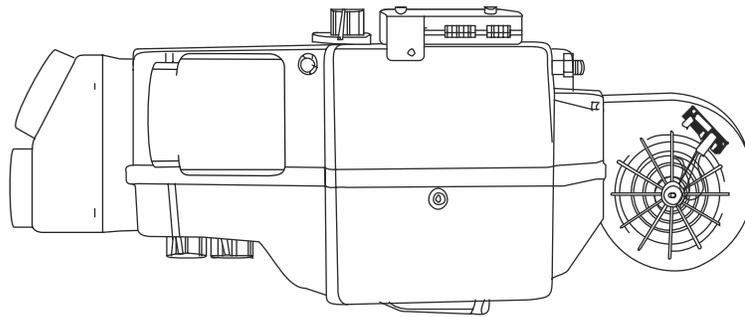
EVAPORATOR KIT  
564166

No.	QTY.	PART No.	DESCRIPTION
1.	1	744010	63-67 VETTE w/ AC EVAP SUB CASE
2.	1	784168	ACC KIT 67 VETTE w/ AC

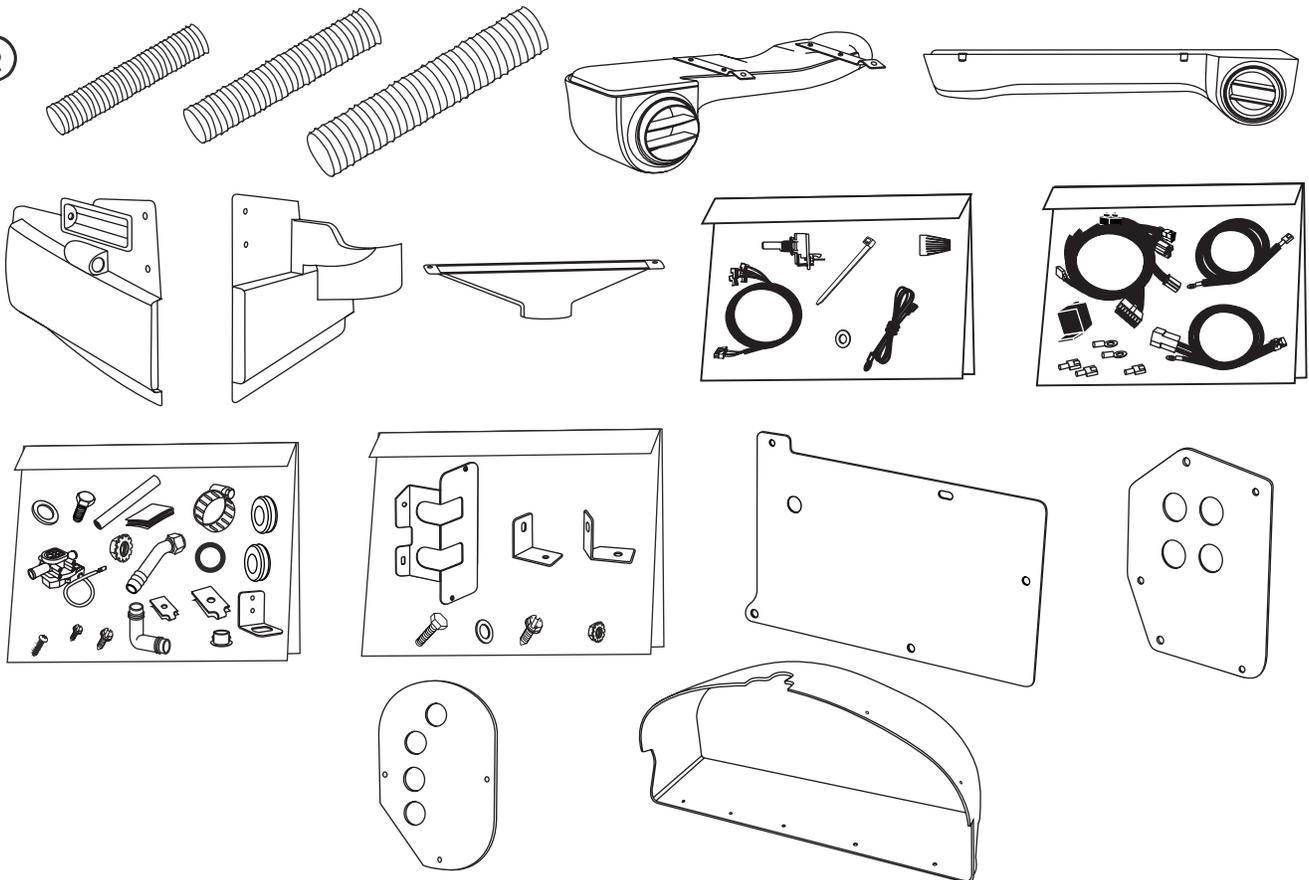
CHECK BY: \_\_\_\_\_  
 PACKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

①

**63-67 VETTE w/ AC  
EVAP SUB CASE  
744010**



②



**ACCESSORY KIT  
784168**

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