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1966-67 CHEVELLE

without FACTORY AIR
561066

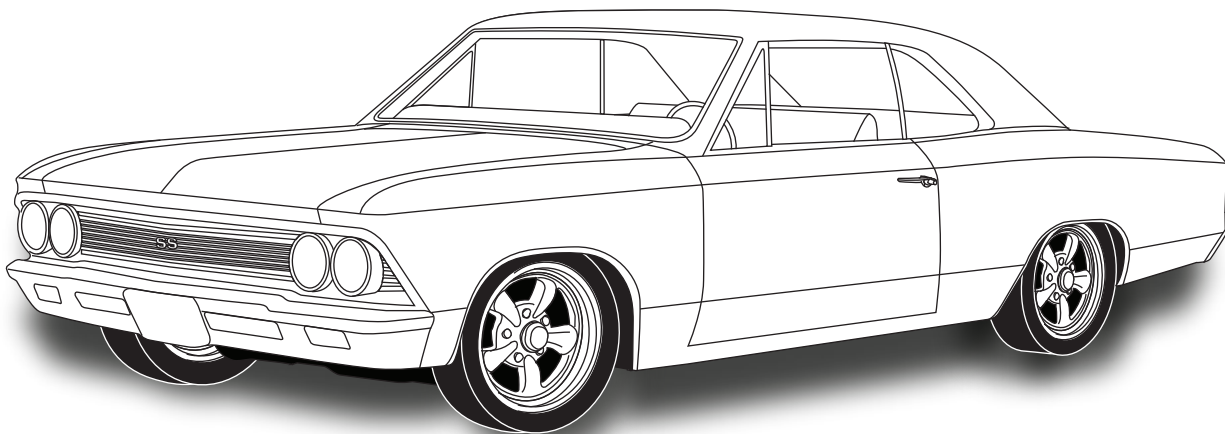




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Important Notice—Please Read

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:

- ☐ BATTERY, BATTERY TRAY (RETAIN).
- ☐ DRAIN RADIATOR, REMOVE RADIATOR (RETAIN).
- ☐ TO REMOVE THE BLOWER ASSEMBLY (UNDER HOOD) AND THE AIR DISTRIBUTION SYSTEM (UNDER DASH), THE FACTORY MANUAL INDICATES DOING THE FOLLOWING: **REMOVE RIGHT INNER FENDER.**
- ☐ OEM HEATER HOSES (DISCARD). SEE FIGURE 1.
- ☐ OEM HEATER WIRING (DISCARD) SEE FIGURE 1.

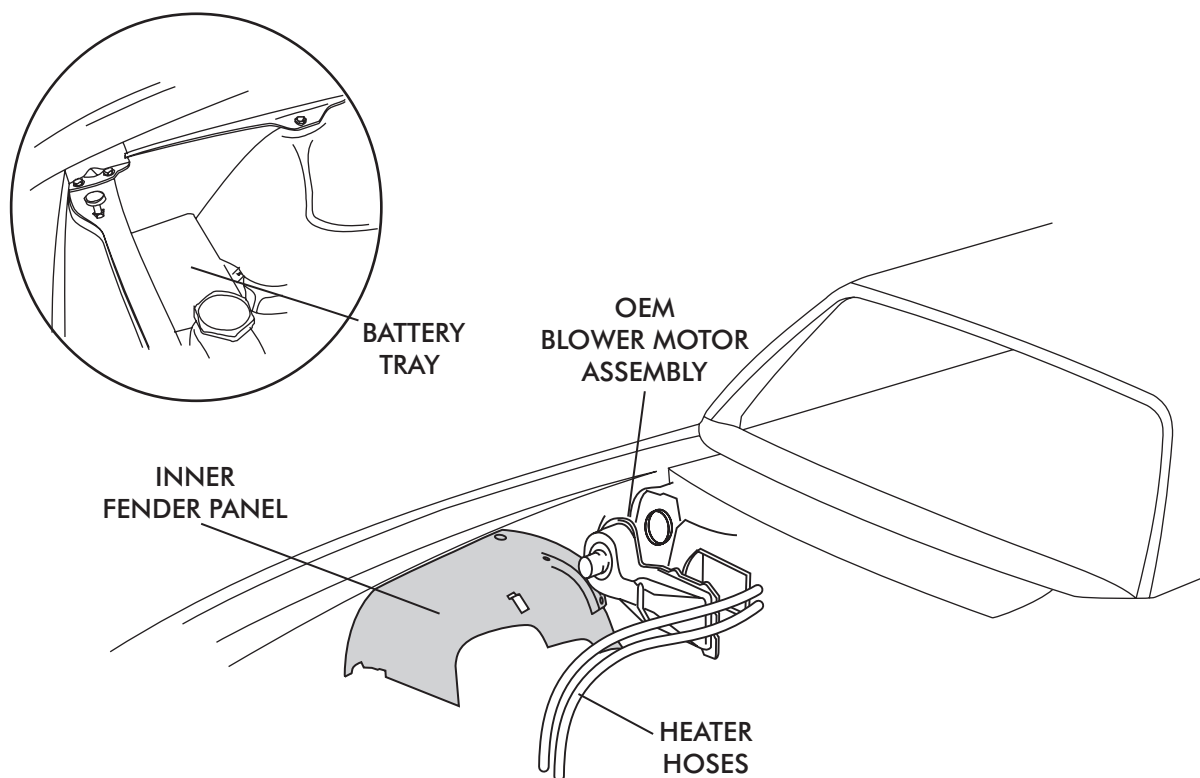


FIGURE 1

CONDENSER ASSEMBLY & INSTALLATION

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

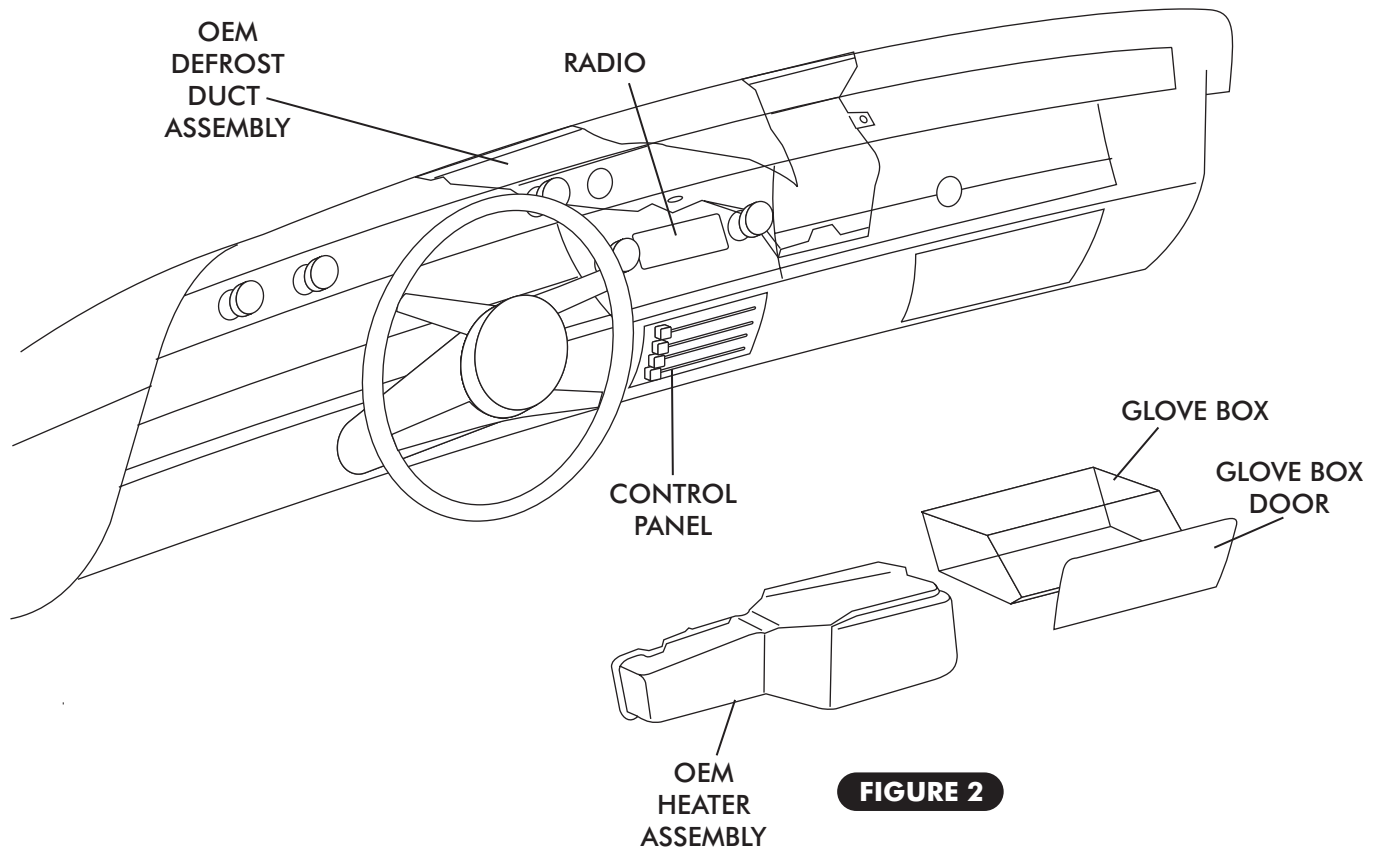
COMPRESSOR & BRACKETS

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



PASSENGER COMPARTMENT

- ☐ REMOVE GLOVE BOX DOOR (RETAIN) AND GLOVE BOX (DISCARD).
- ☐ REMOVE THE CABLES/WIRING FROM THE OEM HEATER ASSEMBLY (DISCARD).
- ☐ REMOVE OEM DEFROST DUCT ASSEMBLY (DISCARD).
- ☐ REMOVE CONTROL PANEL (RETAIN).
- ☐ REMOVE RADIO (RETAIN).
- ☐ PASSENGER SIDE KICK PANEL FRESH AIR CAP DOOR ASSEMBLY AS SHOWN IN FIGURE 3, PAGE 8, AND FIGURE 5, PAGE 9.





66 CHEVELLE KICK PANEL MODIFICATION

- ☐ REMOVE KICK PANEL.
- ☐ REMOVE KICK PANEL FRESH AIR DOOR ASSEMBLY BY REMOVING (5) OEM SCREWS.
- ☐ DISCONNECT PULL CABLE ASSEMBLY FROM UNDER THE DASH (DISCARD). SEE FIGURE 3, BELOW.

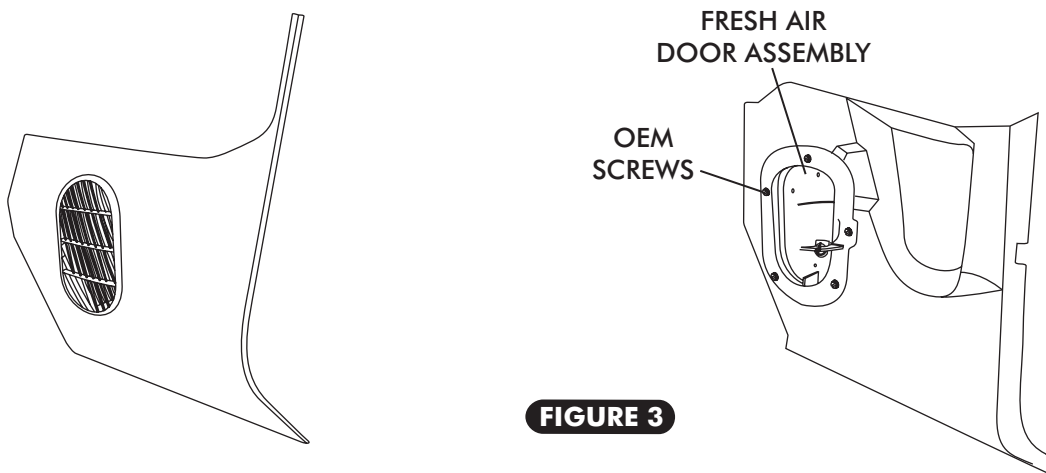


FIGURE 3

- ☐ CUT OUT KICK PANEL MODIFICATION TEMPLATE PROVIDED ON PAGE 27.
- ☐ ALIGN TEMPLATE ON BACK OF KICK PANEL AS SHOWN IN FIGURE 4, BELOW.
- ☐ CUT OUT GRILLE AS SHOWN IN FIGURE 4, BELOW.
- ☐ DRILL 3/16" HOLES IN KICK PANEL.

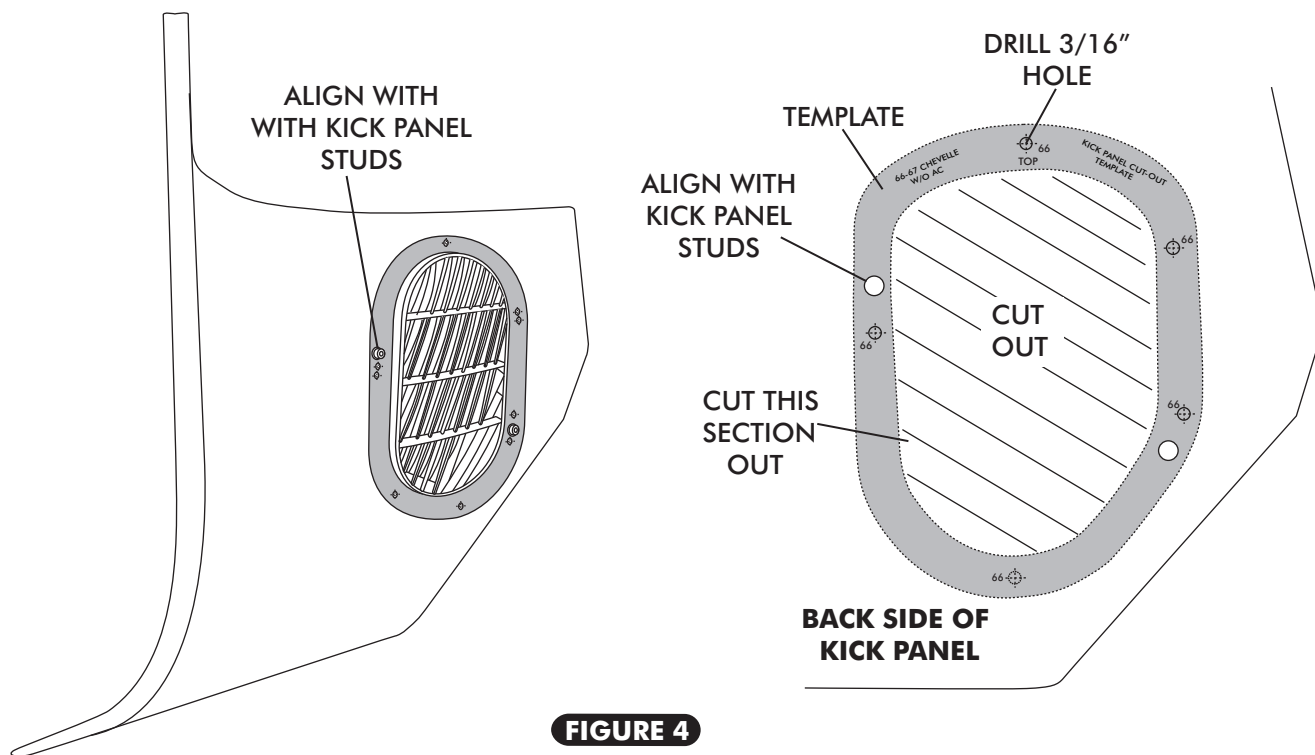


FIGURE 4



67 CHEVELLE KICK PANEL MODIFICATION

- ☐ REMOVE KICK PANEL GRILLE (DISCARD). REMOVE KICK PANEL BY REMOVING (5) OEM SCREWS FROM THE FRESH AIR DOOR ASSEMBLY. DISCONNECT PULL CABLE ASSEMBLY FROM THE KICK PANEL (DISCARD). SEE FIGURE 5, BELOW.

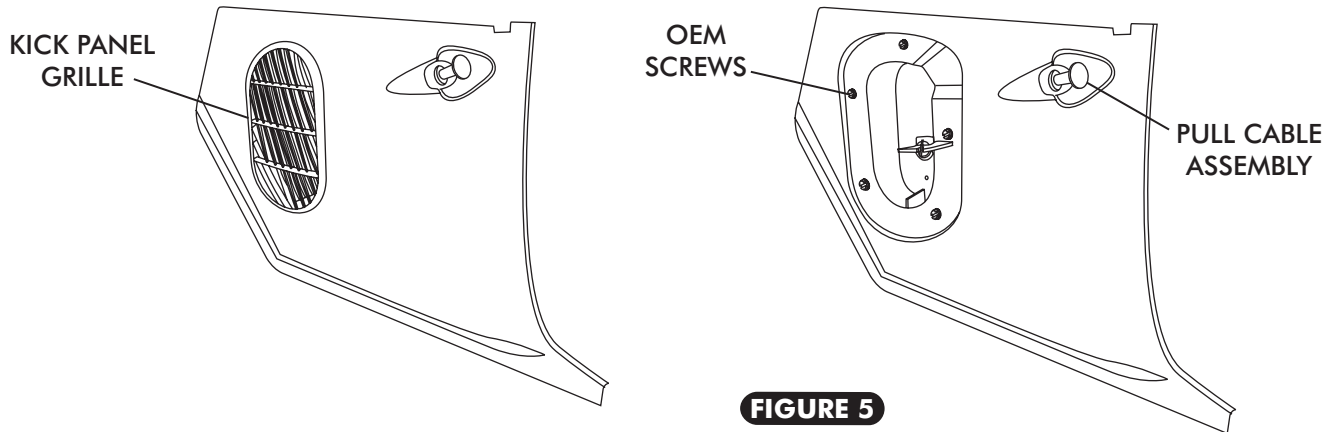


FIGURE 5

- ☐ INSTALL 1/2" PLASTIC PLUG TO FILL THE HOLES LEFT FROM THE REMOVAL OF THE PULL CABLE ASSEMBLY. SEE FIGURE 6, BELOW.
- ☐ CUT OUT TEMPLATE PROVIDED ON PAGE 28.
- ☐ PLACE TEMPLATE ON KICK PANEL AND CUT OUT FRESH AIR DOOR ASSEMBLY AS SHOWN IN FIGURES 6 & 6a.

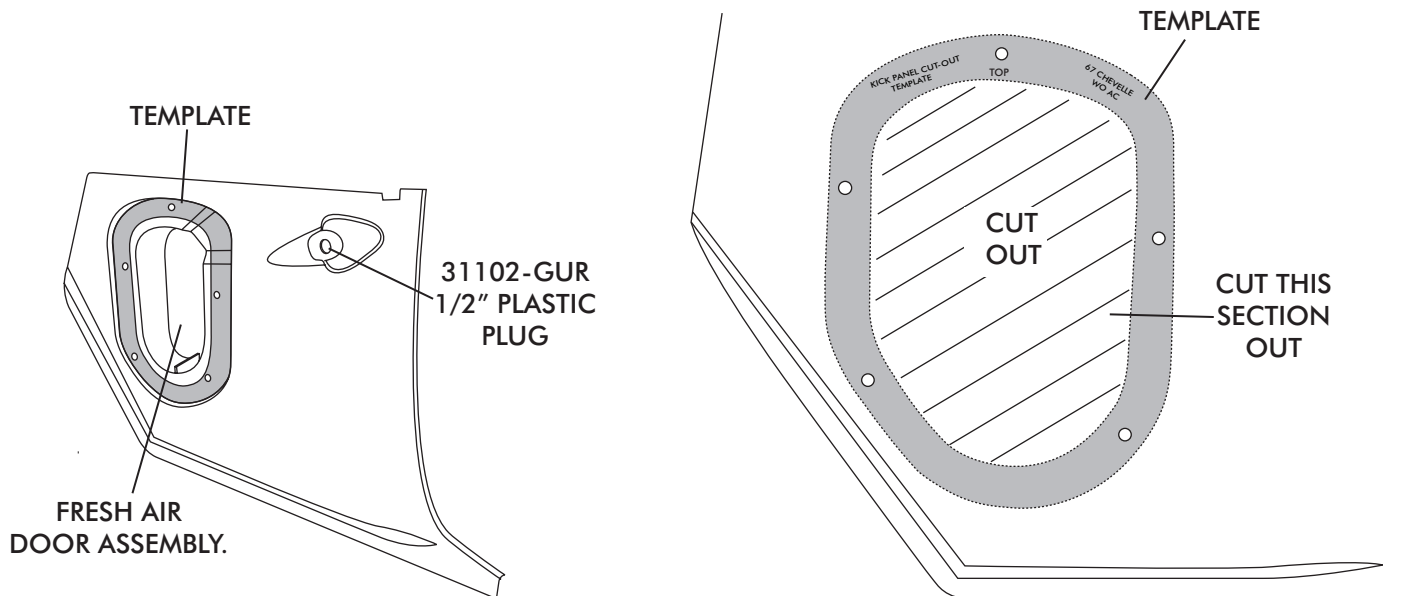


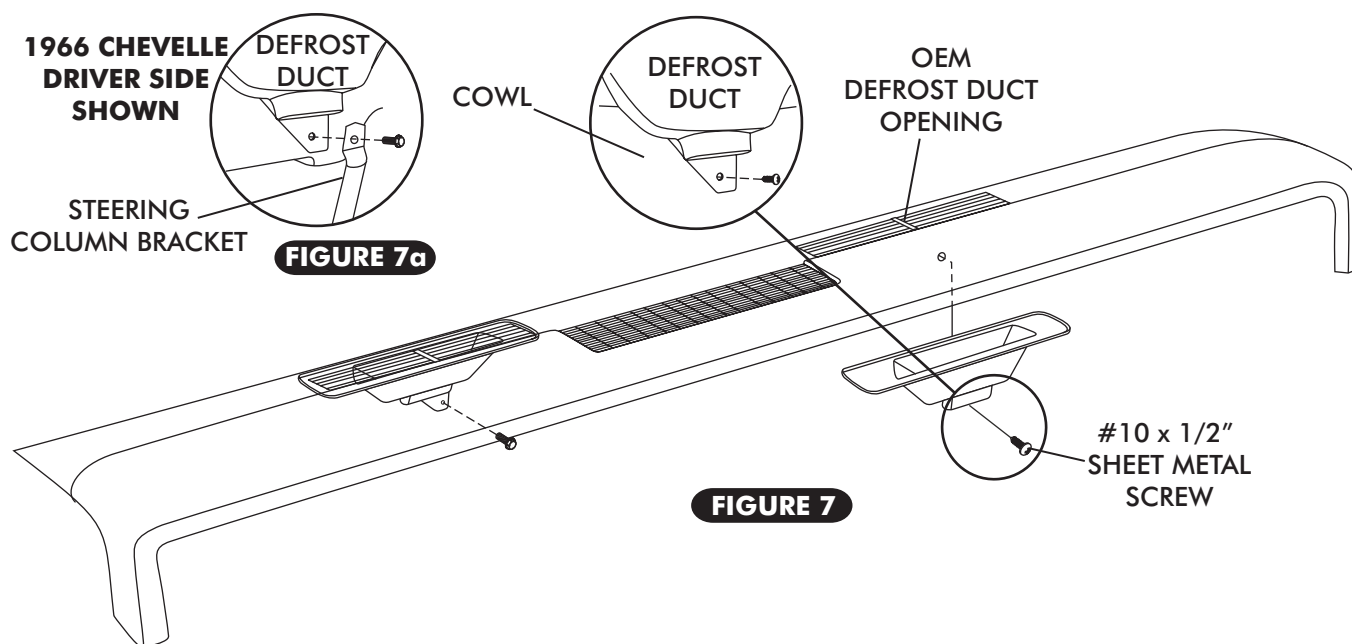
FIGURE 6

FIGURE 6a



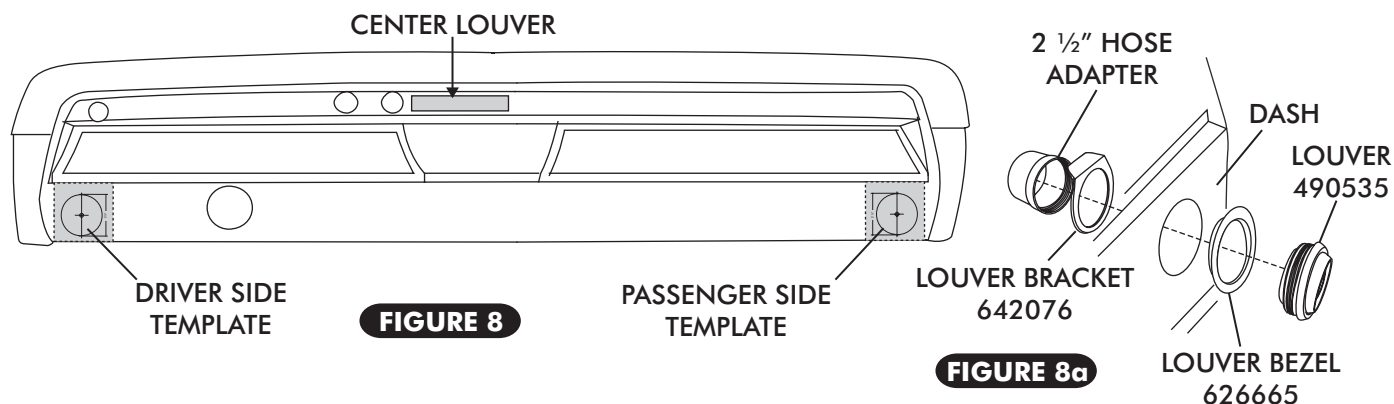
DEFROST DUCT INSTALLATION

- INSTALL DEFROST DUCTS UNDER DASH AND ALIGN WITH OEM OPENING. INSTALL THE DRIVER/PASSENGER SIDE DEFROST DUCT TO COWL USING A #10 x 1/2" SHEET METAL SCREW. SEE FIGURE 7, BELOW. **NOTE: 1966 CHEVELLE DRIVER SIDE DEFROST DUCT INSTALLS BEHIND THE STEERING COLUMN BRACKET, AND SECURES USING THE STEERING COLUMN OEM BOLT AS SHOWN IN FIGURE 7a.**



DRIVER AND PASSENGER SIDE LOUVER INSTALLATION

- CUT OUT TEMPLATE PROVIDED ON PAGE 11. PLACE THE DRIVER SIDE TEMPLATE ON THE DASH BY ALIGNING THE LEFT SIDE OF THE TEMPLATE AGAINST THE EDGE OF THE DASH, THEN ALIGN THE BOTTOM OF THE TEMPLATE TO BOTTOM OF DASH AS SHOWN IN FIGURE 8.
- CUT OUT TEMPLATE PROVIDED ON PAGE 12. PLACE THE PASSENGER SIDE TEMPLATE ON THE DASH BY ALIGNING THE RIGHT SIDE OF THE TEMPLATE AGAINST THE EDGE OF THE DASH, THEN ALIGN THE BOTTOM OF THE TEMPLATE TO BOTTOM OF DASH AS SHOWN IN FIGURE 8.
- ONCE TEMPLATE IS ALIGNED CORRECTLY, USE A CENTER PUNCH TO MARK THE HOLE ON THE DASH. REMOVE TEMPLATE. USE A 3" HOLE SAW TO CUT HOLE IN DASH. SEE FIGURE 8, BELOW.
- INSTALL LOUVERS IN DASH AS SHOWN IN FIGURE 8a, BELOW.



CENTER LOUVER INSTALLATION REFER TO PAGE 13



DRIVER SIDE LOUVER TEMPLATE

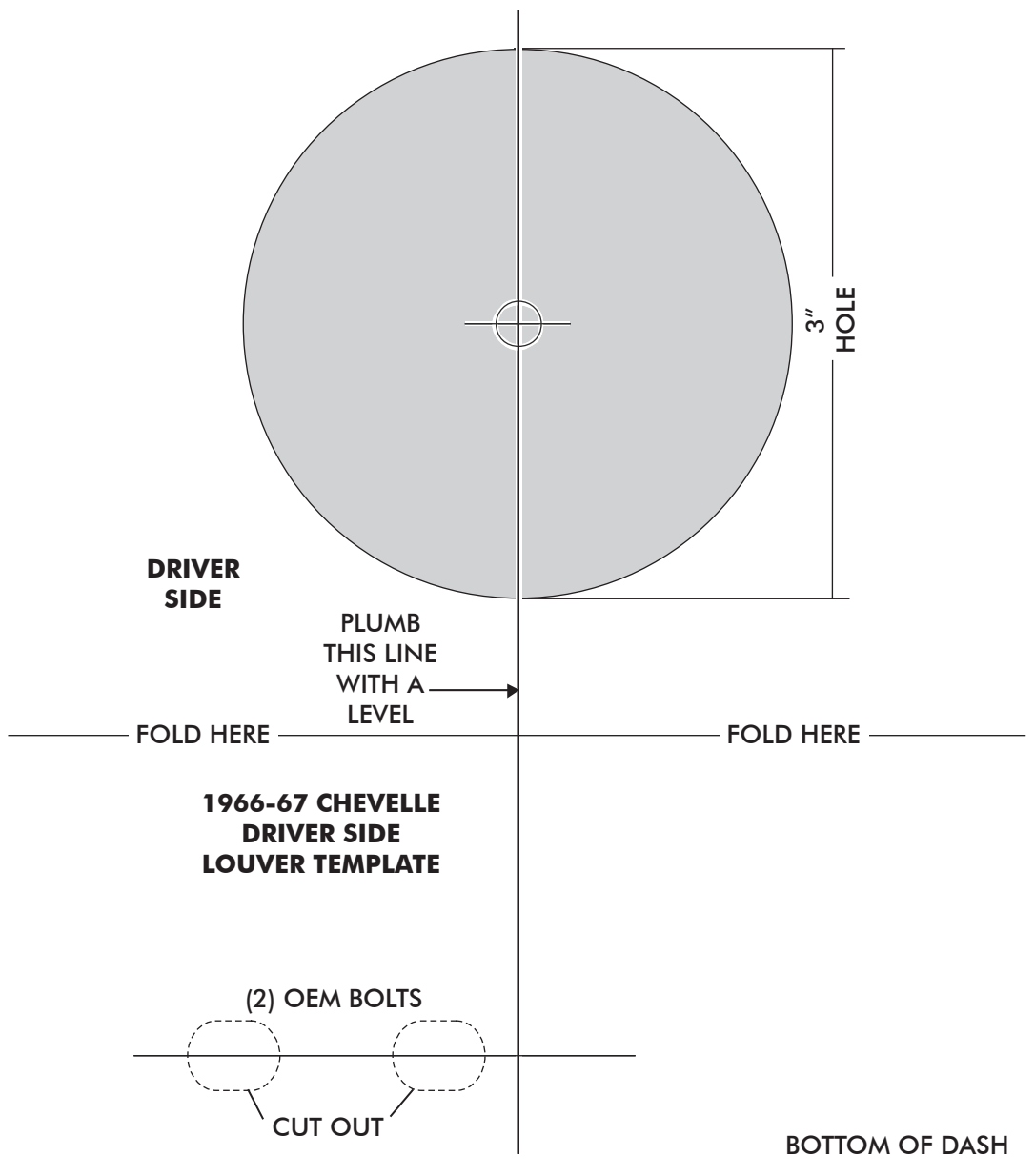


FIGURE 9



PASSENGER SIDE LOUVER TEMPLATE

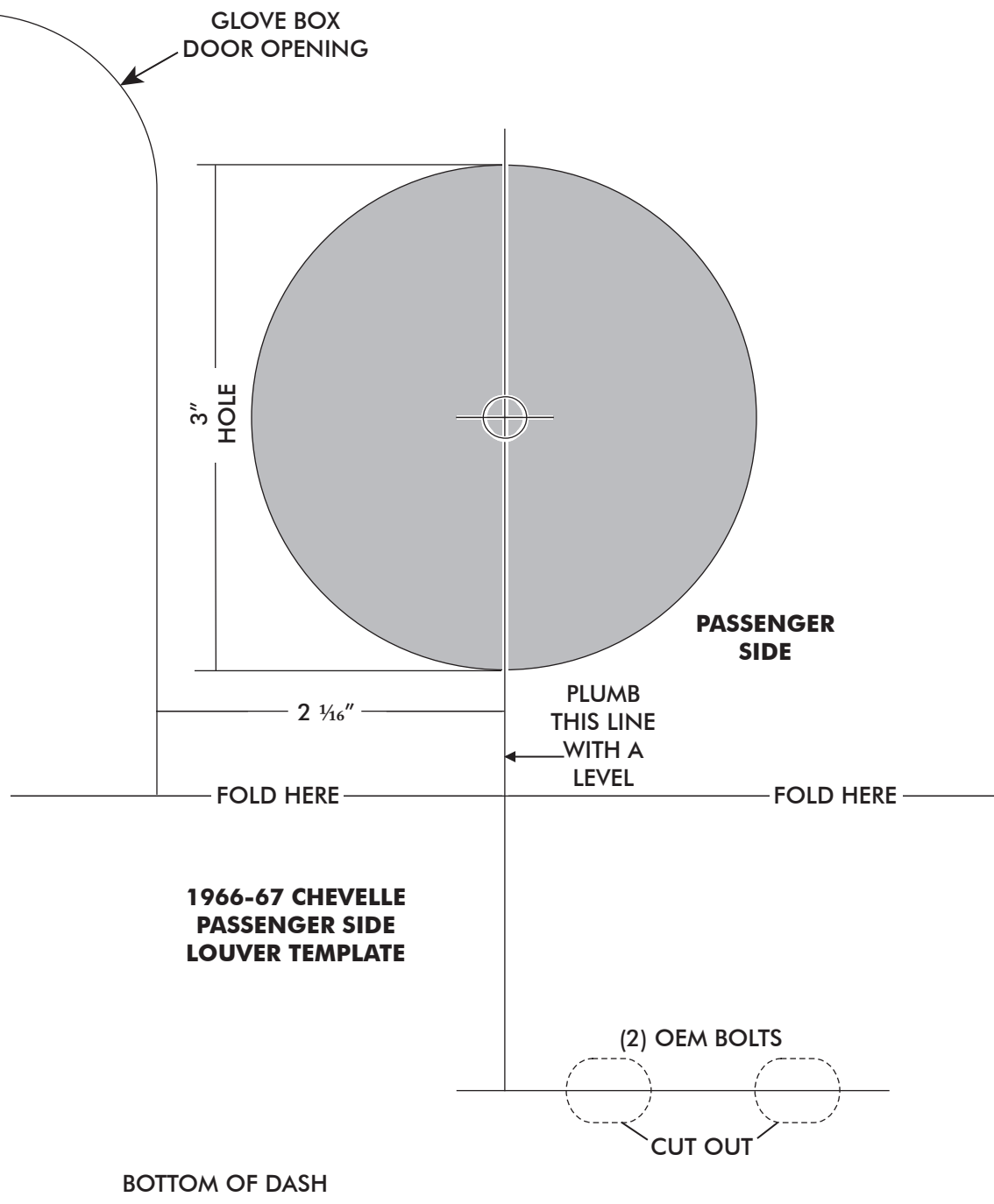
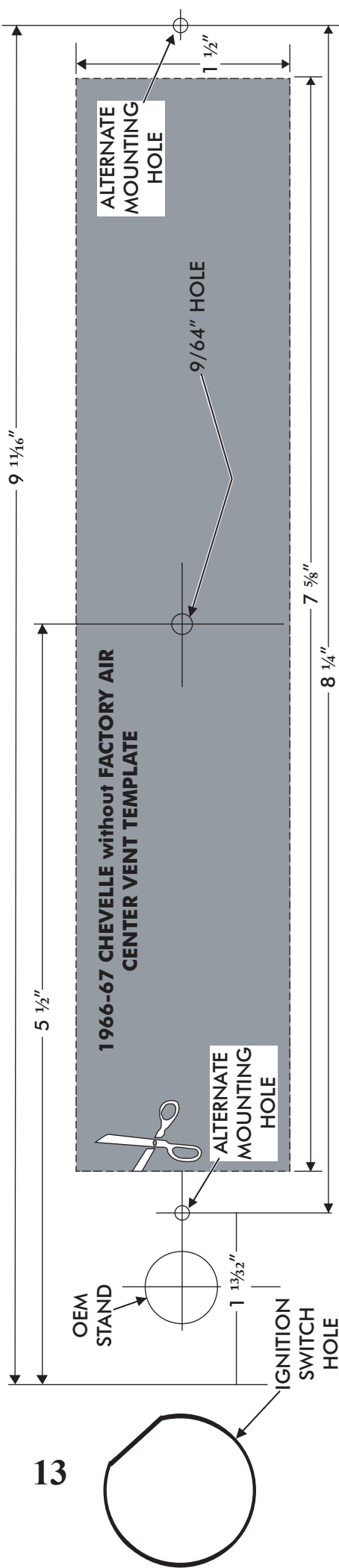


FIGURE 10



- ☐ REMOVE FACE PANEL FROM DASH. DRILL A 9/64" HOLE THROUGH CENTER STAND FROM BACK OF FACE PANEL. TURN PANEL OVER (FACE UP) AND CUT OUT TEMPLATE ALONG DOTTED LINE AND ALIGN THE 9/64" HOLE IN TEMPLATE WITH THE 9/64" HOLE DRILLED IN FACE PANEL.

NOTE: DO NOT EXCEED THE DIMENSIONS SHOWN ON TEMPLATE WHEN CUTTING.

- ☐ AFTER CHECKING TO MAKE SURE BOTH VENTS FIT IN FACE PANEL CORRECTLY, REMOVE THEM AND REINSTALL THE FACE PANEL ON DASH. CENTER IGNITION SWITCH HOLE AND MARK THE DASH USING THE INSIDE OF THE FACE PANEL VENT OPENING AS A TEMPLATE.
- ☐ REMOVE FACE PANEL AND CUT OUT DASH HOLE. CUT OUTSIDE OF THE LINE ABOUT 1/32 OF AN INCH.

NOTE: IF FACE PANEL IS NOT EQUIPPED WITH PLASTIC STANDS AND BRACKETS YOU MUST USE THE ALTERNATE MOUNTING PROCEDURE.

- ☐ USING THE TEMPLATE, LOCATE THE HOLES FOR ALTERNATE MOUNTING.
- ☐ ALIGN THE TEMPLATE OVER THE OPENING CUT INTO THE DASH. MARK MOUNTING HOLE LOCATION AND REMOVE TEMPLATE.
- ☐ DRILL HOLES TO 1/8".
- ☐ COUNTERSINK 1/8" HOLE BY DRILLING PART WAY INTO METAL WITH A 1/4" DRILL BIT.
- ☐ LOCATE THE TWO CENTER VENT DUCT HOSES AND CONNECT THESE TO THE CENTER VENT HOSE ADAPTER.
- ☐ INSTALL FACE PANEL AND VENTS. ATTACH HOSE ADAPTER TO THE BACK OF THE DASH. HOSES MUCH BE ATTACHED WHEN INSTALLING HOSE ADAPTERS TO VENTS.

NOTE: REMOVE OEM SPEAKER IF EQUIPPED AND REINSTALL AFTER HOSE ADAPTER IS ATTACHED.

- ☐ LOOSEN OEM SCREWS AND ROTATE OEM BRACKETS 90°. TIGHTEN SCREWS WITH HOSE ADAPTER FLANGE BETWEEN BRACKET AND THE DASH. SEE FIGURE 11.

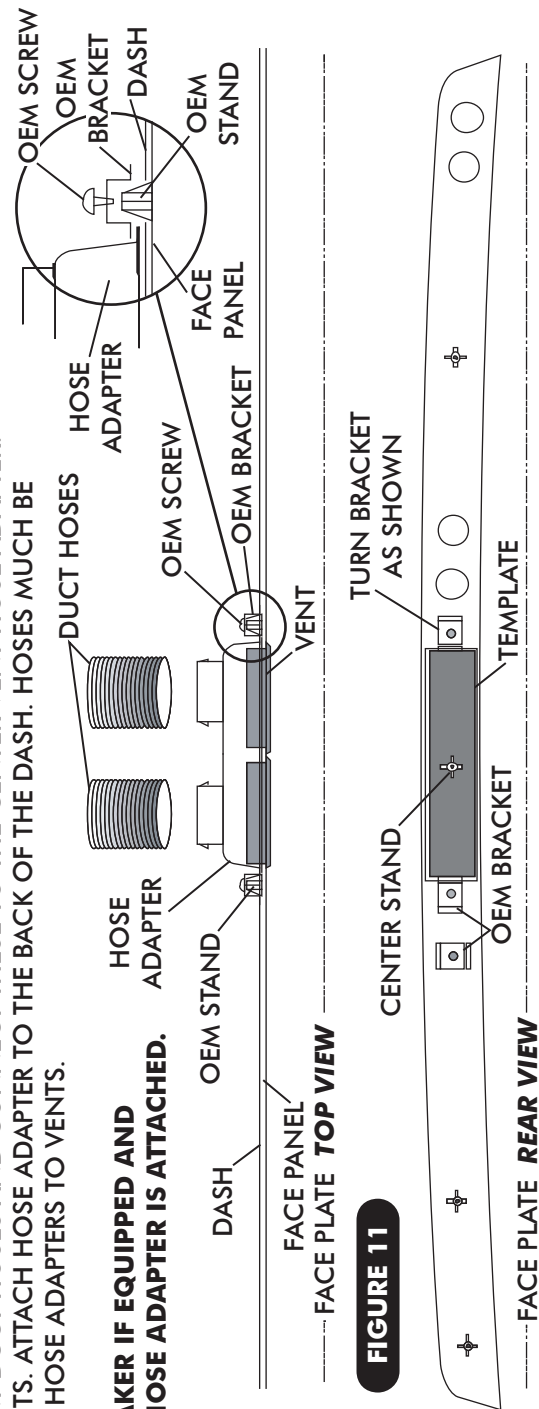


FIGURE 11



FRESH AIR COVER INSTALLATION

- ☐ INSTALL (4) GROMMETS IN FRESH AIR CAP. SEE FIGURE 12, BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN IN FIGURE 12, BELOW.
- ☐ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1 1/2" BOLT AND WASHER. SEE FIGURE 12, BELOW. **NOTE: FRESH AIR CAP INSTALLS ON ENGINE SIDE OF FIREWALL.**

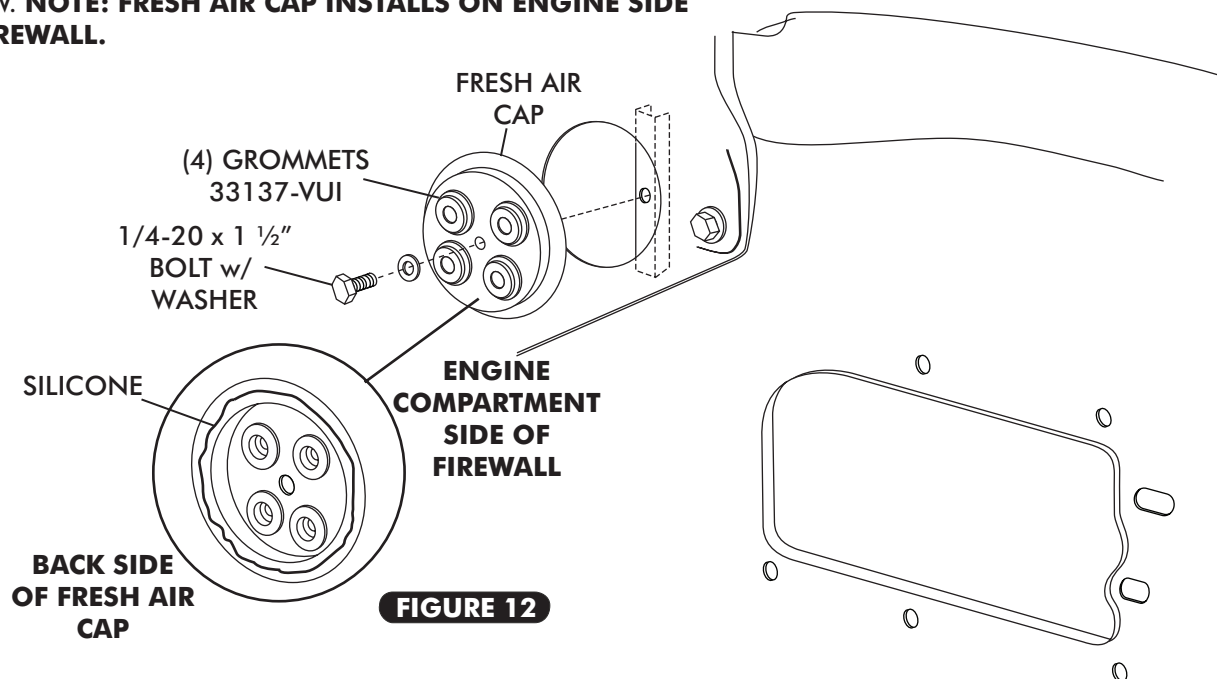


FIGURE 12

KICK PANEL FRESH AIR CAP INSTALLATION

- ☐ INSTALL (4) GROMMETS IN KICK PANEL FRESH AIR CAP. SEE FIGURE 13a, BELOW.
- ☐ ROUTE A/C AND HEATER HOSE THROUGH FRESH AIR CAP AND KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURES 13 AND 13b, BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 13a, BELOW.
- ☐ SECURE KICK PANEL FRESH AIR CAP USING OEM SCREWS, AS SHOWN IN FIGURE 13b, BELOW.

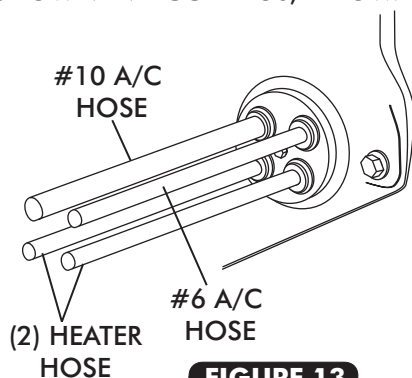


FIGURE 13

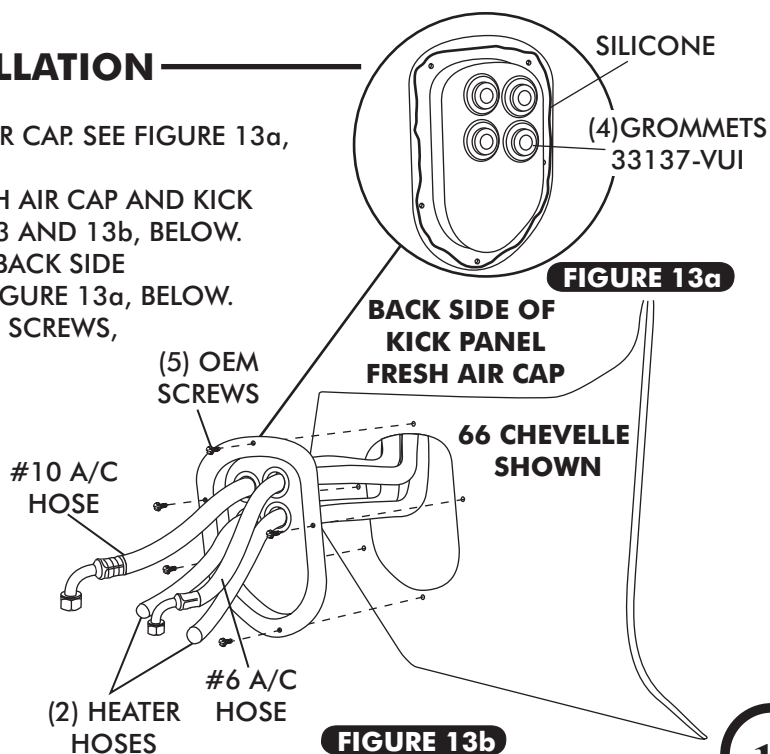


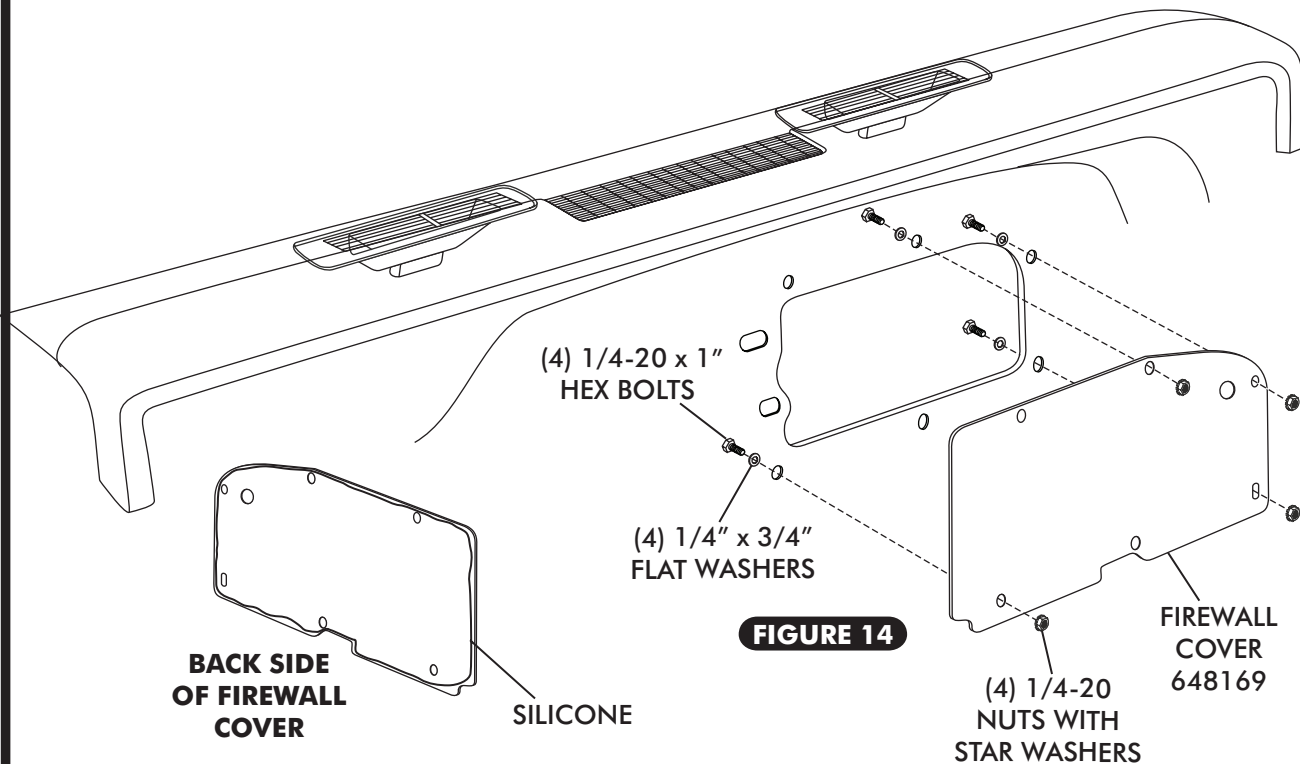
FIGURE 13a

FIGURE 13b



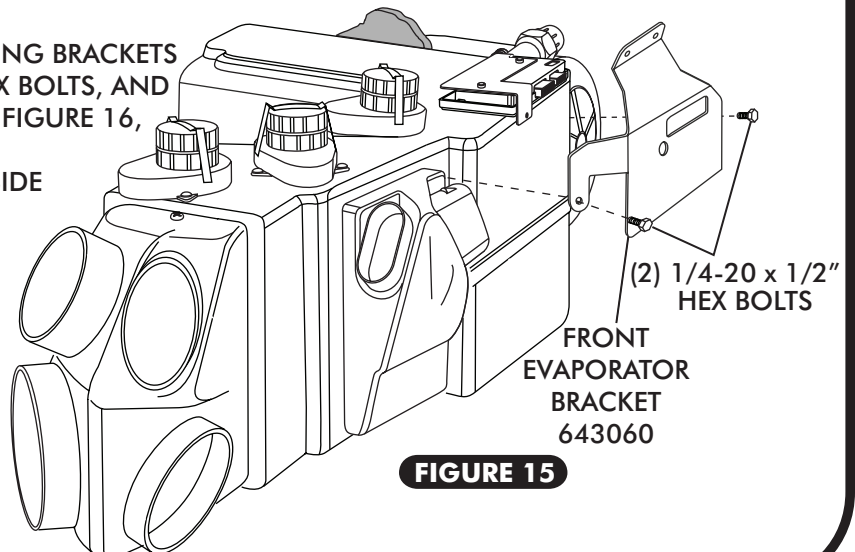
FIREWALL COVER INSTALLATION

- APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 14, BELOW.
- FROM INSIDE THE CAR, INSTALL FIREWALL COVER ON FIREWALL USING (4) 1/4-20 x 1" HEX BOLTS, FLAT WASHERS AND 1/4-20 NUTS WITH STAR WASHERS. SEE FIGURE 14, BELOW.



EVAPORATOR INSTALLATION

- ON A WORKBENCH, INSTALL (2) HEATER FITTINGS WITH PROPERLY LUBRICATED O-RINGS. SEE FIGURE 20 PAGE 18, AND FIGURE 16, PAGE 16.
- INSTALL (2) 1/4-20 x 1" HEX BOLTS AND (2) 1/4" PUSH NUT BOLT RETAINERS ON EVAPORATOR REAR BRACKET AS SHOWN IN FIGURE 16, PAGE 16.
- INSTALL EVAPORATOR FRONT & REAR MOUNTING BRACKETS ON EVAPORATOR USING (6) 1/4-20 x 1/2" HEX BOLTS, AND TIGHTEN AS SHOWN IN FIGURE 15, BELOW & FIGURE 16, PAGE 16.
- LAY EVAPORATOR SUB CASE ON PASSENGER SIDE FLOORBOARD. INSTALL A/C & HEATER HOSE ON EVAPORATOR AS SHOWN IN FIGURE 17, PAGE 17, AND HOSE INSTALLATION ON PAGE 19.
- **NOTE: WRAP THE #10 FITTING CONNECTIONS WITH PRESS TAPE. SEE FIGURE 17, PAGE 17.**





BRACKET INSTALLATION CONT.

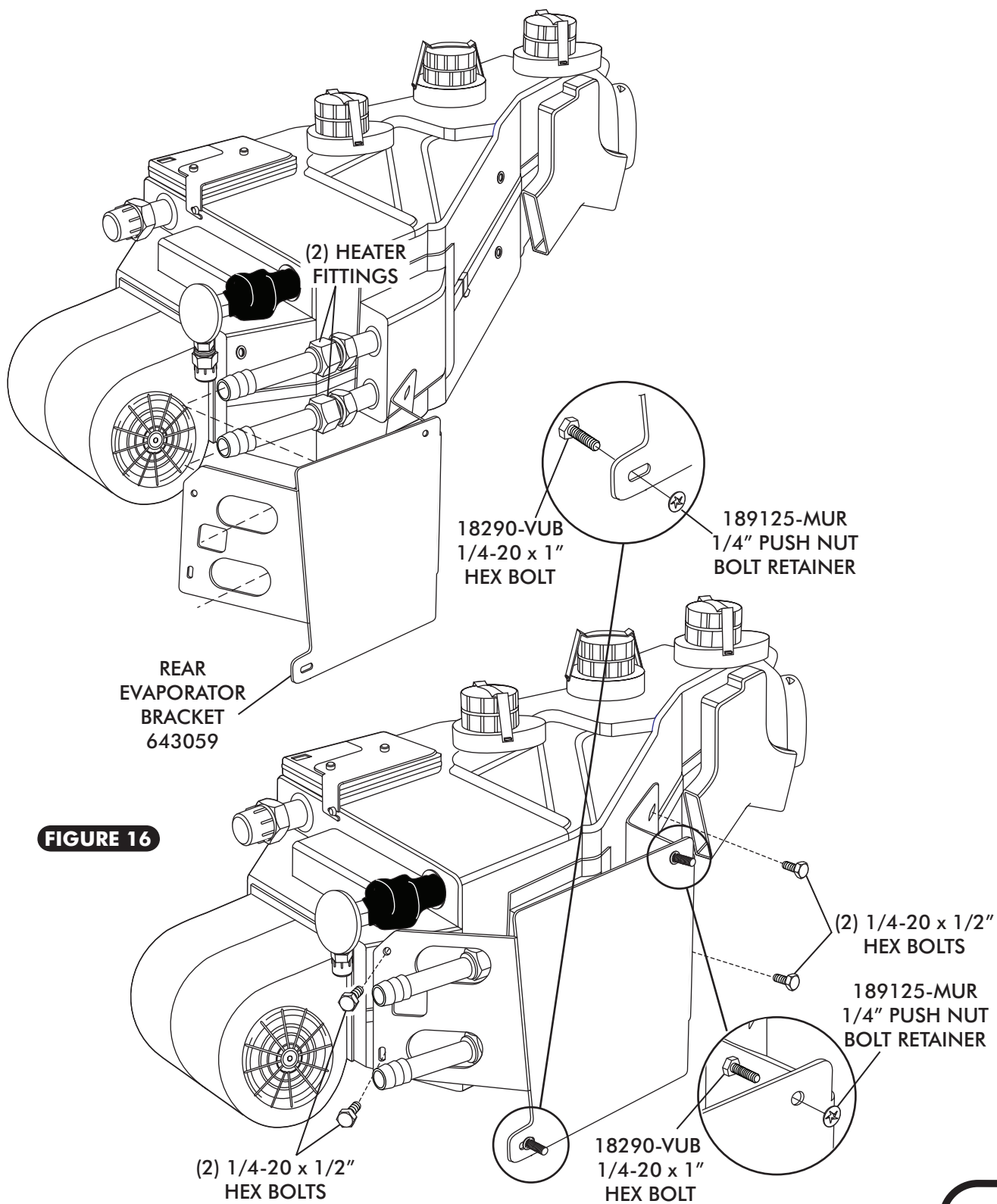
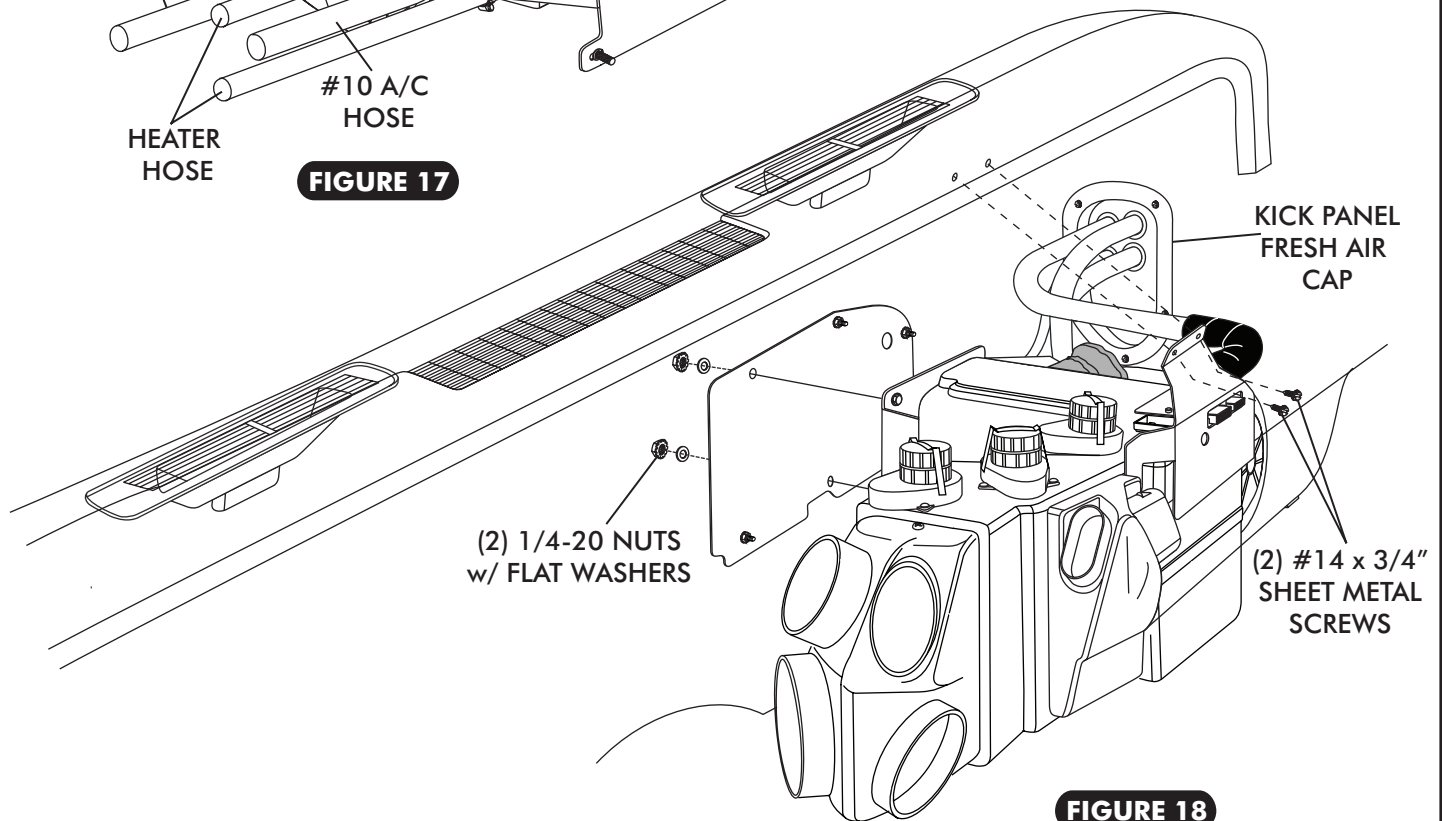
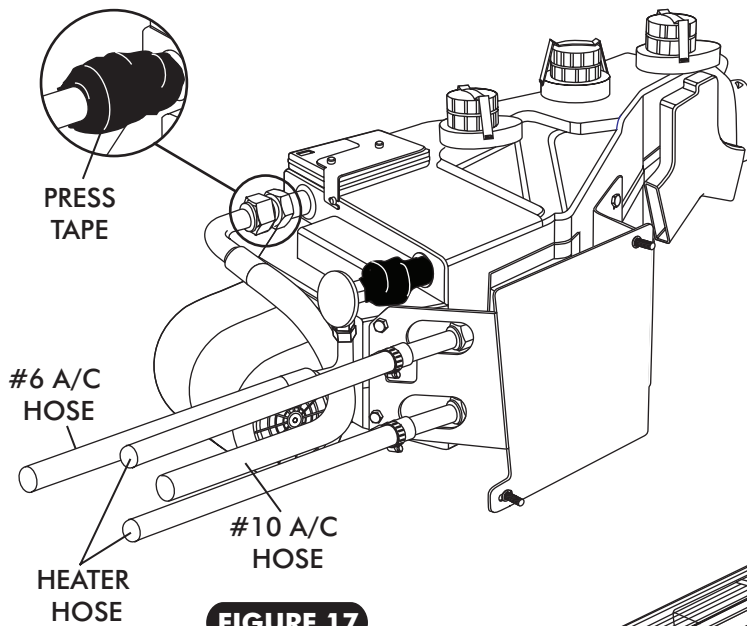


FIGURE 16



EVAPORATOR INSTALLATION CONT.

- ❑ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE LOOSELY TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING (2) 1/4-20 NUTS AND FLAT WASHERS. SEE FIGURE 18.
- ❑ SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO COWL USING (2) #14 x 3/4 HEX SHEET METAL SCREWS. SEE FIGURE 18, BELOW.
- ❑ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL MOUNTING BOLTS. **NOTE: TIGHTEN THE BOLT ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKET.**





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 19, BELOW.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL 1/2" 90° DRAIN ELBOW ON DRAIN HOSE. SEE FIGURE 19.

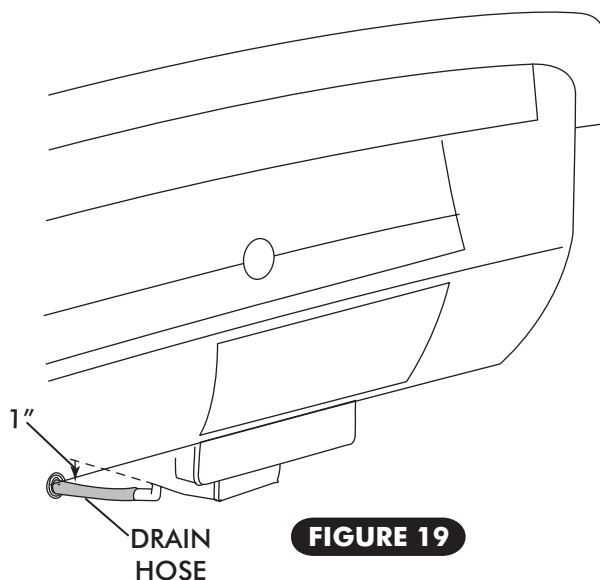
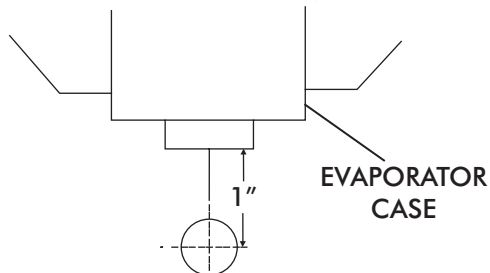


FIGURE 19

LUBRICATING O-RINGS

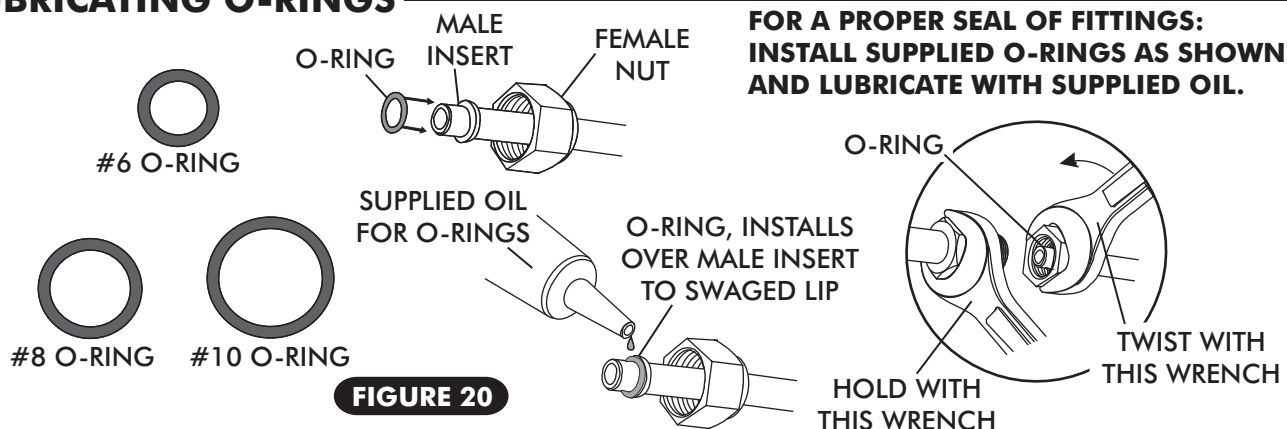


FIGURE 20

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

A/C HOSE INSTALLATION

STANDARD HOSE KIT

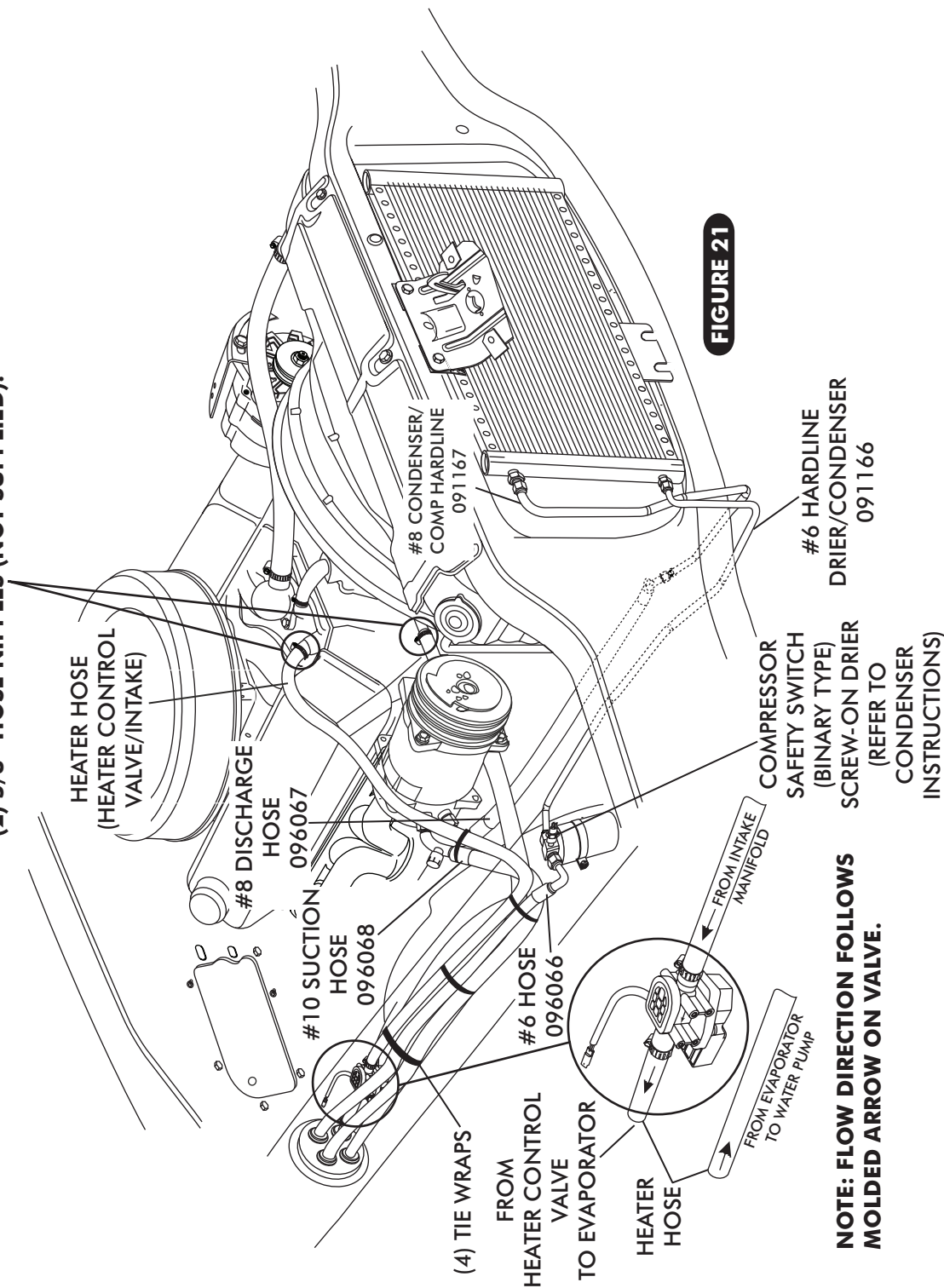
- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 20, ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE 45° FEMALE FITTING w/ 134a SERVICE PORT TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 21, PAGE 19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 20, ABOVE.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 20, ABOVE) AND CONNECT THE #10 45° 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 17, PAGE 17, AND FIGURE 21, PAGE 19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 20, ABOVE.
- ☐ LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 20, ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE DRIER. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 17, PAGE 17, AND FIGURE 21, PAGE 19. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 20, ABOVE.

MODIFIED A/C HOSE KIT

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.

A/C & HEATER HOSE ROUTING 1966-67 CHEVELLE SHOWN

NOTE: VINTAGE AIR SYSTEMS REQUIRE
(2) 5/8" HOSE NIPPLES (NOT SUPPLIED).



HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

- ROUTE A PIECE OF HEATER HOSE FROM THE WATER PUMP TO THE TOP HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 17, PAGE 17, AND FIGURE 21, BELOW. SECURE USING HOSE CLAMPS.
- ROUTE A PIECE OF HEATER HOSE FROM THE INTAKE TO THE BOTTOM HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 17, PAGE 17, AND FIGURE 21, BELOW. **NOTE: INSTALL HEATER CONTROL VALVE IN LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE. SECURE USING HOSE CLAMPS AS SHOWN IN FIGURE 21, BELOW. NOTE PROPER FLOW DIRECTION.**



FINAL STEPS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 24, PAGE 21.
- ☐ ROUTE A/C WIRES THROUGH 3/8" GROMMET AS SHOWN IN FIGURE 22 (12 VOLT/GROUND/BINARY SWITCH/HEATER VALVE).
- ☐ INSTALL CONTROL PANEL ASSEMBLY.
- ☐ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 24, PAGE 21 (WIRE ACCORDING TO WIRING DIAGRAMS ON PAGES 22 AND 23).
- ☐ INSTALL NEW GLOVE BOX USING (4) #8 x 1/2" PH PAN HEAD SCREWS. SEE FIGURE 23.
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS (BATTERY TRAY, BATTERY & INNER FENDER).
- ☐ 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, PAGE 24.

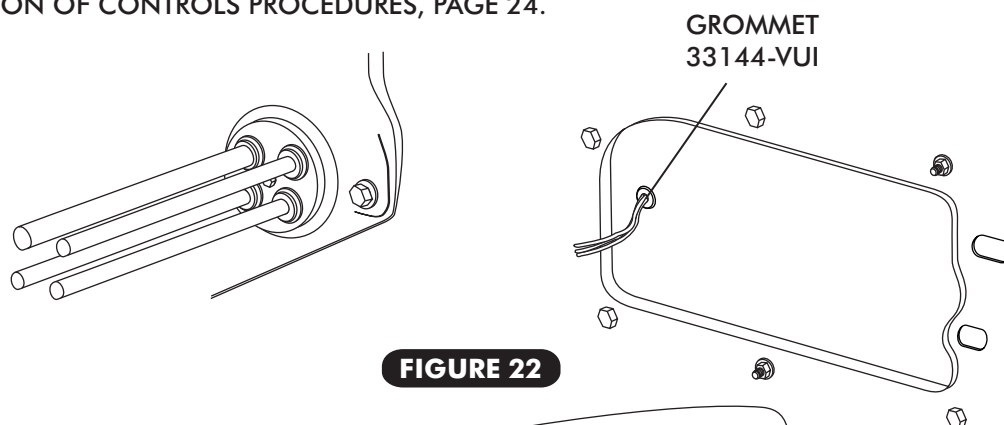


FIGURE 22

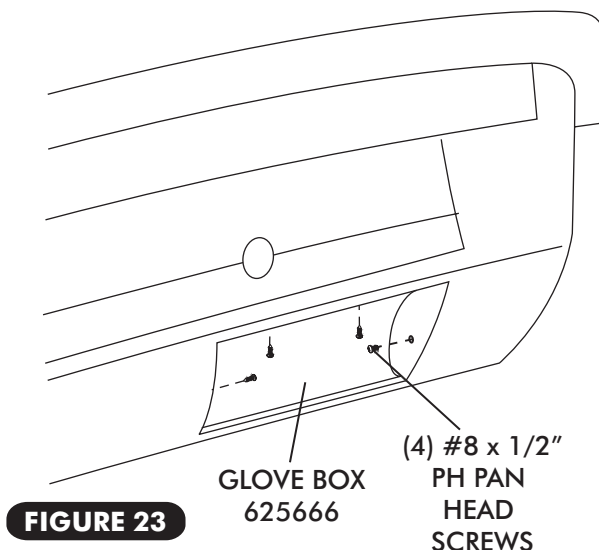
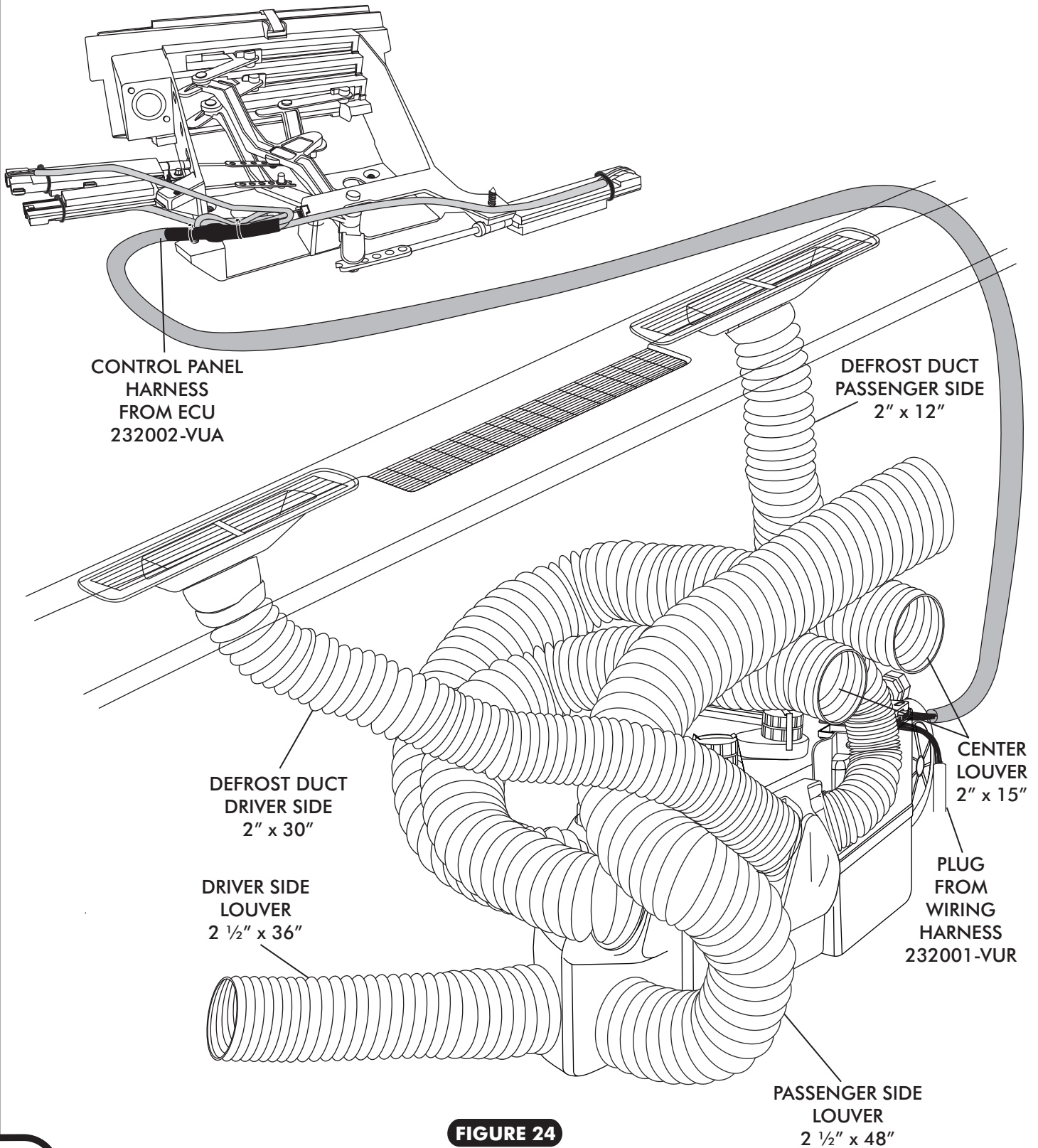


FIGURE 23



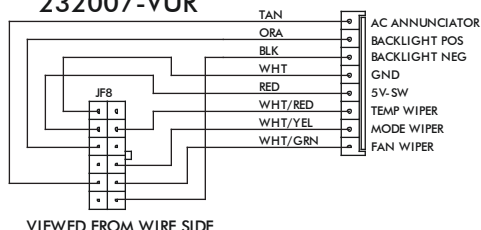
CONTROL PANEL & DUCT HOSE ROUTING



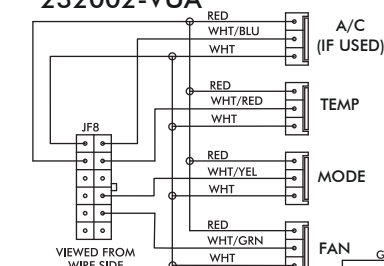


Wiring Diagram

232007-VUR

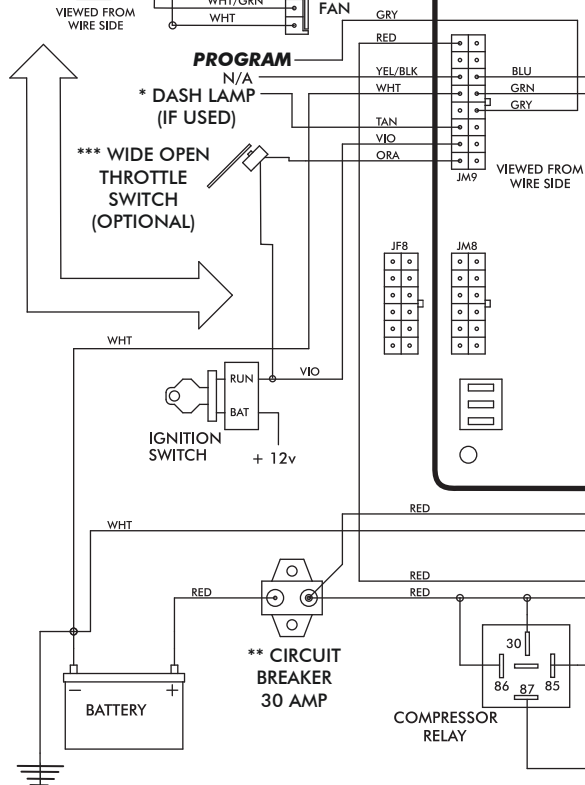


232002-VUA

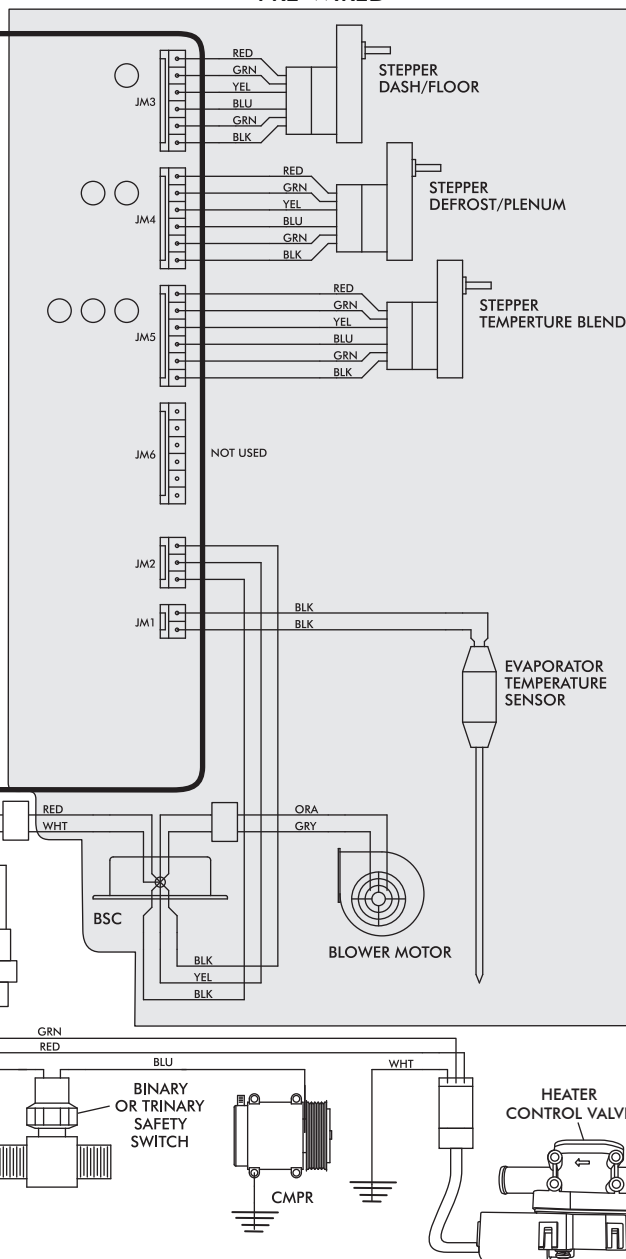


GEN IV ECU

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



PRE-WIRED



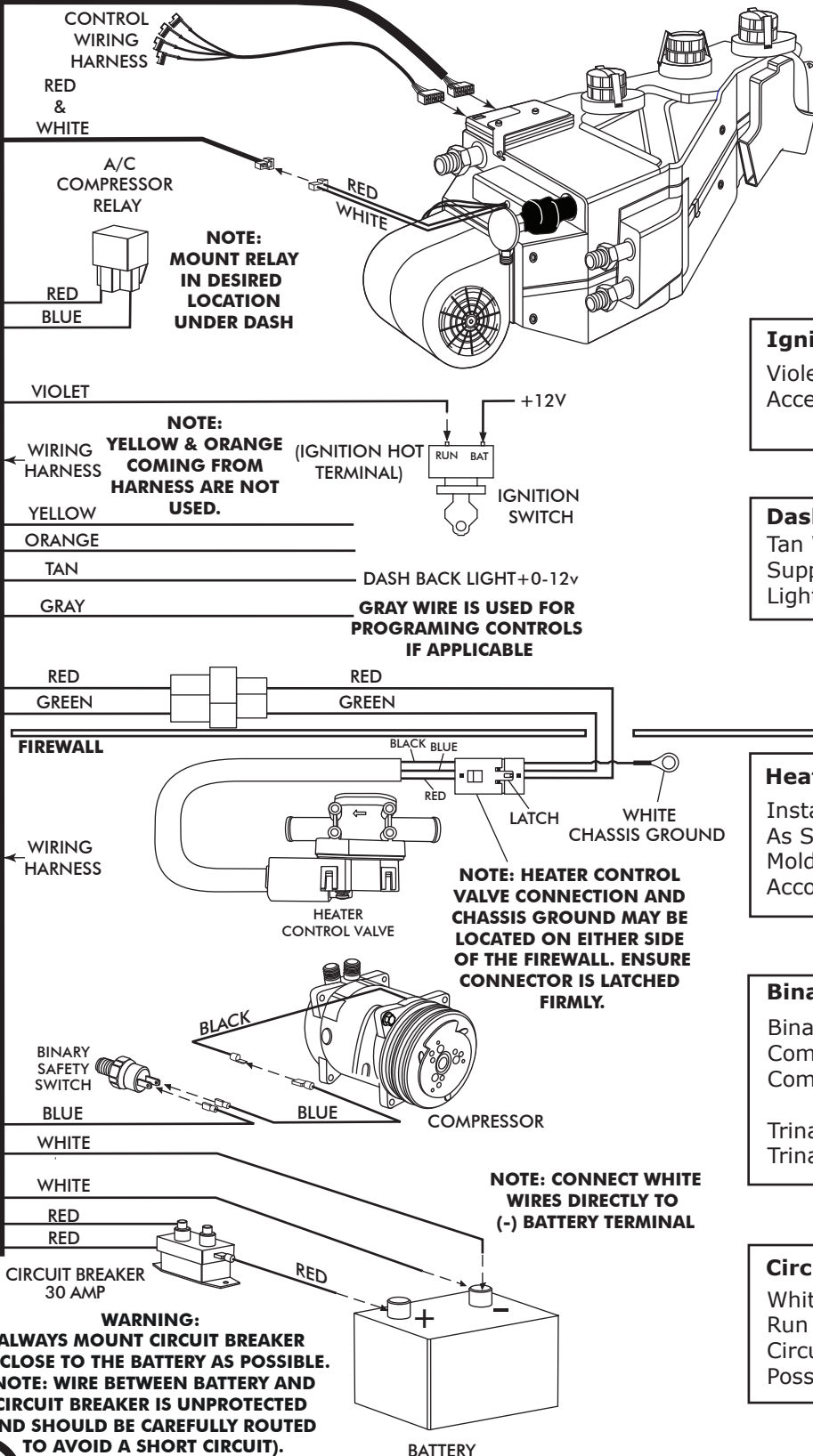
NOTE: = CHASSIS GROUND

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



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.



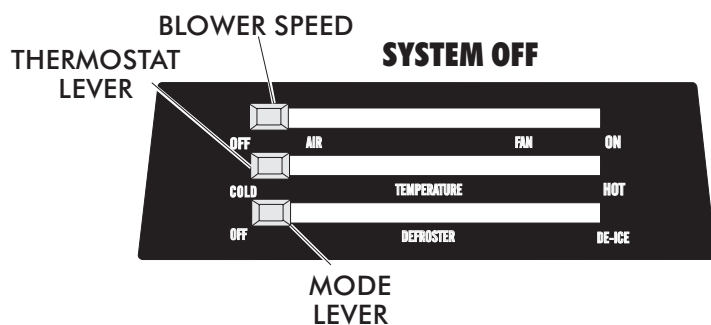
OPERATION OF CONTROLS

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 TO THE LEFT TO ENGAGE THE COMPRESSOR. SLIDE THE COLD LEVER TO THE RIGHT TO SELECT DESIRED TEMPERATURE. FOR HEAT MODE SLIDE THE COLD LEVER ALL THE WAY TO THE RIGHT TO DISENGAGE THE COMPRESSOR. SLIDE THE COLD LEVER TO THE LEFT TO SELECT DESIRED TEMPERATURE.

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

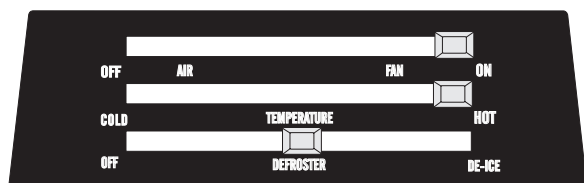


BLOWER SPEED
THIS LEVER CONTROLS
THE BLOWER SPEED,
FROM OFF TO HI

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

MODE LEVER
SLIDE THE LEVER TO
THE "DASH" POSITION

HEAT MODE

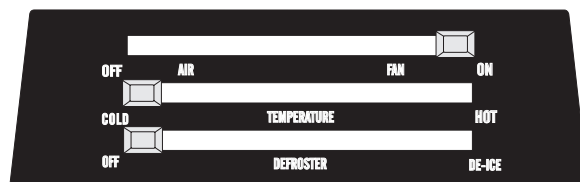


BLOWER SPEED
SLIDE LEVER RIGHT
TO DESIRED BLOWER SPEED,
FROM OFF TO HI

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)

MODE LEVER
SLIDE THE LEVER TO THE CENTER
FOR "FLR" POSITION

A/C MODE

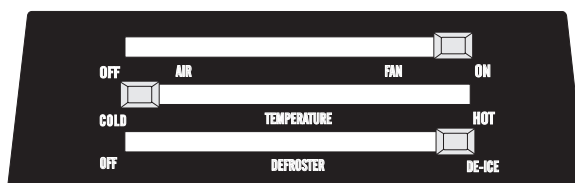


BLOWER SPEED
SLIDE LEVER RIGHT
TO DESIRED BLOWER SPEED,
FROM OFF TO HI

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)

MODE LEVER
SLIDE THE LEVER TO THE LEFT
FOR "DASH" POSITION

DEFROST/ DE-FOG MODE



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

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)

MODE LEVER
SLIDE THE LEVER TO THE RIGHT
FOR "DEF" POSITION



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.
		Check for damaged ground wire (white) in control head harness.	Verify continuity to chassis ground with white control head wire at various points.	
	All other functions work.	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 is not charged.	System must be charged for compressor to engage.	Charge system or bypass pressure switch.	Danger: Never bypass safety switch with engine running. Serious injury can result. 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.	
	System is charged.	Check for disconnected or faulty thermistor.	Check 2-pin connector at ECU housing.	
		Check for faulty A/C potentiometer or associated wiring.	Repair or replace pot/control wiring.	
3. Compressor will not turn off (All other functions work).		Check for faulty A/C relay.	Replace relay.	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.



Troubleshooting Guide (Cont.)

Symptom	Condition	Checks	Actions	Notes
4.	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.
	System will not turn on, or runs intermittently.	Will not turn on under any conditions.	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.	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.	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.
	Blower turns on and off rapidly.	Battery voltage is less than 12V.	Check for faulty battery or alternator.	
7.	Erratic functions of blower, mode, temp, etc.	Check for damaged switch or pot and associated wiring.	Charge battery.	
			Repair or replace.	
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.	

CUT ALONG
DOTTED LINE

66 CHEVELLE KICK PANEL
MODIFICATION TEMPLATE

CUT ALONG
DOTTED LINE

CUT THIS
AREA

67 CHEVELLE KICK PANEL
MODIFICATION TEMPLATE

CUT ALONG
DOTTED LINE

CUT ALONG
DOTTED LINE

CUT THIS
AREA



EVAPORATOR KIT PACKING LIST

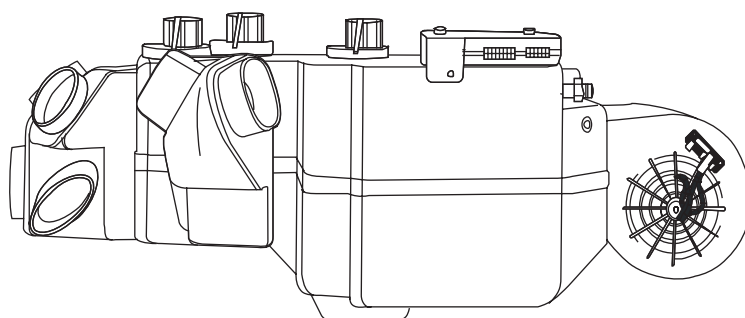
**EVAPORATOR KIT
561066**

No.	QTY.	PART No.	DESCRIPTION
1.	1	762169	GEN IV 4-VENT with 2 & 2 ½ EVAPORATOR SUB CASE
2.	1	784161	1966-67 CHEVELLE without A/C ACCESSORY KIT

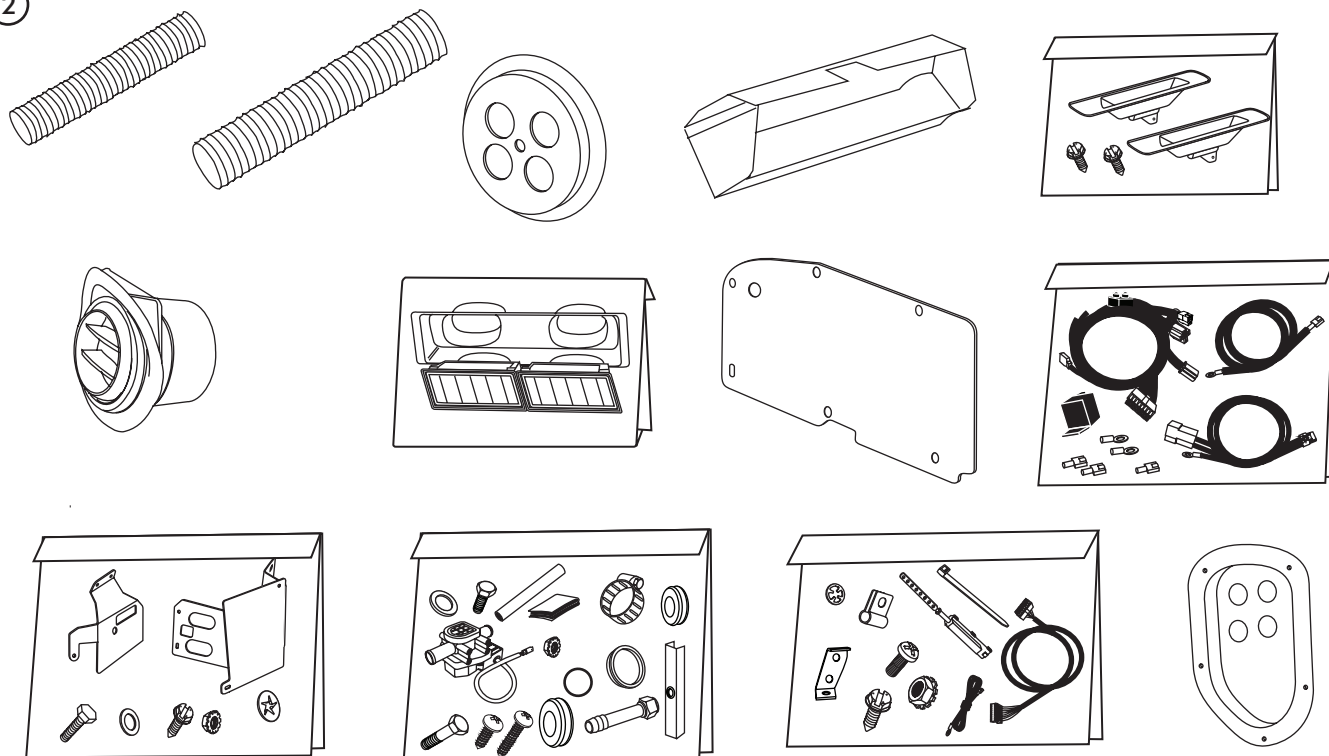
**** BEFORE BEGINNING INSTALLATION, OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

①

**GEN IV 4-VENT
with 2 & 2 ½ EVAPORATOR
SUB CASE
762169**



②



**ACCESSORY KIT
784161**

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