



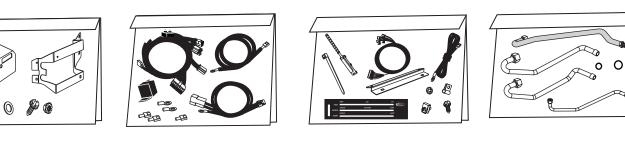
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		EVA	PORATO	R KIT PACKING LIST	EVAPORATOR KIT 751171
-	No.	QTY.	PART No.	DESCRIPTION	
•	1. 2.	1 1	744005 791171	GEN IV 3-VENT EVAP. SUB CASE w/204 ECU ACCESSORY KIT 1967-72 CHEVROLET PICKUP wo A/C w/ FACTORY AIR CONTROLS	
	PL	EASE R	EPORT ANY	INSTALLATION, OPEN ALL PACKAGES AND CHECK COI SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DA OT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEM	YS. AFTER 15 DAYS,
G	1) SEN IV 3 VAP SUI w/ 204 7440	B CASE ECU			
	2				



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

901150 REV C 7/30/14, INST 67-72 CHEV P-UP wo AC w/ FACTORY AIR CONTROLS EVAP KIT PG 3 OF 24

ACCESSORY KIT

791171



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 <u>under pressure with dry nitrogen</u>. 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 \underline{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.



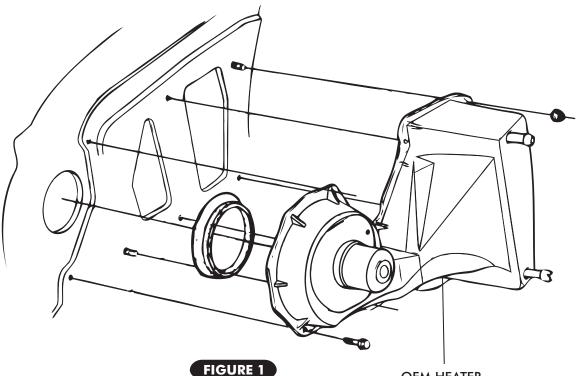
BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS, ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS, & DIAGRAMS.

ENGINE COMPARTMENT

REMOVE THE FOLLOWING:

- □ DISCONNECT BATTERY.
- □ DRAIN RADIATOR, REMOVE RADIATOR (RETAIN).
- □ HEATER BLOWER ASSEMBLY AND OEM HEATER HOSES (DISCARD).
- □ NOTE: TO REMOVE THE OEM HEATER BLOWER ASSEMBLY (UNDER HOOD) AND THE AIR

DISTRIBUTION SYSTEM (UNDER DASH), THE FACTORY MANUAL RECOMMENDS THAT YOU REMOVE THE RIGHT INNER FENDER FOR ACCESSIBLITY.



OEM HEATER BLOWER ASSEMBLY



CONDENSER ASSEMBLY & INSTALLATION-

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

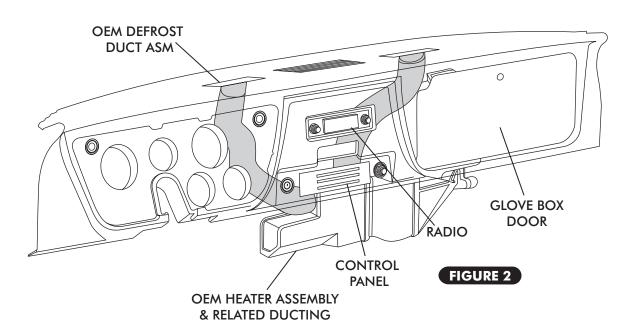
COMPRESSOR & BRACKETS —

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

PASSENGER COMPARTMENT —

REMOVE THE FOLLOWING:

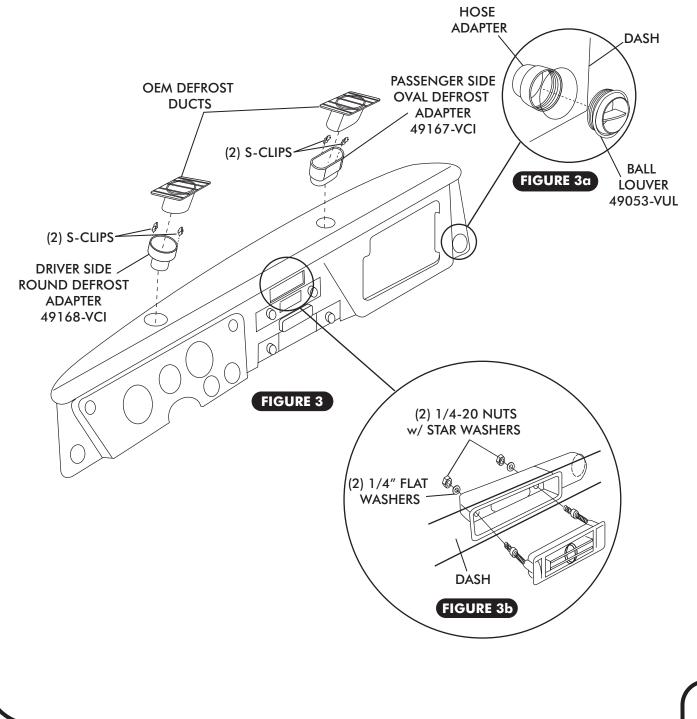
- □ REMOVE GLOVE BOX DOOR (RETAIN) AND GLOVE BOX (DISCARD).
- □ DISCONNECT ALL WIRES AND CABLES FROM CONTROL PANEL AND RADIO.
- □ ALL HOSE AND DUCTING FROM DEFROST DUCTS (SEE FIGURE 2, BELOW).
- □ OEM HEATER ASSEMBLY.





DEFROST DUCT AND LOUVER INSTALLATION -

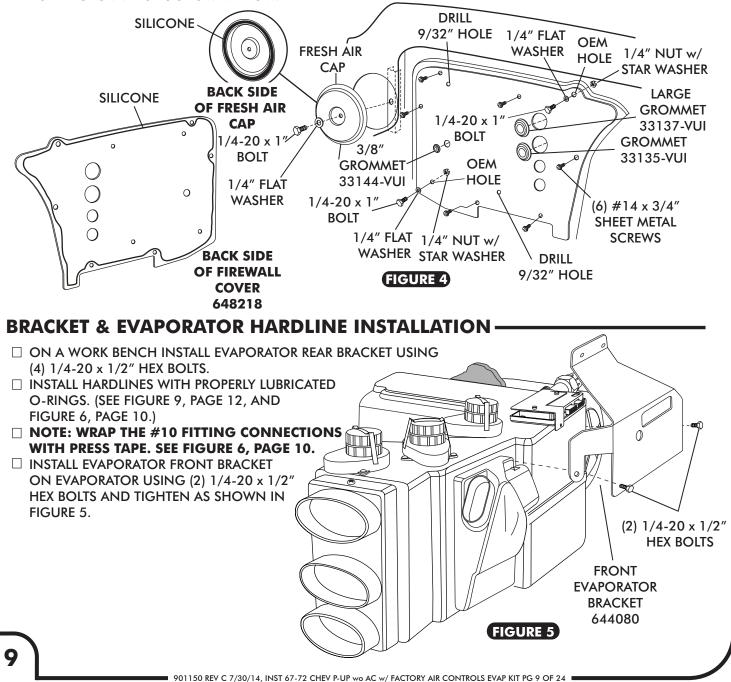
- □ INSTALL S-CLIPS ON DEFROST DUCT HOSE ADAPTERS AND ATTACH TO OEM DEFROSTER DUCTS AS SHOWN IN FIGURE 3, BELOW.
- □ INSTALL CENTER LOUVER IN DASH AS SHOWN IN FIGURE 3b, BELOW. USE TEMPLATE PROVIDED ON PAGE 23.
- □ INSTALL DRIVER/PASSENGER SIDE LOUVER IN DASH AS SHOWN IN FIGURE 3a, BELOW. USE TEMPLATE PROVIDED ON PAGE 22.

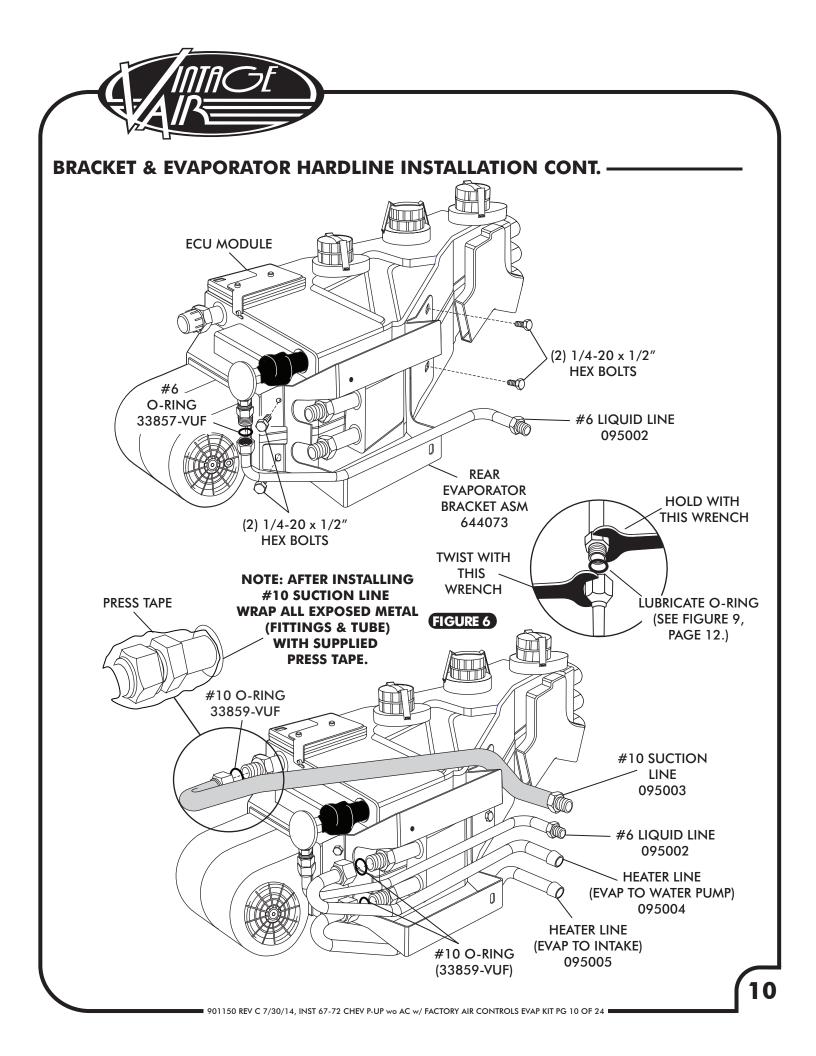




FRESH AIR CAP AND FIREWALL COVER INSTALLATION-

- □ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN IN FIGURE 4, BELOW.
- □ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1" BOLT AND WASHER, SEE FIGURE BELOW.
- □ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN BELOW.
- □ INSTALL FIREWALL COVER TO FIREWALL USING (2) 1/4-20 x 1" HEX BOLTS, (2) FLAT WASHERS AND 1/4" NUTS w/ STAR WASHERS IN THE OEM HOLES AS SHOWN BELOW.
- □ USE FIREWALL COVER AS TEMPLATE TO DRILL (6) 3/16" HOLES IN FIREWALL, AND THEN SECURE USING #14 x 3/4" SHEET METAL SCREWS AS SHOWN BELOW.
- USING FIREWALL COVER AS TEMPLATE, DRILL (2) 9/32" HOLES IN FIREWALL AS SHOWN BELOW.
- □ INSTALL GROMMETS AS SHOWN BELOW.

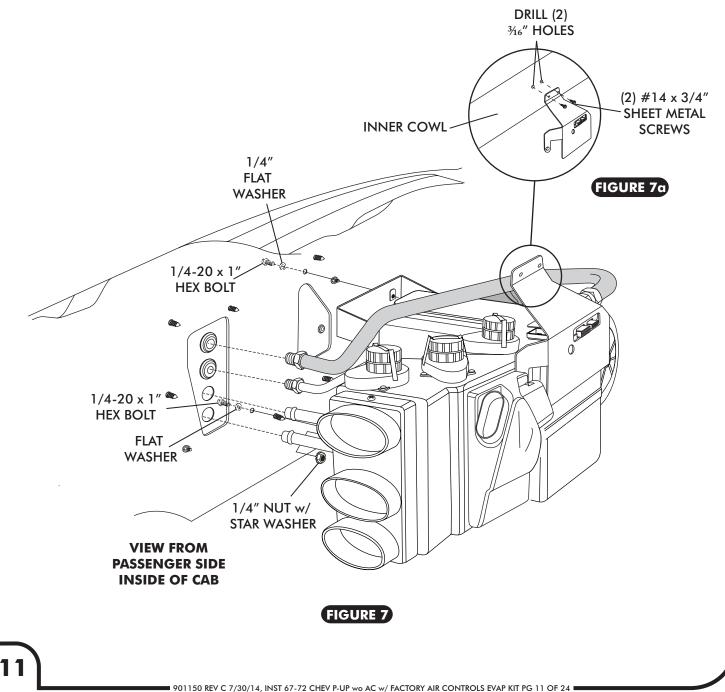




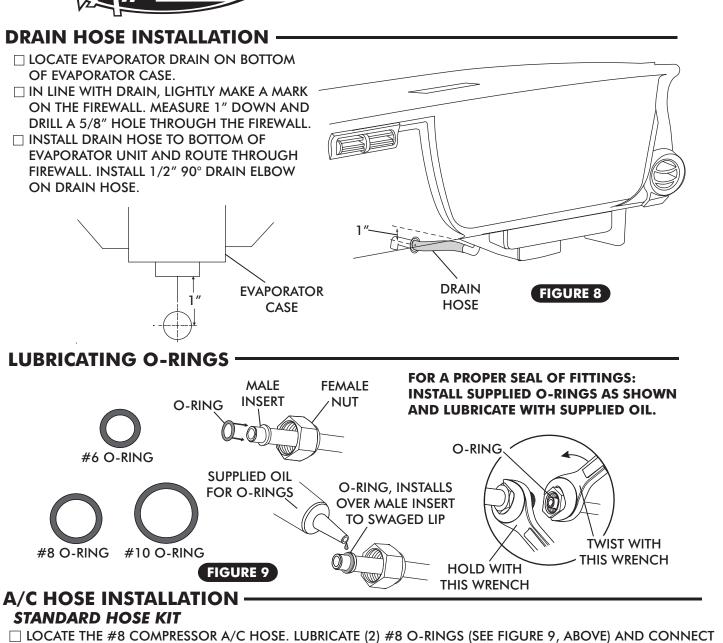


EVAPORATOR INSTALLATION -

- □ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE LOOSELY TO THE FIREWALL USING (2) 1/4-20 x 1" HEX BOLTS, (2) FLAT WASHERS AND 1/4" NUTS w/ STAR WASHERS. SEE FIGURE 7.
- □ NOTE: TO ENSURE PROPER DRAINAGE, IT IS VERY IMPORTANT THAT THE EVAPORATOR IS LEVEL, BOTH LEFT-RIGHT AND FORE-AFT. CHECK FOR LEVEL ON THE FLAT PORTIONS OF THE CASE AROUND THE DRAIN, BLOCK THE UNIT UP, THEN DRILL FOR FRONT BRACKET SCREWS.
- □ SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO COWL USING (2) #14 x 3/4" HEX SHEET METAL SCREWS. SEE FIGURE 7a, 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.







- □ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 9, ABOVE) AND CONNECT THE 135° FEMALE FITTING w/134a SERVICE PORT TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE STRAIGHT FEMALE FITTING TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 11, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN.
- □ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 9, ABOVE) AND CONNECT THE #10 135° 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 13, AND FIGURE 11, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN.
- □ LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 9, ABOVE) AND CONNECT THE STRAIGHT FEMALE FITTING TO THE #6 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 10, PAGE 13, AND FIGURE 11, PAGE 14. TIGHTEN EACH FITTING CONNECTION AS SHOWN.

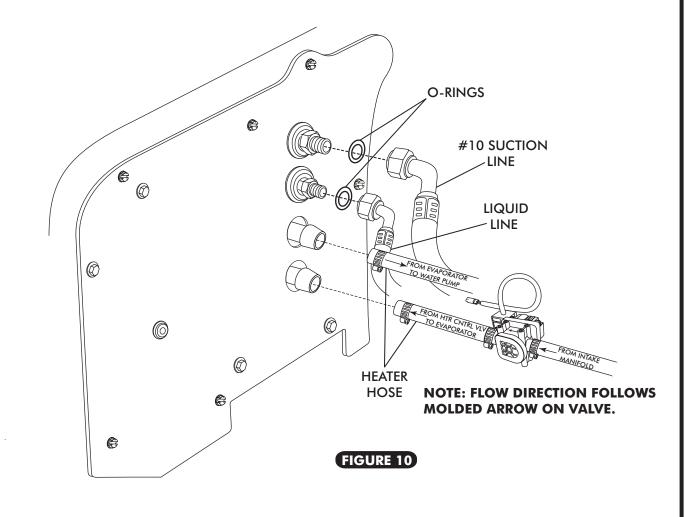
MODIFIED A/C HOSE KIT -

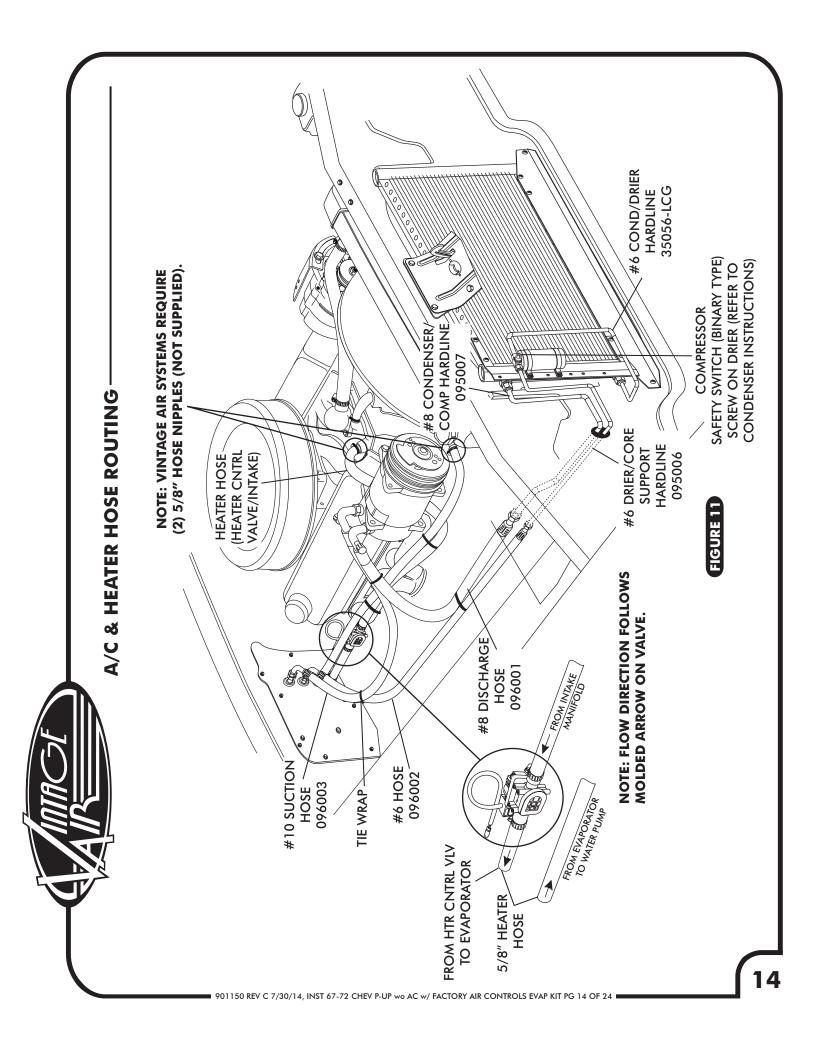
□ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.



HEATER HOSE & HEATER CONTROL VALVE INSTALLATION -

- □ ROUTE HEATER HOSE FROM WATER PUMP TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN IN FIGURE 10, BELOW. SECURE USING HOSE CLAMPS. **NOTE: A SMALL AMOUNT OF SILICONE SPRAY WILL EASE HEATER HOSE INSTALLATION.**
- □ ROUTE HEATER HOSE FROM THE INTAKE TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN BELOW. NOTE: INSTALL HEATER CONTROL VALVE IN LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE. SECURE USING HOSE CLAMPS AS SHOWN. NOTE PROPER FLOW DIRECTION.
- □ HOSE SHOULD PROTRUDE THROUGH THE FIREWALL COVER SLIGHTLY TO CLOSE THE GAP BETWEEN THE ALUMINUM LINE AND THE FIREWALL COVER. SEAL ANY REMAINING GAP WITH RTV SILICONE.

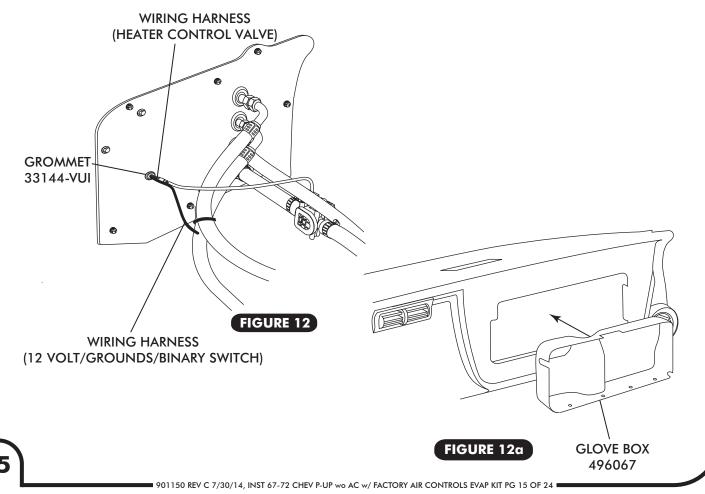


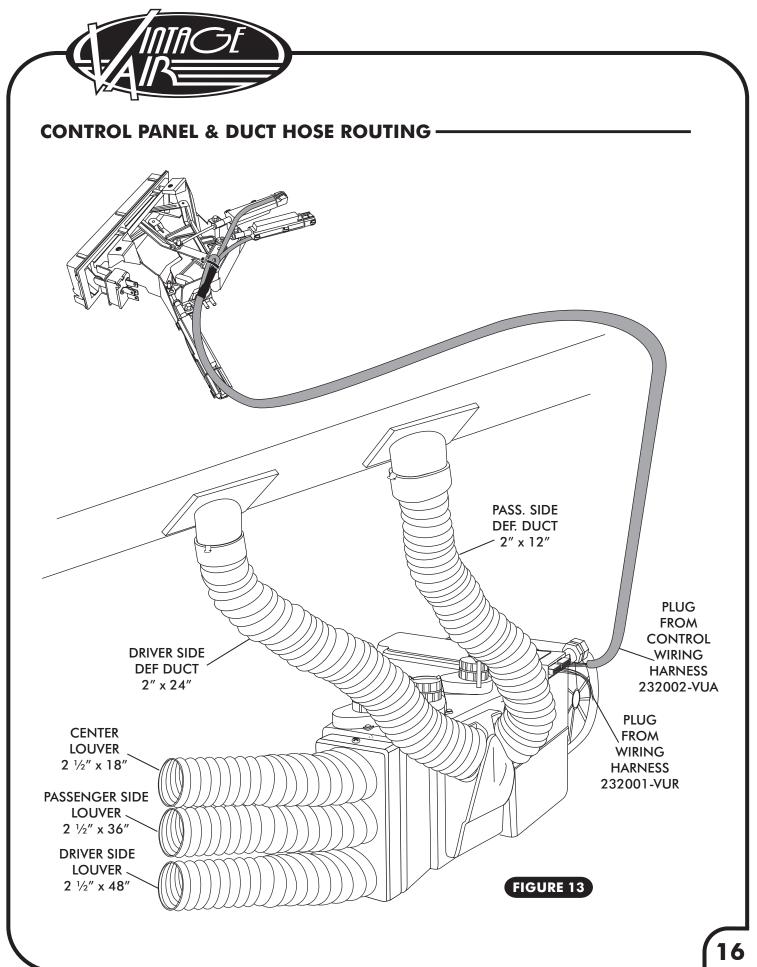




FINAL STEPS

- □ INSTALL DUCT HOSES AS SHOWN IN FIGURE 13, PAGE 16.
- □ ROUTE A/C WIRES THROUGH 3/8" GROMMET AS SHOWN IN FIGURE 12
- (12 VOLT/GROUND/BINARY SWITCH/HEATER VALVE).
- INSTALL CONTROL PANEL ASSEMBLY.
- PLUG THE WIRING HARNESS IN THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 13, PAGE 16 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 17 AND 18).
- □ INSTALL NEW GLOVE BOX USING OEM SCREWS (SEE FIGURE 12a).
- □ INSTALL GLOVE BOX DOOR.
- □ REINSTALL ALL PREVIOUSLY REMOVED ITEMS, 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 19.

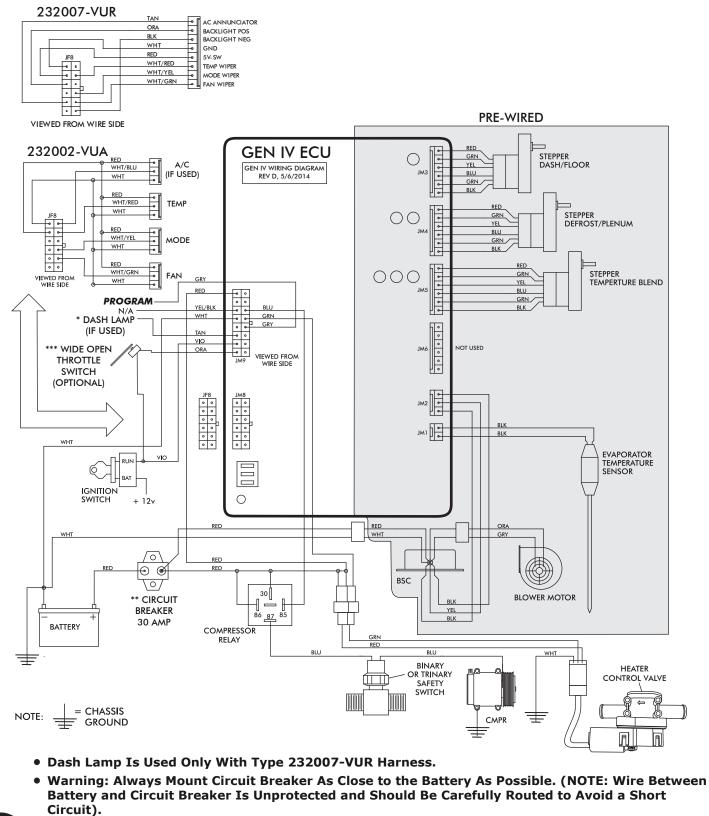




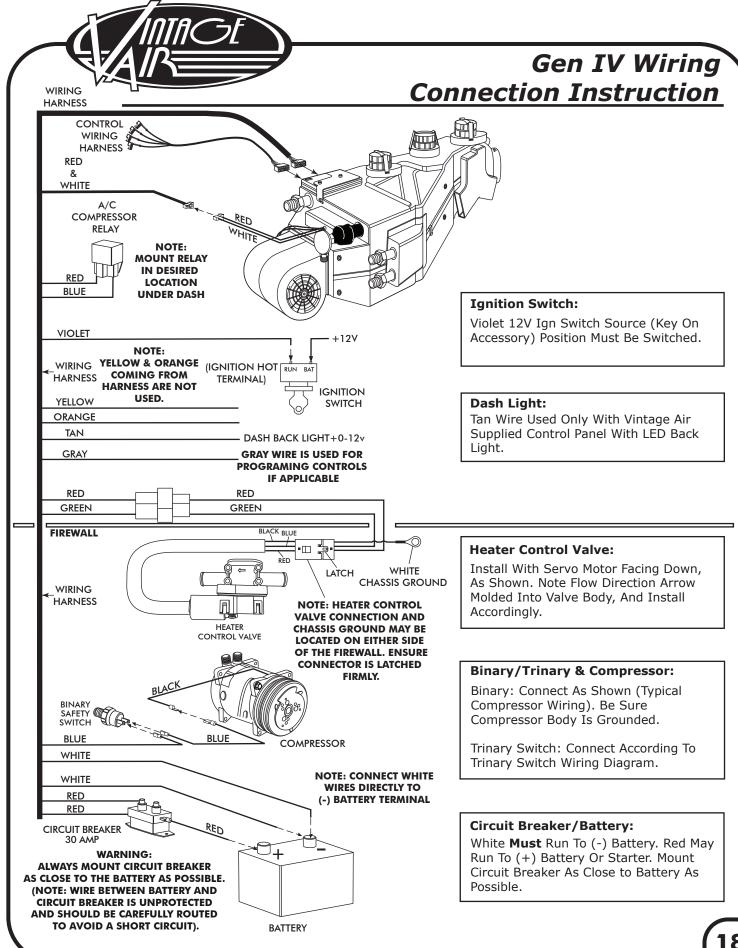


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Wiring Diagram



• Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.





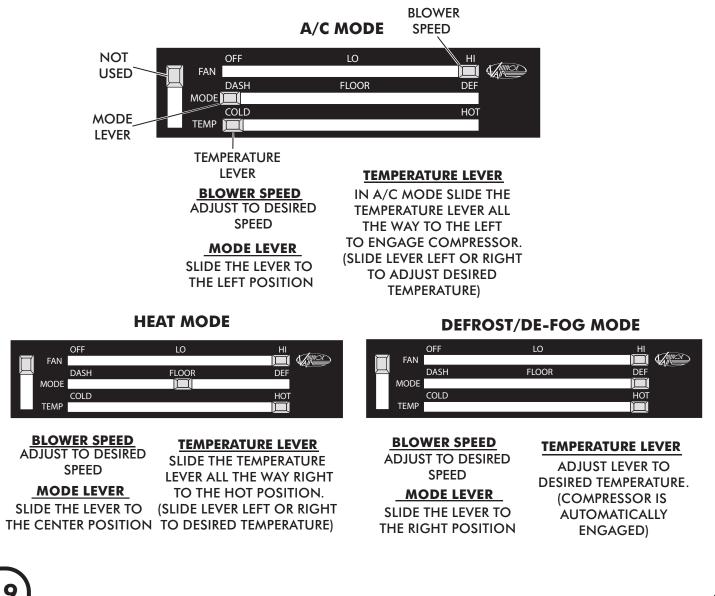
OPERATION OF CONTROLS-

NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION. SEE CALIBRATION INSTRUCTIONS INCLUDED WITH CONTROLS KIT FOR CALIBRATION PROCEDURE.

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

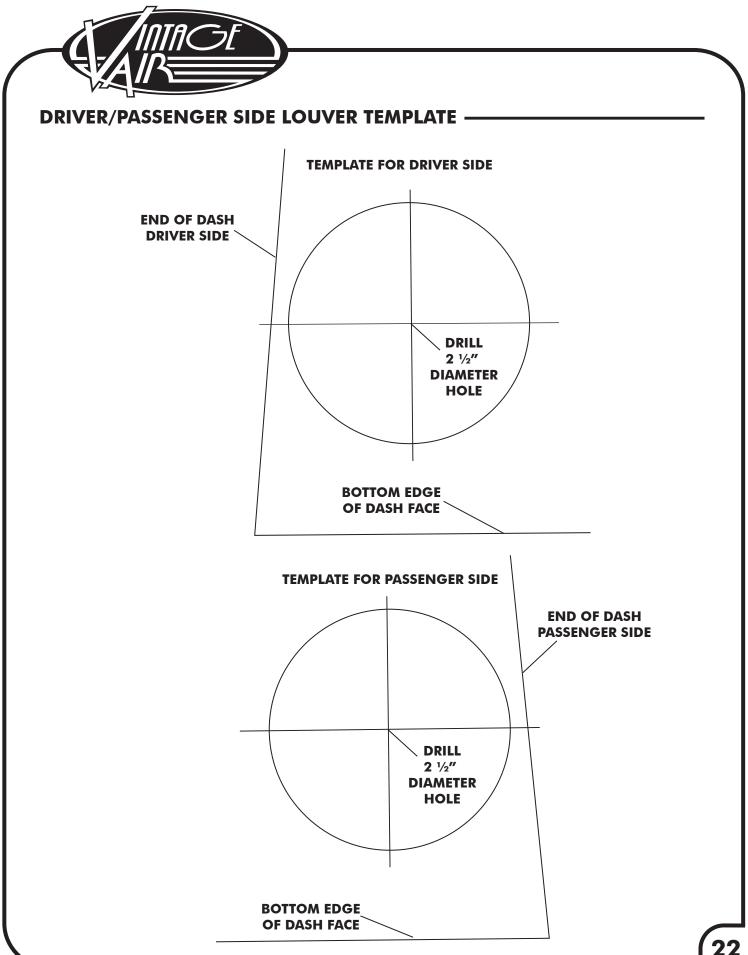
NOTE: EACH TIME THE SYSTEM TOGGLES BETWEEN MODES, THE BLOWER WILL MOMENTARILY CHANGE SPEEDS.

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

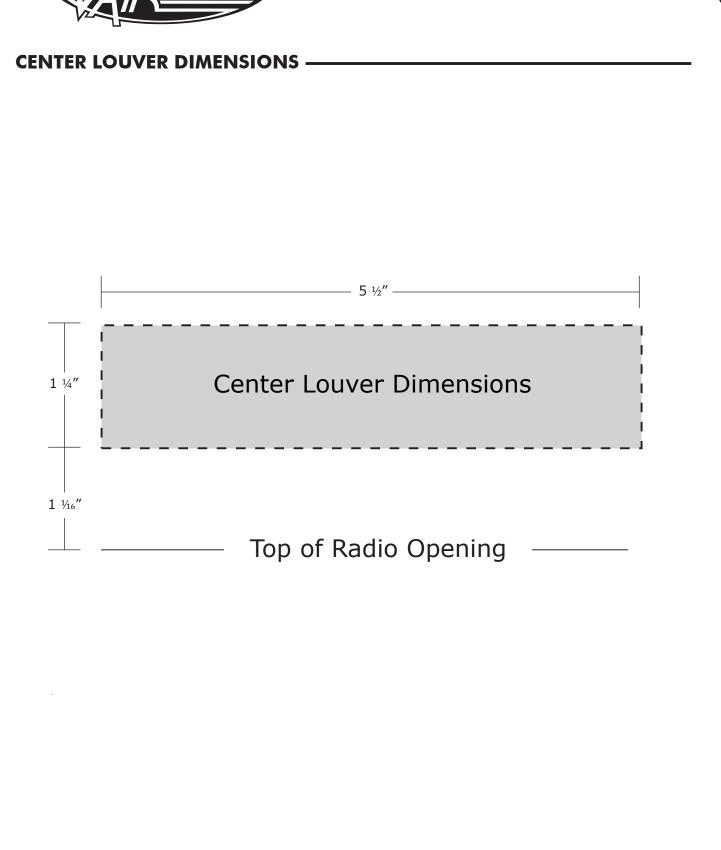


			Troublesho	Troubleshooting Guide
Symptom	Condition	Checks	Actions	Notes
La. Blower stays on high speed when ignition is on.	No other functions work.	Check for damaged pins or wires in control head plug. Check for damaged ground wire (white) in control head harness. Check for damaged blower switch or potentiometer and associated wiring.	Verify that all pins are inserted into plug. Ensure that no pins are bent or damaged in ECU. Verify continuity to chassis ground with white control head wire at various points.	 Loss of ground on this wire renders control head inoperable. 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. Unplug 3-wire BSC control connector from ECU. If blower stavs running, BSC is either	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU. 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.	
2. Compressor will not turn on (All other functions work).	System is not charged.	System must be charged for compressor to engage. Check for faulty A/C potentiometer or associated wiring (Not applicable to 3-pot controls).		 Should be necessary. 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.
Compressor will not turn off (All other functions work).		Check for faulty A/C potentiometer or associated wiring. Check for faulty A/C	Check 2-pin connector at ECU housing. Repair or replace pot/control wiring. Replace relay.	 Disconnected or faulty thermistor will cause compressor to be disabled. 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.

Condition	Cnecks	ACTIONS	Notes
Works when engine is not running; shuts off when engine is started	 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.	
(Typically early Gen IV, but possible on all versions).		Chack for nositive nower at heater valve creen wire and	IIS SUSPECTED, CHECK WITH A quality oscilloscope. Spikes greater than 16V will shut
	Verify connections on power blow lead, ignition lead, and both wire.	blower red wire. Check for ground on control head white wire.	down the ECU. Install a radio capacitor at the positive post of the ignition
Will not turn on under any conditions.	♦ 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.	
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
Partial function of mode doors.	Check for obstructed or binding mode doors. Check for damaged stepper motor or wiring.		vehicle. Be sure all mounting locations line up and don't have to be forced into position.
Battery voltage is at least	Check for at least 12V at	Ensure all system grounds and power connections are	System shuts off blower at
A12V. Battery voltage is less than 12V.	circuit preaker. Check for faulty battery or alternator.	clean and tight. Charge battery.	weak battery can rections or weak battery can cause
	damaged switch or sociated wiring.	→ Repair or replace.	
	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.	

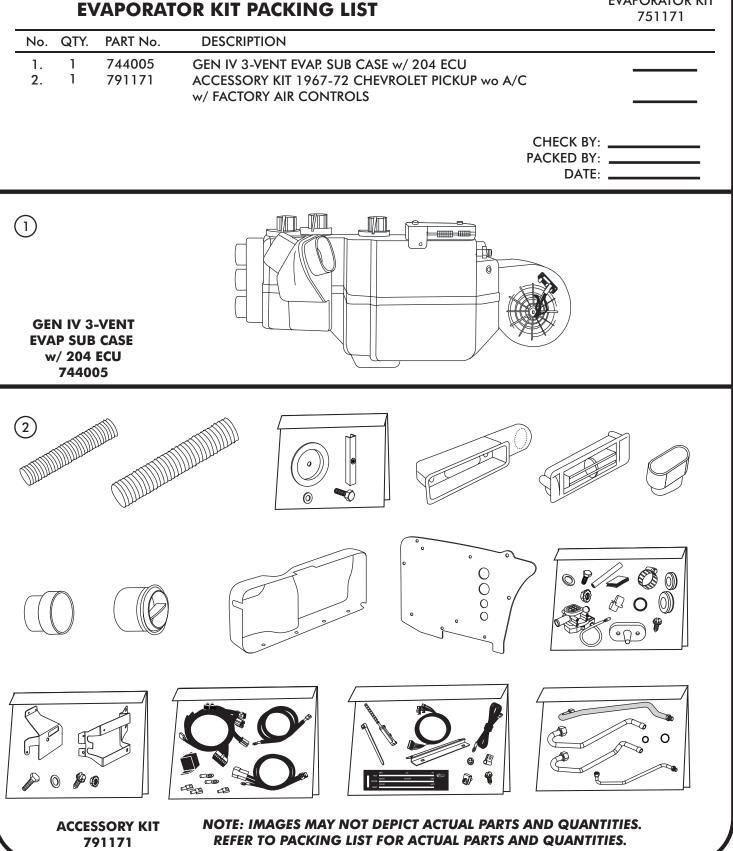








EVAPORATOR KIT 751171



901150 REV C 7/30/14, INST 67-72 CHEV P-UP wo AC w/ FACTORY AIR CONTROLS EVAP KIT PG 24 OF 24