



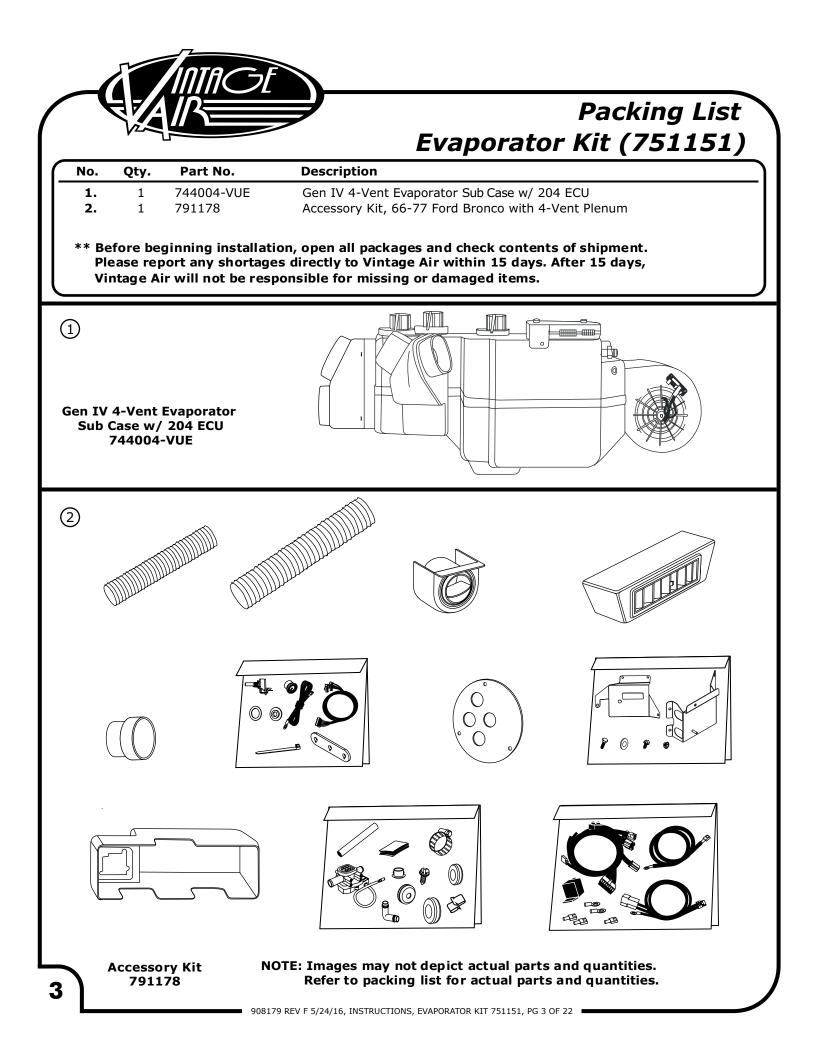
Table of Contents

Cover	1
Table of Contents	2
Packing List/Parts Disclaimer	3
Information Page	
Wiring Notice	5
Engine Compartment Disassembly, Condenser Assembly and Installation, Compressor and Brackets	6
Passenger Compartment	7
Defrost Duct Hose Adapter Installation, Evaporator Bracket and Heater Hose Fitting Installation	8
Evaporator Bracket and Heater Hose Fitting Installation (Cont.)	9
Airbox Modification1	0
Evaporator Installation1	.1
Drain Hose Installation, Lubricating O-rings, A/C Hose Installation1	2
Heater Hose & Heater Control Valve Installation1	.3
Under Dash Louver Installation1	.4
Final Steps 1	5
Control Panel & Duct Hose Routing1	6
Wiring Diagram1	.7
Gen IV Wiring Connection Instruction1	.8
Operation of Controls1	9
Troubleshooting Guide 2	0
Troubleshooting Guide (Cont.)2	1
Packing List 2	2

Additional Info: Please Read Before Beginning

The following parts (not included with this kit) may be required for some installations:

Fan Shroud: Vintage Air Part # 32067-LFFFan Blade: Vintage Air Part # 32917-VUFUpper Radiator Hose: Gates Hose Part # 22628





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.

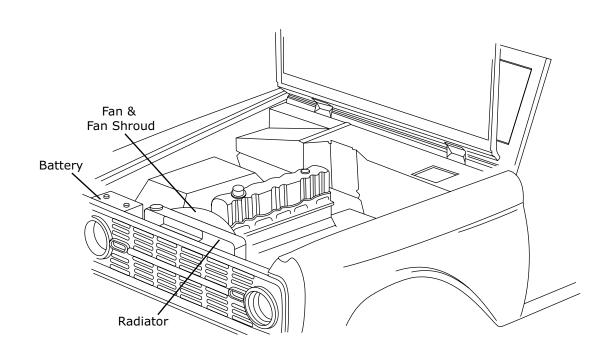


Engine Compartment

NOTE: Before starting the installation, check the function of the vehicle (horn, lights, etc.) for proper operation, and study the instructions, illustrations & diagrams.

Perform the Following:

- 1. Disconnect battery.
- 2. Remove battery and battery tray (retain).
- 3. Remove OEM fan & fan shroud (retain).
- 4. Drain and remove radiator (retain).
- 5. Remove all OEM heater hoses (discard).





Condenser Assembly and Installation

Refer to separate instructions included with the condenser kit to install the condenser.
 Binary switch installation (Refer to condenser instructions).

Compressor and Bracket

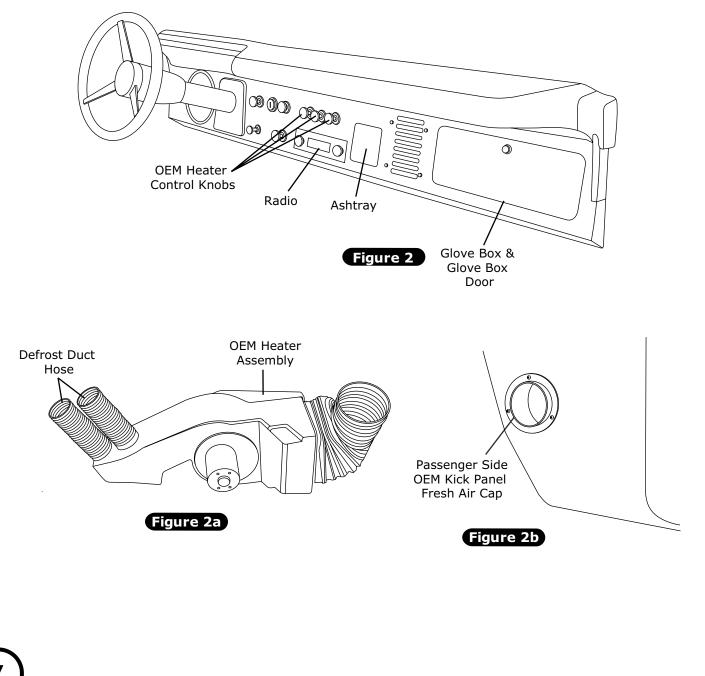
1. Refer to separate instructions included with the bracket kit to install the compressor and bracket.

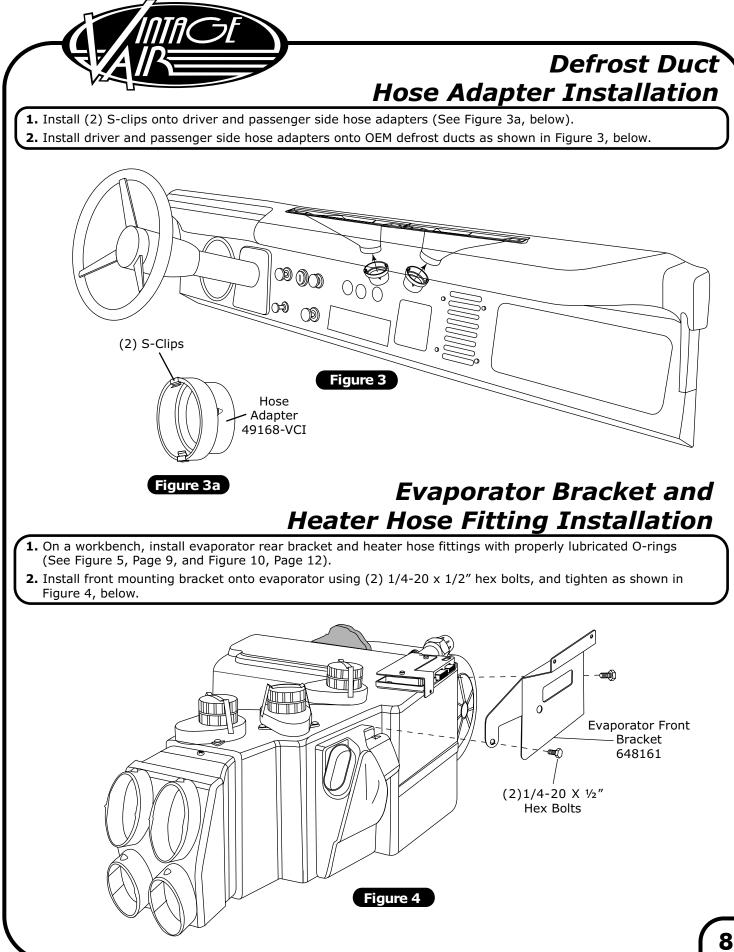


Passenger Compartment

Perform the Following:

- **1.** Remove glove box door (retain) and glove box (discard).
- **2.** Disconnect all wires and cables from OEM heater control knobs.
- 3. Remove OEM heater control knobs.
- 4. Remove OEM heater assembly (discard).
- 5. Remove OEM duct hose from defrost ducts (discard).
- 6. Remove passenger side OEM kick panel fresh air cap (discard).

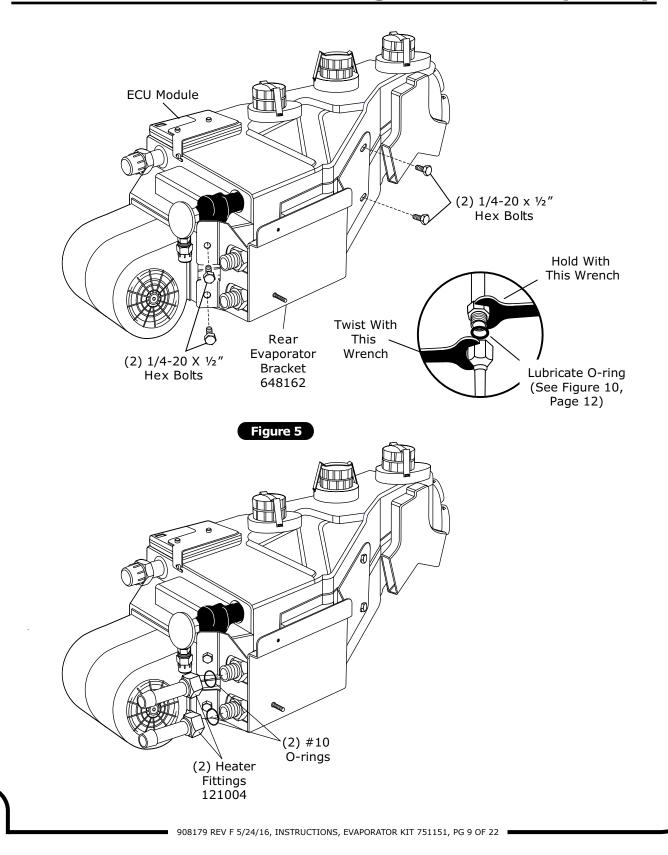


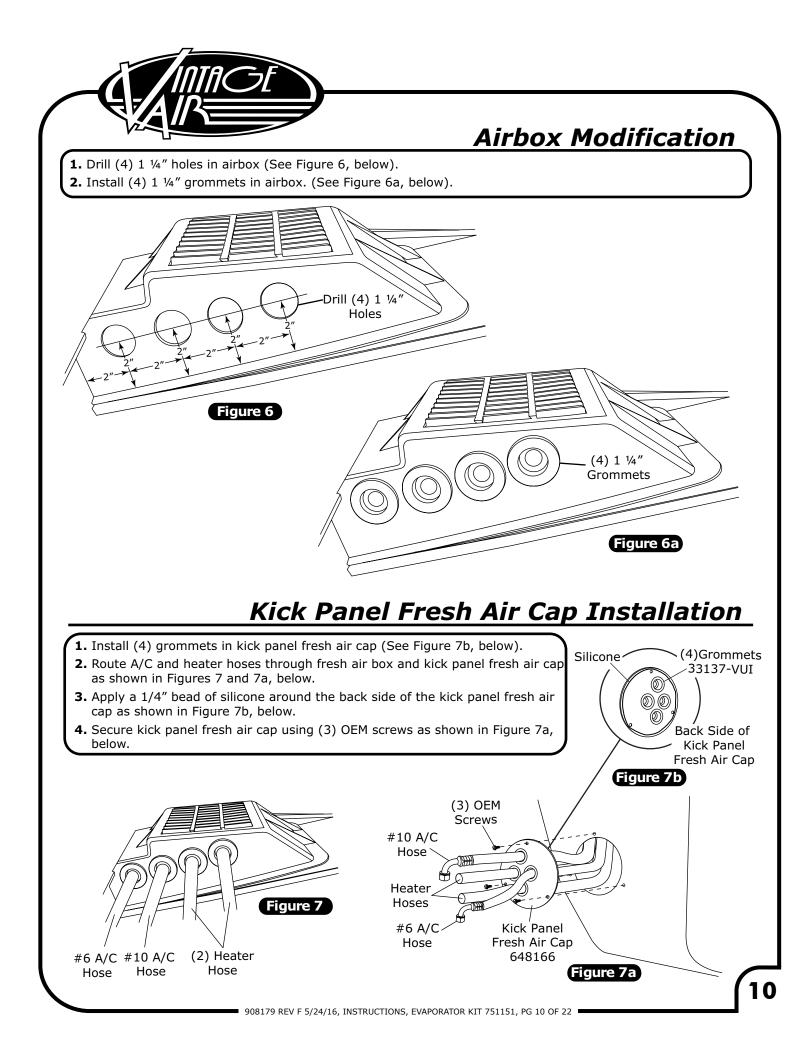




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Evaporator Bracket and Heater Hose Fitting Installation (Cont.)

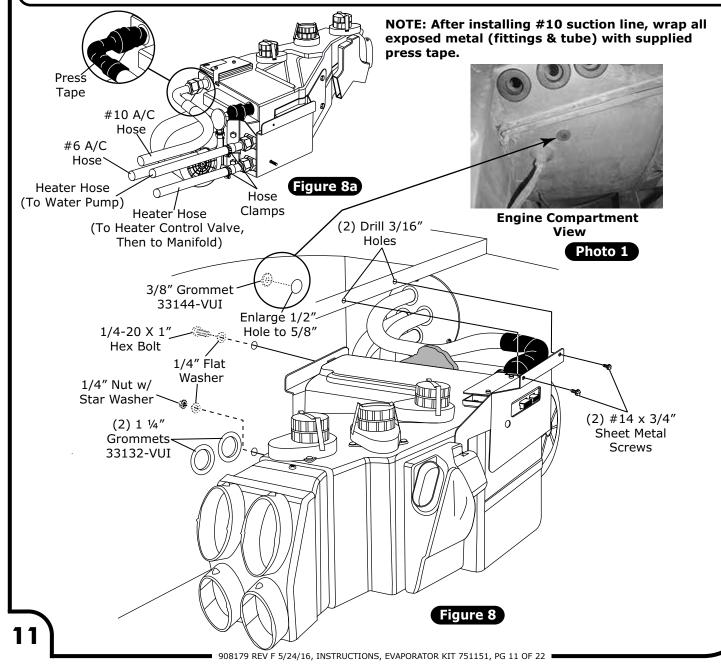


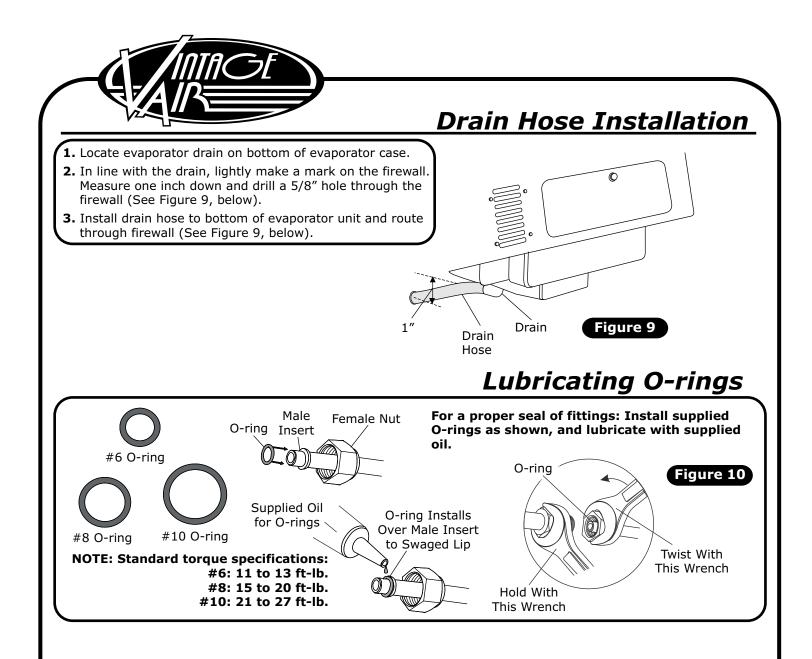




Evaporator Installation

- **1.** Install (2) 1 ¹/₄" grommets in firewall (See Figure 8, below).
- **2.** Enlarge 1/2" hole on firewall to 5/8" and install 3/8" grommet as shown in Figure 8 and Photo 1, below.
- **3.** Install A/C & heater hoses as shown in Figure 8a, below.
- **4.** Lift evaporator unit up under the dashboard. Secure loosely to the firewall using a 1/4-20 x 1" hex bolt, (2) flat washers and a 1/4" nut with star washer (See Figure 9, below). **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.**
- 5. Using front evaporator bracket as a guide, mark and drill (2) 3/16" holes in cowl (See Figure 8, below).
- **6.** Using (2) #14 x 3/4" sheet metal screws, secure the front evaporator mounting bracket to the inner cowl (See Figure 8, below).
- 7. Verify that evaporator unit is level and square to the dash; then tighten all mounting bolts. NOTE: Tighten the bolt on the firewall first. Then tighten the front mounting bracket.





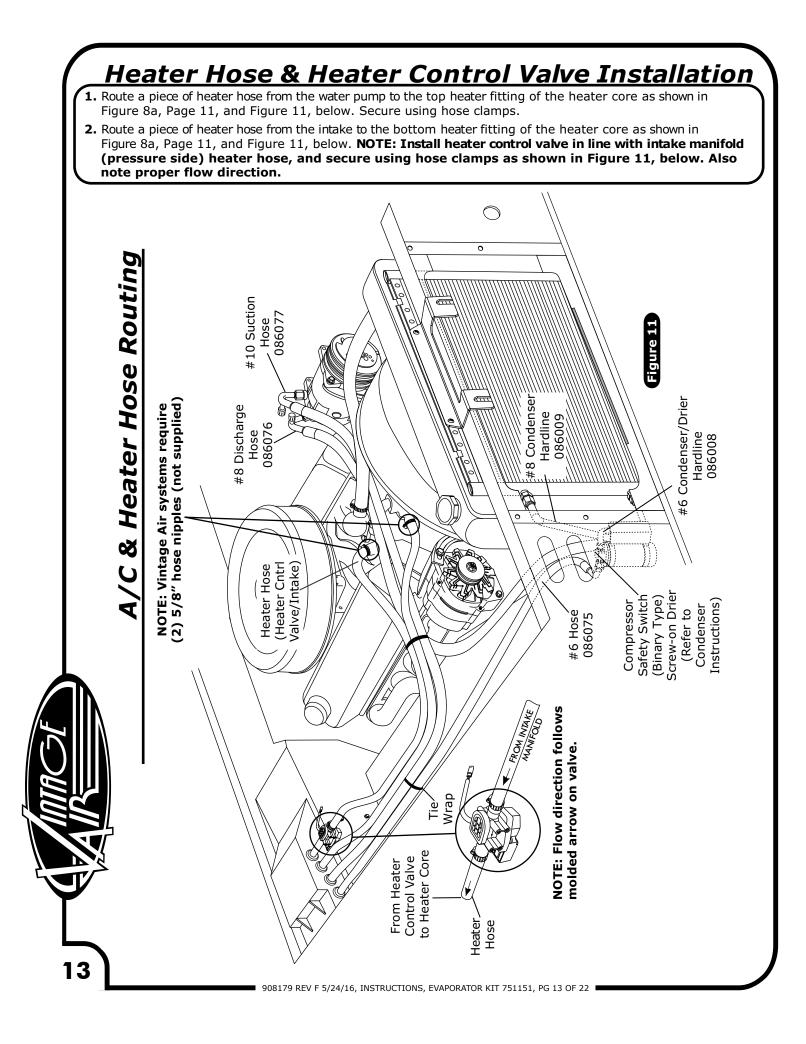
A/C Hose Installation

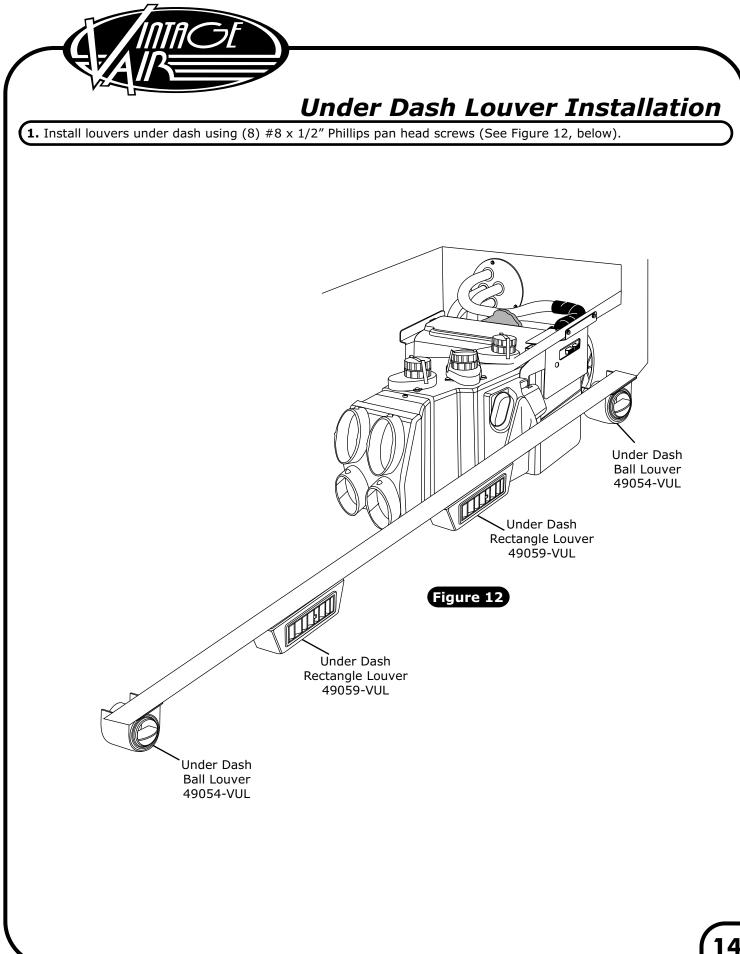
Standard Hose Kit:

- Locate the #8 compressor A/C hose. Lubricate (2) #8 O-rings (See Figure 10, above) and connect the 135° female fitting with 134a service port to the #8 discharge port on the compressor. Route the 90° female fitting to the #8 condenser hardline (See Figure 11, Page 13). Tighten each fitting connection as shown in Figure 10, above.
- 2. Locate the #10 compressor A/C hose. Lubricate (2) #10 O-rings (See Figure 10, above) and connect the #10 135° female fitting with 134a service port to the #10 suction port on the compressor. Route the 90° female fitting to the #10 fitting on evaporator (See Figure 8a, Page 11, and Figure 11, Page 13). Tighten each fitting connection as shown in Figure 10, above.
- 3. Locate the #6 evaporator A/C hose. Lubricate (2) #6 O-rings (See Figure 10, above) and connect the 90° female fitting to the drier. Route the 90° female fitting to the #6 fitting on evaporator (See Figure 8a, Page 11, and Figure 11, Page 13). Tighten each fitting connection as shown in Figure 10, above.

Modified A/C Hose Kit:

1. Refer to separate instructions included with modified hose kit.

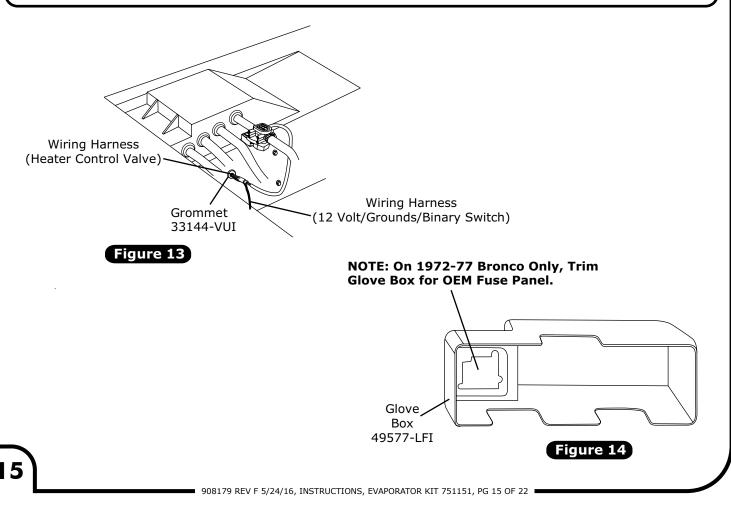






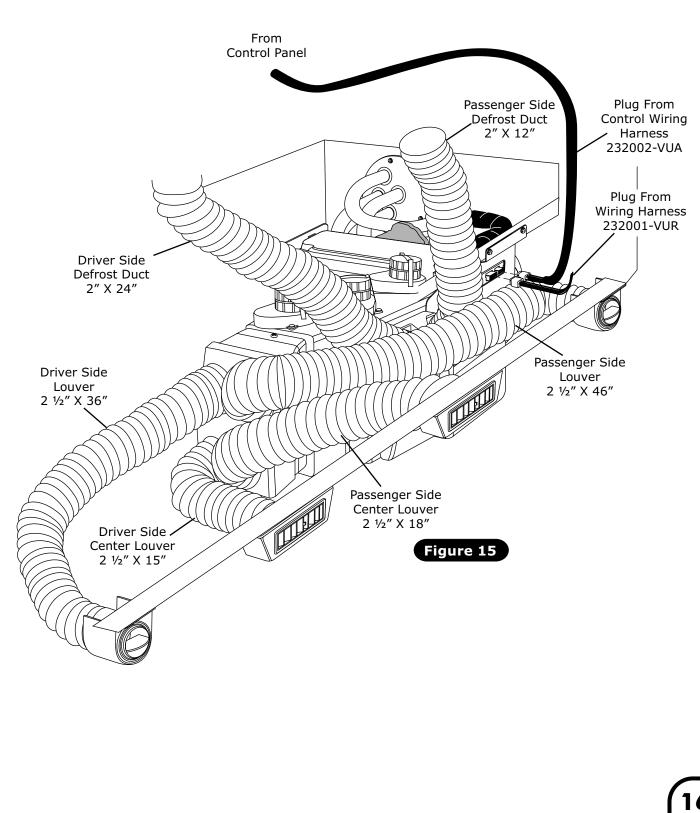
Final Steps

- **1.** Install duct hoses as shown in Figure 15, Page 16.
- Route A/C wires (12 volt/grounds/binary switch/heater valve) through 3/8" grommet as shown in Figure 13, below.
- **3.** Install control panel assembly. Refer to control panel instructions.
- **4.** Plug the wiring harnesses into the ECU module on the sub case as shown in Figure 15, Page 16 (Wire according to wiring diagrams on Pages 17 and 18).
- 5. Trim the driver side of the new glove box insert for the OEM fuse panel (See Figure 14, below). NOTE: Applies to 1972-77 Bronco only.
- 6. Install glove box into opening. NOTE: Carefully squeeze glove box to fit into opening in dash. Then insert glove box and allow it to spring back into shape. Install fuse panel using OEM screws. Secure glove box with OEM screws.
- 7. Install glove box door using OEM screws.
- 8. Reinstall all previously removed items.
- **9.** 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.
- **10.** Double check all fittings, brackets and belts for tightness.
- **11.** Vintage Air recommends that all A/C systems be serviced by a certified automotive air conditioning technician.
- **12**. Evacuate the system for a minimum of 45 minutes prior to charging, and perform a leak check prior to servicing.
- **13**. Charge the system to the capacities stated on Page 4 of this instruction manual.
- 14. See Operation of Controls procedures on Page 19.



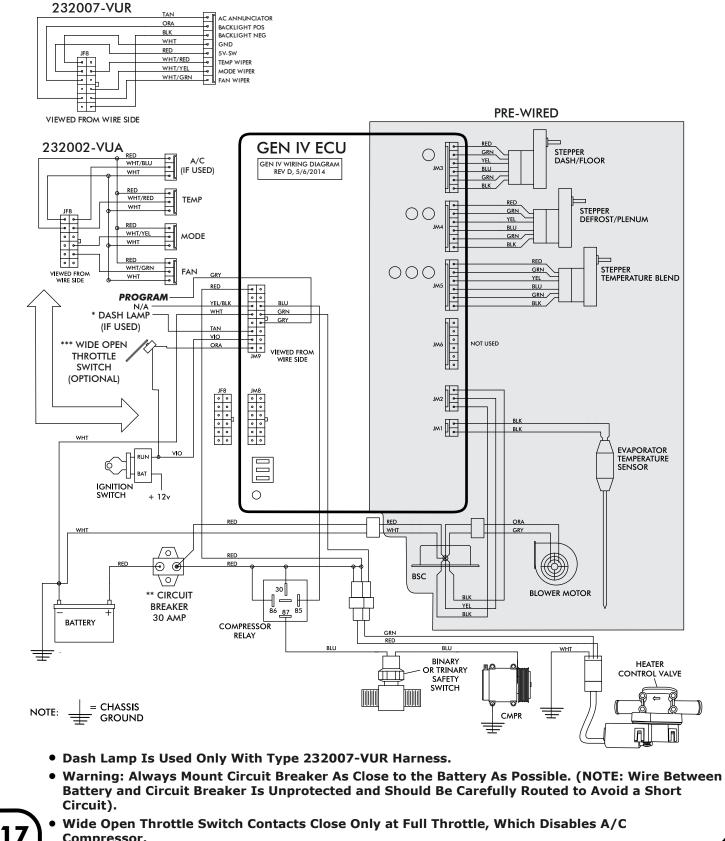


Control Panel and Duct Hose Routing

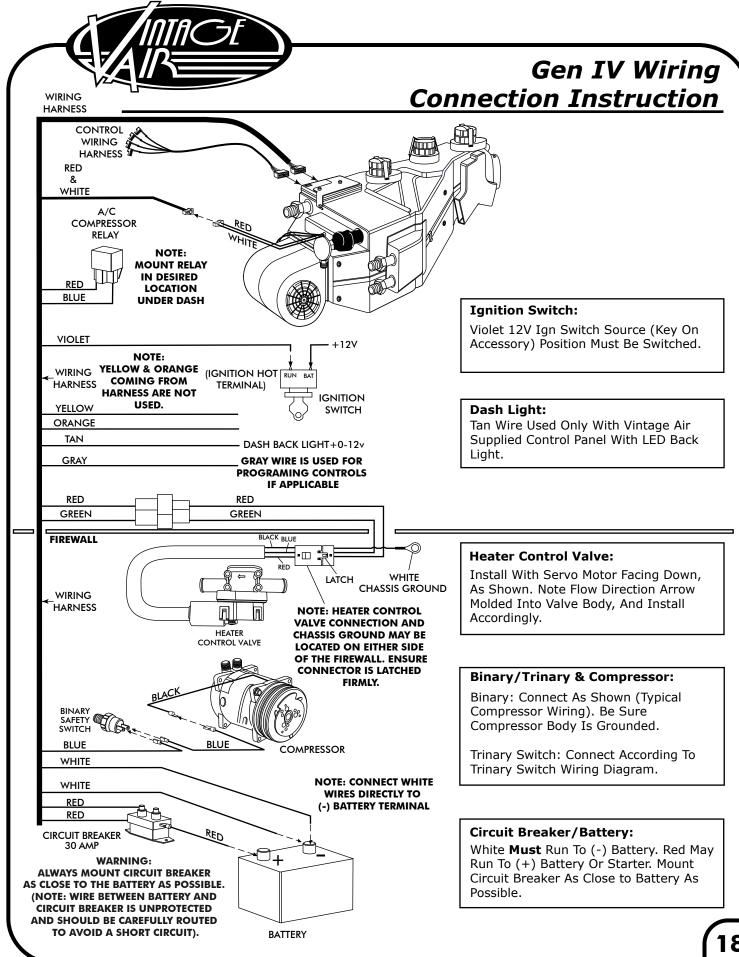




Wiring Diagram



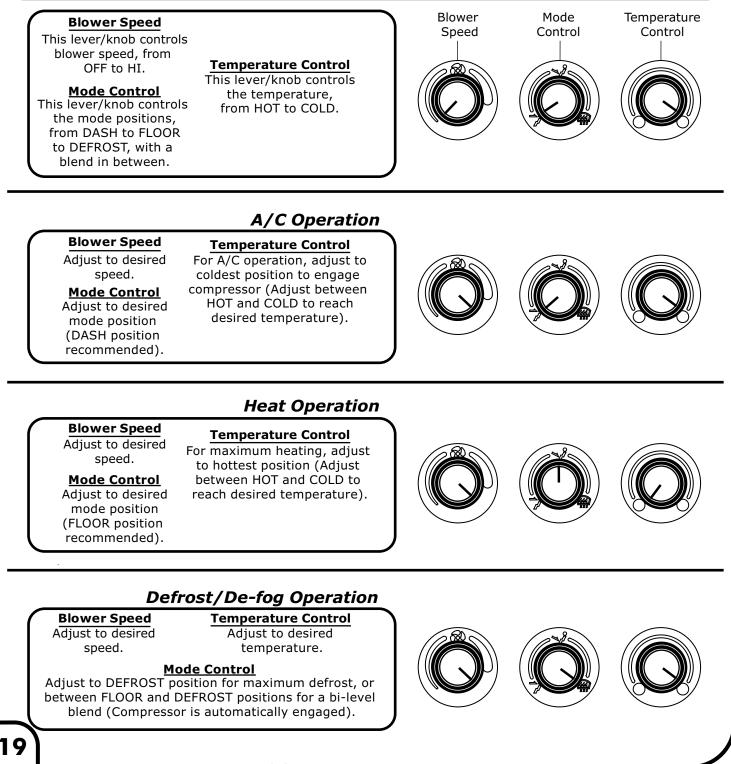
Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C • Compressor.





Operation of Controls

On Gen IV systems with three lever/knob controls, the temperature control toggles between heat and A/C operations. To activate A/C, move the temperature lever/knob all the way to cold and then back it off to the desired vent temperature. For heat operation, move the temperature lever/knob all the way to hot and then adjust to the desired vent temperature. The blower will momentarily change speed, each time you toggle between operations, to indicate the change. **NOTE: For proper control panel function, refer to control panel instructions for calibration procedure.**



			Troublesho	Troubleshooting Guide
Symptom	Condition	Checks	Actions	Notes
la.	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. 	Loccof and an this wire
Blower stays on high speed when		Check for damaged ground wire (white) in control head harness.	Verify continuity to chassis ground with white control head wire at various points.	 Loss or ground on this wire renders control head inoperable.
Ignition is on.	All other functions work.			 See blower switch check procedure.
1b.		Unplug 3-wire BSC control connector from ECU. If blower shuts off FCI1 is either	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU.	
Blower stays on high speed when		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	
ignition is on or off.			"ground" side of the blower is shorted to chassis ground, the blower will run on HI.	
		stays running, BSC is either improperly wired or damaged.	◆ Replace BSC (This will require removal of evaporator from vehicle).	No other part replacements should be necessary.
EVAPORATIC	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
Compressor will				injury can result.
(All other functions work).		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.	To check for proper pot function, check voltage at white/blue wire. Voltage should be between 0V and
Ť	 System is charged. 	Chack for disconnected or		by, and will vary with pot lever position.
		faulty thermistor.	→ Check 2-pin connector at ECU housing.	 Disconnected or faulty thermistor will cause compressor to be disabled.
		Check for faulty A/C		Red wire at A/C pot should
Compressor will		 potentiometer or associated wiring. 	 Repair or replace pot/control wiring. 	with ignition on. White
not turn off (All other functions work).				wre win nave continuity to chassis ground. White/ Blue wire should vary
		Check for faulty A/C relay.	→ Replace relay.	lever is moved up or down.

		N	Troubleshooting Guide (Cont.	llae (Cont.)
Symptom	Condition	Checks	Actions	Notes
4	en engine is not huts off when started early Gen IV, le on all	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
System will not turn on, or runs intermittently.	Will not turn on under	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.	down the ECU. Install a radio capacitor at the positive post of the ignition cosi (See radio capacitor installation buildein) A
	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.	faulty alternator or worn out battery can also result in this condition.
	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
LETIONS, EVAPO	Partial function of mode	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 circuit breaker.	Ensure all system grounds and power connections are clean and tight.	System shuts off blower at 10V. Poor connections or
Blower turns on and off rapidly.	ery voltage is less 12V.	Check for faulty battery or alternator.	← Charge battery.	weak battery can cause hattown at up to 11V.
151 6 Erratic functions of blower, mode, temp, etc.		Check for damaged switch or pot and associated wiring.	▲ 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. 	



Packing List Evaporator Kit (751151)

