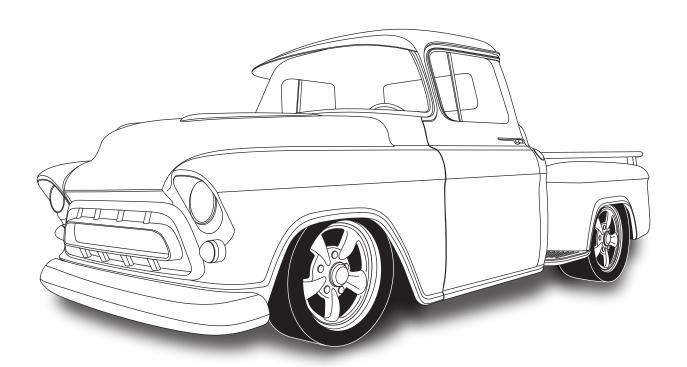


1955-59 Chevrolet Pickup with Deluxe Controls

751156



18865 Goll St. San Antonio, TX 78266 ph: 210-654-7171 fax: 210-654-3113



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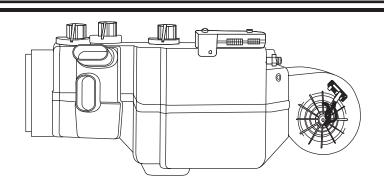
Packing List Evaporator Kit (751156)

No.	Qty.	Part No.	Description
1.	1	744012	Gen IV Evaporator Sub Case wo A/C Plenum w/ 204 ECU
2.	1	791156	Accessory Kit 55-59 Chevy Pickup wo A/C w/ DELX

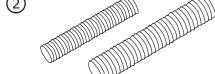
** Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.

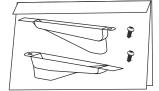


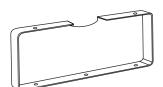
Gen IV Evaporator Sub Case wo A/C Plenum w/ 204 ECU 744012

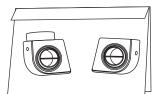


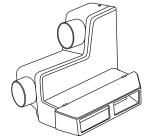




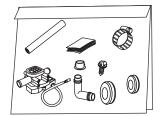


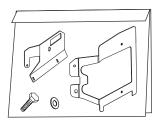






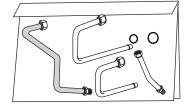














Accessory Kit 791156





NOTE: Images may not depict actual parts and quantities. Refer to packing list for actual parts and quantities.



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.



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.

Remove the Following:

- 1. Disconnect battery.
- 2. Remove battery and battery tray (retain).
- **3.** Remove top cover on radiator core support (retain).
- 4. Remove OEM fan & fan shroud (retain).
- 5. Drain and remove radiator (retain).
- 6. Remove passenger side horn (retain).
- 7. Remove all OEM heater hoses (discard).

Condenser Assembly and Installation

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

Compressor and Brackets

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

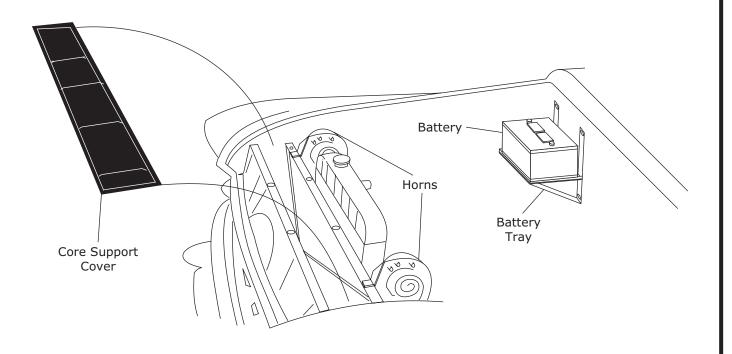


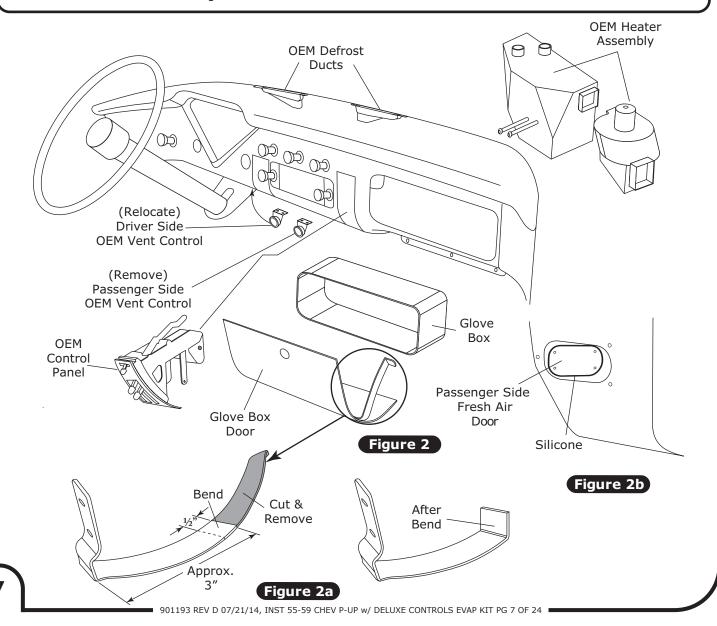
Figure 1



Passenger Compartment

Remove the Following:

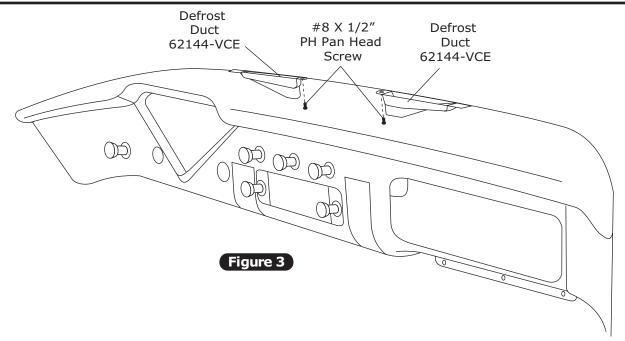
- 1. Remove glove box door (retain) and glove box (discard).
- 2. Disconnect all wires and cables from control panel.
- 3. Remove control panel (discard).
- **4.** Remove passenger side OEM vent control (discard), and close and seal kick panel vent with silicone (See Figure 2b, below).
- 5. Relocate driver side OEM vent control next to steering column using OEM screws.
- 6. Remove OEM heater assembly (discard).
- 7. Remove OEM duct hose from defrost ducts (discard).
- 8. Remove OEM defrost ducts (discard).
- 9. Modify passenger side glove box door arm as shown in Figure 2a, below.
- NOTE: Glove box door travel will be restricted to prevent interference with evaporator case assembly.
- 11. Remove & discard driver side glove box door arm.





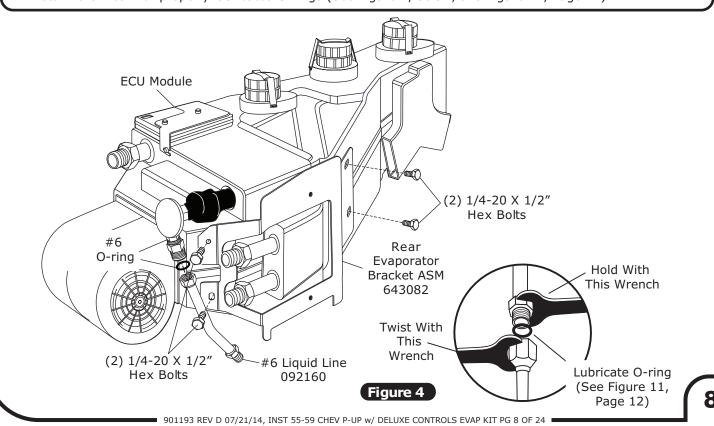
Defrost Duct Installation

1. Install driver and passenger side defrost ducts using (2) $\#8 \times 1/2"$ PH pan head screws as shown in Figure 3, below.



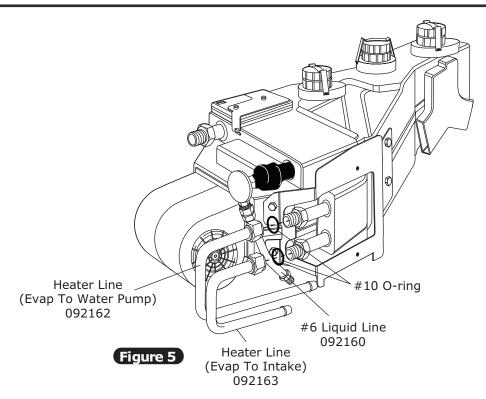
Bracket & Evaporator Hardline Installation

- **1.** On a workbench, install evaporator rear bracket using (4) $1/4-20 \times 1/2''$ hex bolts.
- 2. Install hardlines with properly lubricated O-rings (See Figure 4, below, and Figure 11, Page 12).



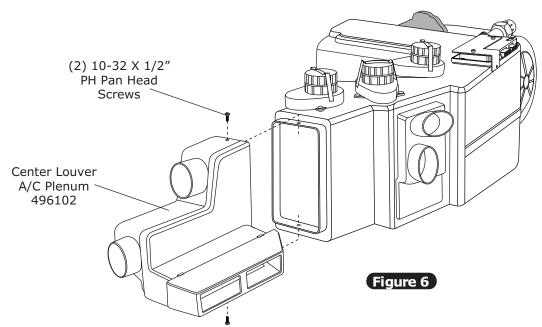


Bracket & Evaporator Hardline Installation (Cont.)



Center Louver A/C Plenum Installation

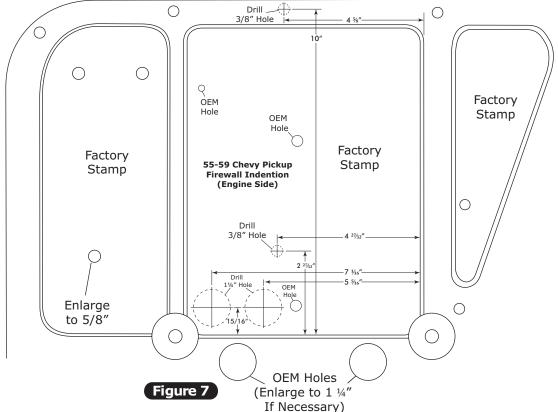
1. Install center louver A/C plenum ASM onto evaporator sub case as shown in Figure 6, below.





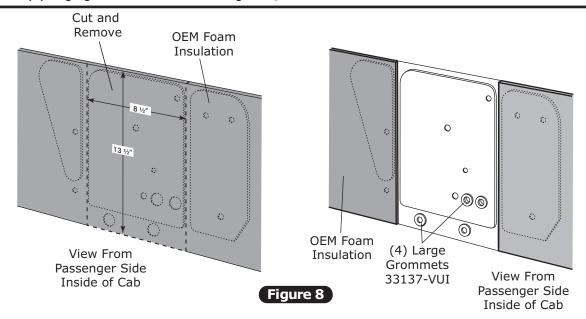
Firewall Modification

- 1. Drill (2) 1 1/4" holes and (2) 3/8" holes in firewall. (See Figure 7, below).
- 2. Enlarge OEM hole in firewall to 5/8" (See Figure 7, below).



Firewall Modification (Cont.)

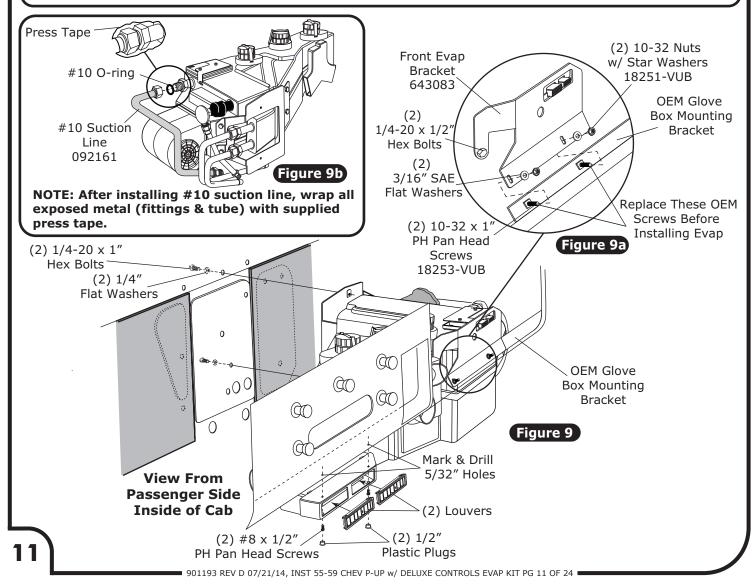
- 1. Cut & remove OEM foam insulation as shown in Figure 8, below.
- 2. Install (4) large grommets as shown in Figure 8, below.





Evaporator Installation

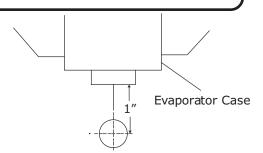
- 1. Lift evaporator unit up under the dashboard. Secure loosely to the firewall using (2) 1/4-20 x 1" hex bolts and (2) flat washers (See Figure 9, below).
- 2. NOTE: To ensure proper drainage, it is very important that the evaporator is level, both left-right and fore-aft. Check for level on the flat portions of the case around the drain.
- **3.** Install evaporator front bracket on evaporator using (2) $1/4-20 \times 1/2''$ hex bolts, and tighten as shown in Figure 9, below.
- **4.** Remove & replace OEM screws in glove box mounting brackets. Replace with (2) 10-32 x 1" PH pan head screws.
- **5.** Secure the front evaporator mounting bracket to the OEM glove box mounting bracket using (2) 3/16" SAE flat washers and (2) 10-32 nuts with star washers. (See Figure 9a, below).
- **6.** Using center louver A/C plenum assembly as a guide, mark and drill (2) 5/32" holes in dash bottom (See Figure 9, below).
- **7.** Secure evaporator plenum ASM to dash using (2) #8 \times 1/2" PH pan head screws, and install (2) 1/2" plastic plugs in holes as shown in Figure 9, below.
- **8.** Install louvers in evaporator plenum ASM as shown in Figure 9, below.
- **9.** 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.**
- 10. Install #10 suction line as shown in Figure 9b, below. NOTE: Wrap the #10 fitting connections.

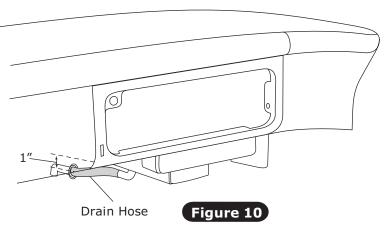




Drain Hose Installation

- **1.** Locate evaporator drain on bottom of evaporator case.
- 2. In line with drain, lightly make a mark on the firewall. Measure 1" down and drill a 5/8" hole through the firewall.
- **3.** Install drain hose to bottom of evaporator unit and route through firewall. Install 1/2" 90° drain elbow on drain hose.

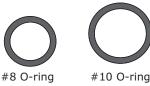


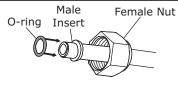


Lubricating O-rings

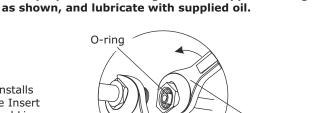
For a proper seal of fittings: Install supplied O-rings

#6 O-ring









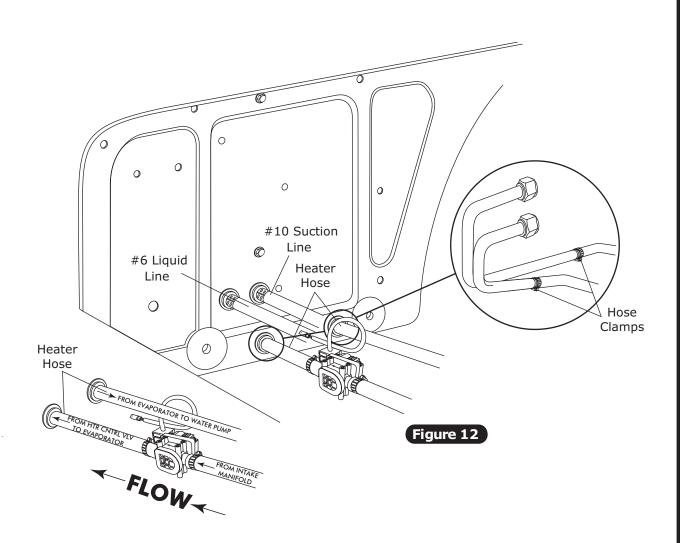
Twist With This Wrench

Hold With This Wrench



Heater Hose and Heater Control Valve Installation

- 1. Route 90° heater hose through the firewall and connect to heater line on evaporator as shown in Figure 12, below. Route the other end of the hose to the water pump, and secure using hose clamps. Note: A small amount of silicone spray will ease heater hose installation.
- 2. Route 90° heater hose through the firewall and connect to heater line on evaporator, and then route the other end of the hose to the intake. Note: Install heater control valve in line with intake manifold (pressure side) heater hose, and secure using hose clamps as shown. Also note proper flow direction.





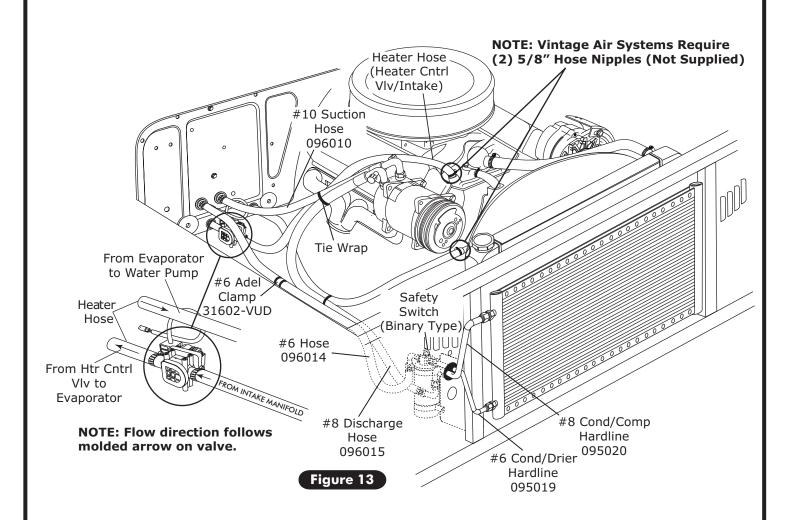
1955-57 Chevy Pickup A/C & Heater Hose Routing

Standard Hose Kit:

- 1. Locate the #8 compressor A/C hose. Lubricate (2) #8 O-rings (See Figure 11, Page 12) and connect the 135° female fitting with R134a service port to the #8 discharge port on the compressor. Route the 90° female fitting to the #8 condenser hardline coming through the core support (See Figure 13, below). Tighten each fitting connection as shown in Figure 11, Page 12.
- 2. Locate the #10 compressor A/C hose. Lubricate (2) #10 O-rings (See Figure 11, Page 12) and connect the 135° female fitting with R134a service port to the #10 suction port on the compressor. Route the 90° female fitting to the #10 evaporator (See Figure 12, Page 13, and Figure 13, below). Tighten each fitting connection as shown in Figure 11, Page 12.
- **3.** Locate the #6 evaporator/drier hose. Lubricate (2) #6 O-rings (See Figure 11, Page 12) and connect the 90° female fitting to the drier. Route the 90° female fitting to the #6 evaporator hardline (See Figure 12, Page 13, and Figure 13, below). Tighten each fitting connection as shown in Figure 11, Page 12.

Modified A/C Hose Kit:

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





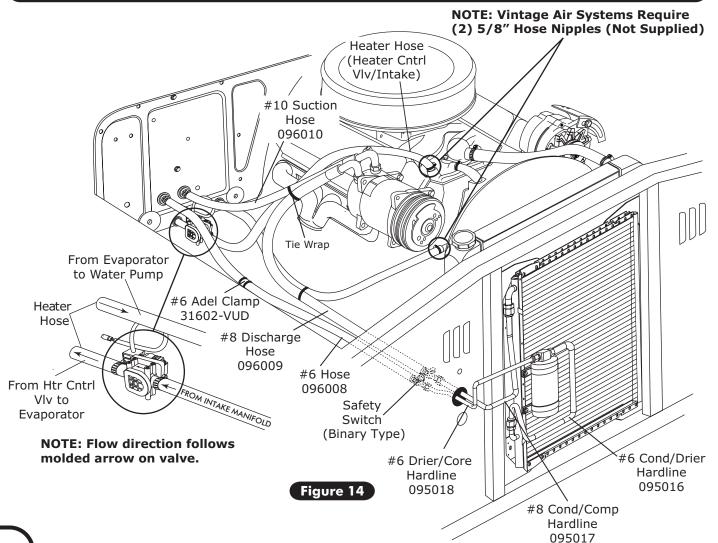
1958-59 Chevy Pickup A/C & Heater Hose Routing

Standard Hose Kit:

- 1. Locate the #8 compressor A/C hose. Lubricate (2) #8 O-rings (See Figure 11, Page 12) and connect the 135° female fitting to the #8 discharge port on the compressor. Route the straight female fitting with R134a service port to the #8 condenser hardline coming through the core support (See Figure 14, below). Tighten each fitting connection as shown in Figure 11, Page 12.
- 2. Locate the #10 compressor A/C hose. Lubricate (2) #10 O-rings (See Figure 11, Page 12) and connect the 135° female fitting with R134a service port to the #10 suction port on the compressor. Route the 90° female fitting to the #10 evaporator (See Figure 12, Page 13, and Figure 14, below). Tighten each fitting connection as shown in Figure 11, Page 12.
- **3.** Locate the #6 evaporator/drier hose. Lubricate (2) #6 O-rings (See Figure 11, Page 12) and connect the straight female fitting with binary switch service port to the #6 drier hardline coming through the core support. Route the 90° female fitting to the #6 evaporator hardline (See Figure 12, Page 13, and Figure 14, below). Tighten each fitting connection as shown in Figure 11, Page 12.

Modified A/C Hose Kit:

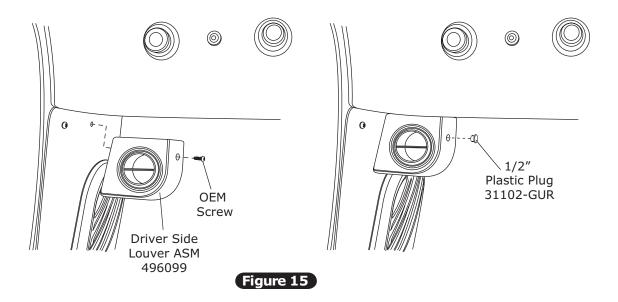
1. Refer to separate instructions included with modified hose kit.





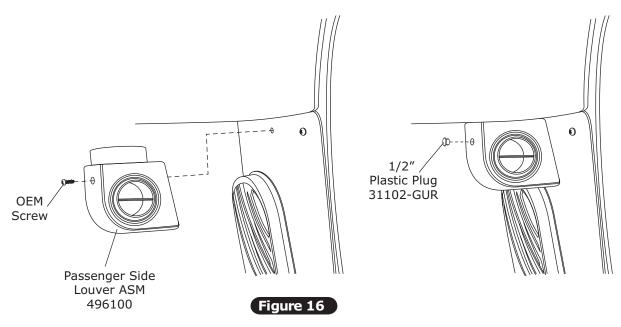
Driver Side Under Dash Louver Installation

- 1. Install driver side louver assembly under dash and secure using OEM screw as shown in Figure 15, below.
- 2. Install 1/2" plastic plug in driver side louver assembly as shown in Figure 15, below.



Passenger Side Under Dash Louver Installation

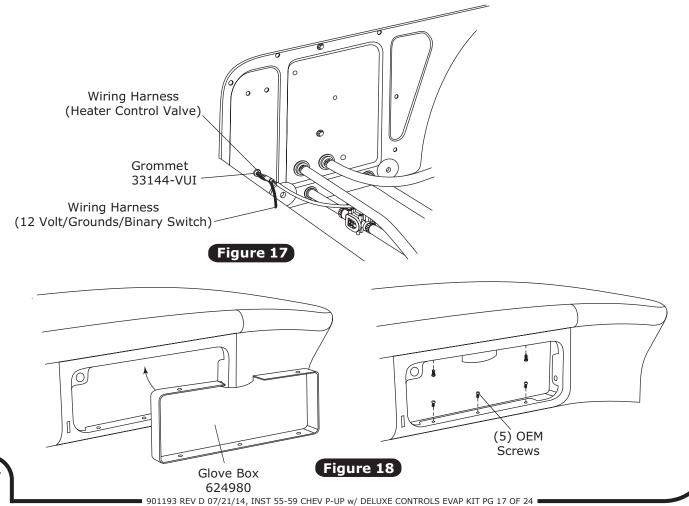
- 1. Install passenger side louver assembly under dash and secure using OEM screw as shown in Figure 16, below.
- 2. Install 1/2" plastic plug in passenger side louver assembly as shown in Figure 16, below.





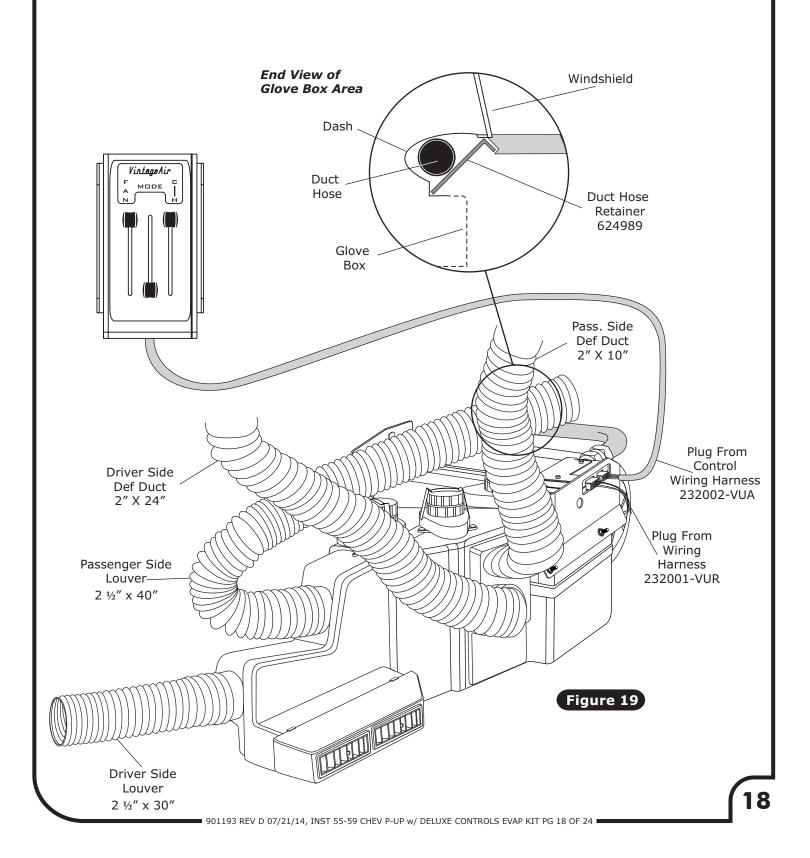
Final Steps

- 1. Install duct hoses as shown in Figure 19, Page 18.
- 2. Route A/C wires (12 volt/grounds/binary switch/heater valve) through 3/8" grommet as shown in Figure 17, below.
- 3. Install control panel ASM.
- **4.** Plug the wiring harnesses into the ECU module on the sub case as shown in Figure 19, Page 18 (Wire according to wiring diagram on Page 19 and 20).
- **5.** Install new glove box using (5) OEM screws (See Figure 18, below).
- 6. Install glove box door. NOTE: Glove box door opening and capacity will be very limited with Gen IV system.
- 7. Reinstall all previously removed items.
- **8.** 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.
- **9.** Double check all fittings, brackets and belts for tightness.
- 10. Vintage Air recommends that all A/C systems be serviced by a certified automotive air conditioning technician.
- 11. Evacuate the system for a minimum of 45 minutes prior to charging, and perform a leak check prior to servicing.
- **12.** Charge the system to the capacities stated on Page 4 of this instruction manual.
- 13. See Operation of Controls procedures on Page 21.



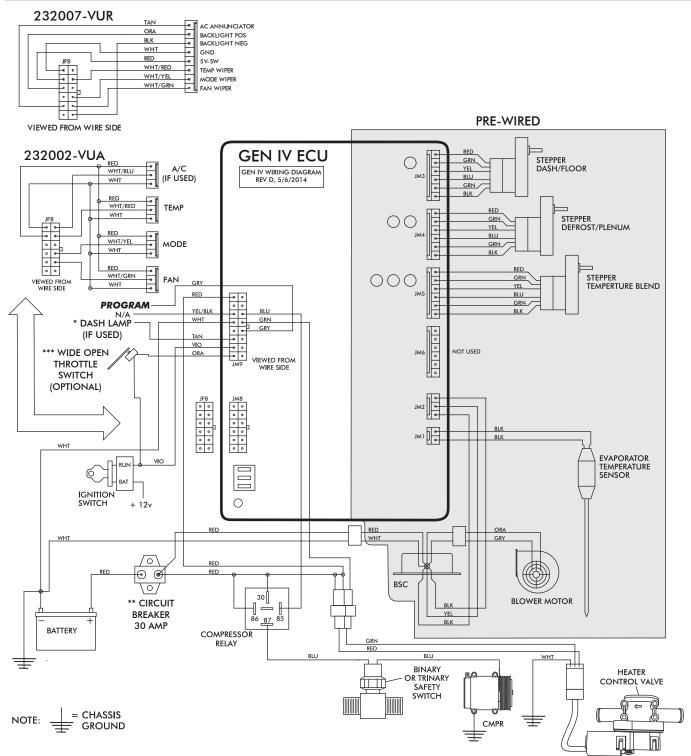


Control Panel and Duct Hose Routing





Wiring Diagram



- 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.



30 AMP

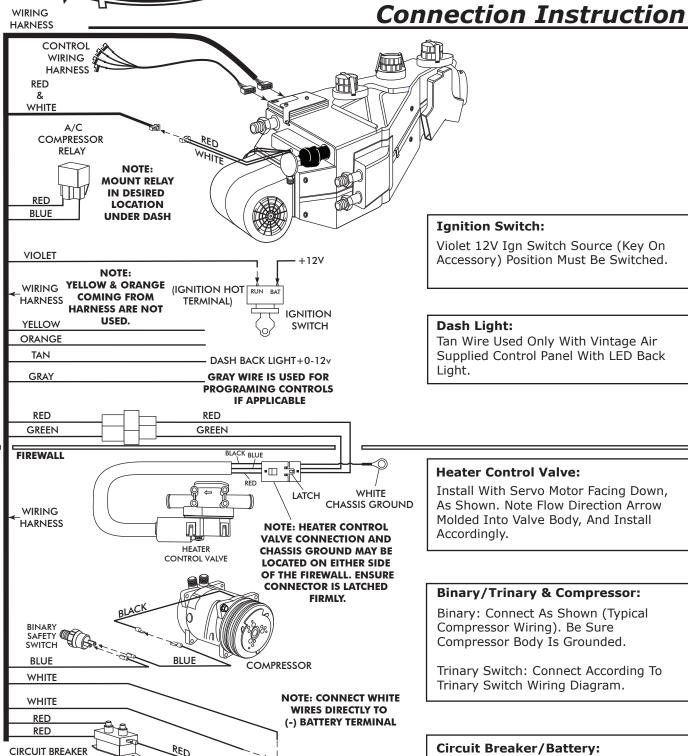
WARNING:

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).

Gen IV Wiring



Circuit Breaker/Battery:

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

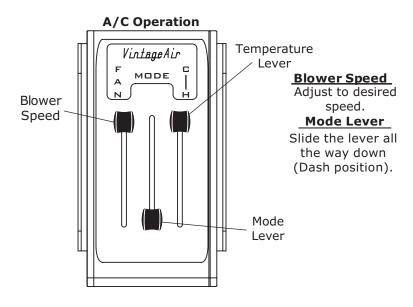
BATTERY



Operation of Controls

On Gen IV systems with three lever/knob controls, the temperature control toggles between economy and A/C operations. 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 operation, 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 operations, to indicate the change.

NOTE: For proper control panel function, refer to control panel instructions for calibration procedure.



Temperature Lever

For A/C operation, slide the temperature lever all the way up to engage compressor (Slide lever up or down to adjust to desired temperature).

Blower Speed Adjust to desired speed.

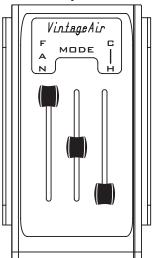
Mode Lever

Slide the lever to the middle (Floor position).

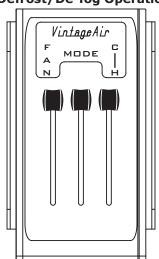
Temperature Lever

Slide the temperature lever all the way down to the HOT position (Slide lever up or down to desired temperature).

Heat Operation



Defrost/De-fog Operation



Blower Speed

Adjust to desired speed.

Mode Lever

Slide the lever all the way up to the defrost position.

Temperature Lever

Adjust lever to desired temperature (Compressor is automatically engaged).

No other part replacements have approximately 5V with ignition on. White wire will have continuity to Troubleshooting Guide Loss of ground on this wire Red wire at A/C pot should engine running. Serious should be between 0V and function, check voltage at 5V, and will vary with pot See blower switch check procedure. Danger: Never bypass white/blue wire. Voltage To check for proper pot chassis ground. White/ Disconnected or faulty → renders control head thermistor will cause Blue wire should vary should be necessary. safety switch with injury can result. compressor to be Notes lever position. inoperable disabled Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU. Verify that all pins are inserted into plug. Ensure that no 'ground" side of the blower is shorted to chassis ground, shorted to vehicle ground. The BSC operates the blower by ground side pulse width modulation switching. The Check continuity to ground on white control head wire. Check for 5V on red control head wire. Verify continuity to chassis ground with white control → Replace BSC (This will require removal of evaporator positive wire to the blower will always be hot. If the Check to ensure that no BSC wiring is damaged or → Charge system or bypass pressure switch. → Check 2-pin connector at ECU housing. → Repair or replace pot/control wiring. pins are bent or damaged in ECU. Actions head wire at various points. the blower will run on HI. from vehicle). wiring (Not applicable to 3-pot connector from ECU. If blower connector from ECU. If blower improperly wired or damaged. improperly wired or damaged. System must be charged for compressor to engage. Check for damaged blower switch or potentiometer and potentiometer or associated potentiometer or associated wire (white) in control head stays running, BSC is either Check for damaged pins or Check for damaged ground Unplug 3-wire BSC control Unplug 3-wire BSC control Check for disconnected or faulty thermistor. wires in control head plug. shuts off, ECU is either Check for faulty A/C Check for faulty A/C Checks associated wiring. controls). harness. wiring. All other functions work. No other functions work. System is not charged. System is charged. Condition (All other functions ignition is on or off. (All other functions Blower stays on high speed when high speed when Blower stays on Compressor will Compressor will Symptom ignition is on. not turn off not turn on work) 1b. 901193 REV D 07/21/14, INST 55-59 CHEV P-UP w/ DELUXE CONTROLS EVAP KIT PG 22 OF 24

work)

lever is moved up or down.

→ Replace relay.

Check for faulty A/C relay.

between 0V and 5V when



Troubleshooting Guide (Cont.)

Symptom 4.	Condition Works when engine is not			
	works when engine is not running; shuts off when engine is started (Typically early Gen IV, but possible on all	Noise interference from either ignition or alternator.	wiring away from ECU and ECU wiring. Check for burned or loose plug wires.	
System will not turn on, or runs intermittently.	versions).	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.	greater than 16V will shut down the ECU. Install a radio capacitor at the positive post of the ignition coil (See radio capacitor
21/14, INST 5	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.	installation bulletin). A faulty alternator or worn out battery can also result in this condition.
5. Loss of mode door function.	No mode change at all.	Check for damaged mode → switch or potentiometer and associated wiring. Check for obstructed or		Typically caused by evaporator housing installed in a bind in the vehicle. Be sure all
ID (() () ()	Partial function of mode doors.	binding mode doors. Check for damaged stepper motor or wiring.		mounting locations line up and don't have to be forced into position.
6. Blower turns on and off rapidly.	Battery voltage is at least 12V. Battery voltage is less than 12V.	Check for at least 12V at circuit breaker. Check for faulty battery or alternator.	Finsure all system grounds and power connections are clean and tight. Charge battery.	System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
Fratic 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.	

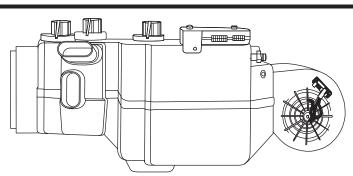


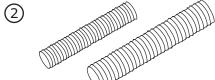
Packing List Evaporator Kit (751156)

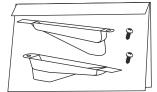
No.	Qty.	Part No.	Description
1.	1	744012	Gen IV Evaporator Sub Case wo A/C Plenum w/ 204 ECU
2.	1	791156	Accessory Kit 55-59 Chevy Pickup wo A/C w/ DELX
			Checked By:
			Packed By:
			Date:

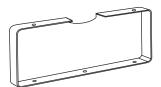
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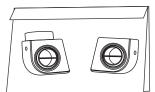
Gen IV Evaporator Sub Case wo A/C Plenum w/ 204 ECU 744012

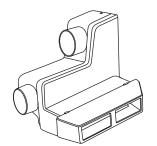






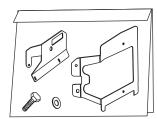


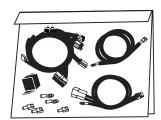




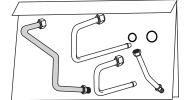














Accessory Kit 791156



NOTE: Images may not depict actual parts and quantities. Refer to packing list for actual parts and quantities.