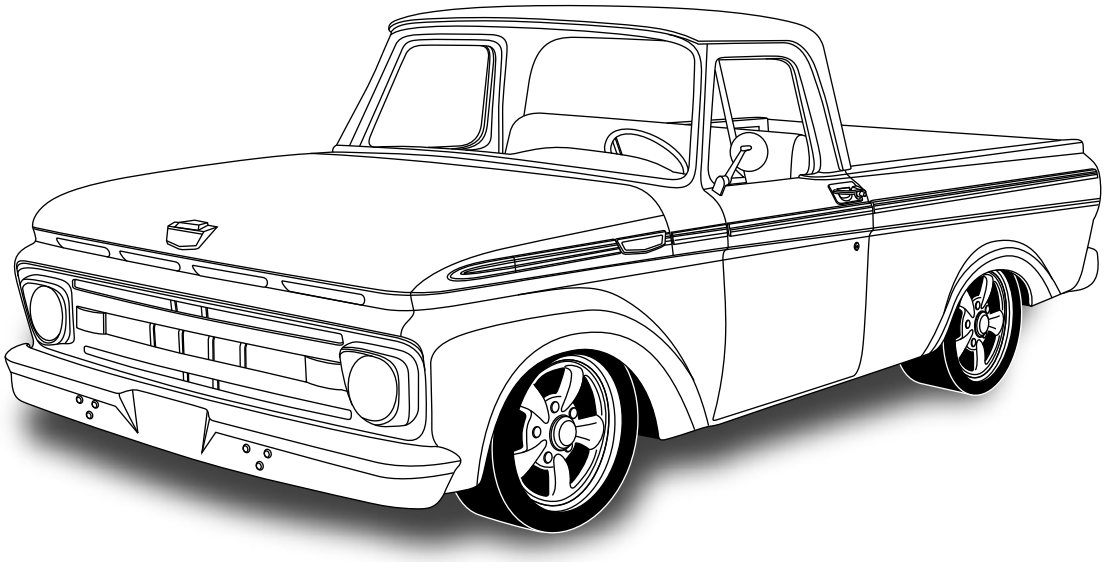
an ISO 9001:2015 Registered Company

1961-64 Ford F-100

Evaporator Kit
(754150)



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A detailed tech video outlining the installation process is available on Vintage Air's YouTube channel at http://bit.ly/2kyHG5C.

Viewing the tech video along with the written instructions will provide the installer the most detailed installation procedure.

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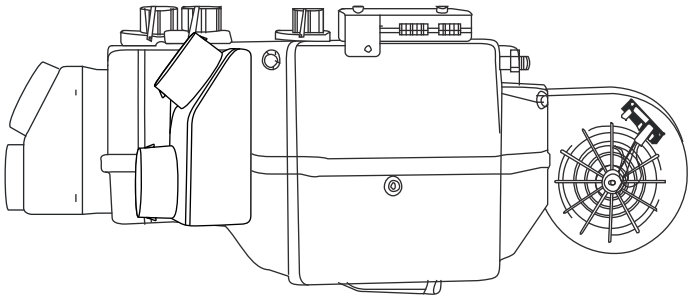
Packing List: Evaporator Kit (754150)

No.	Qty.	Part No.	Description
1.	1	744015	Gen IV 4-Vent Evaporator Sub Case
2.	1	791150	Accessory Kit

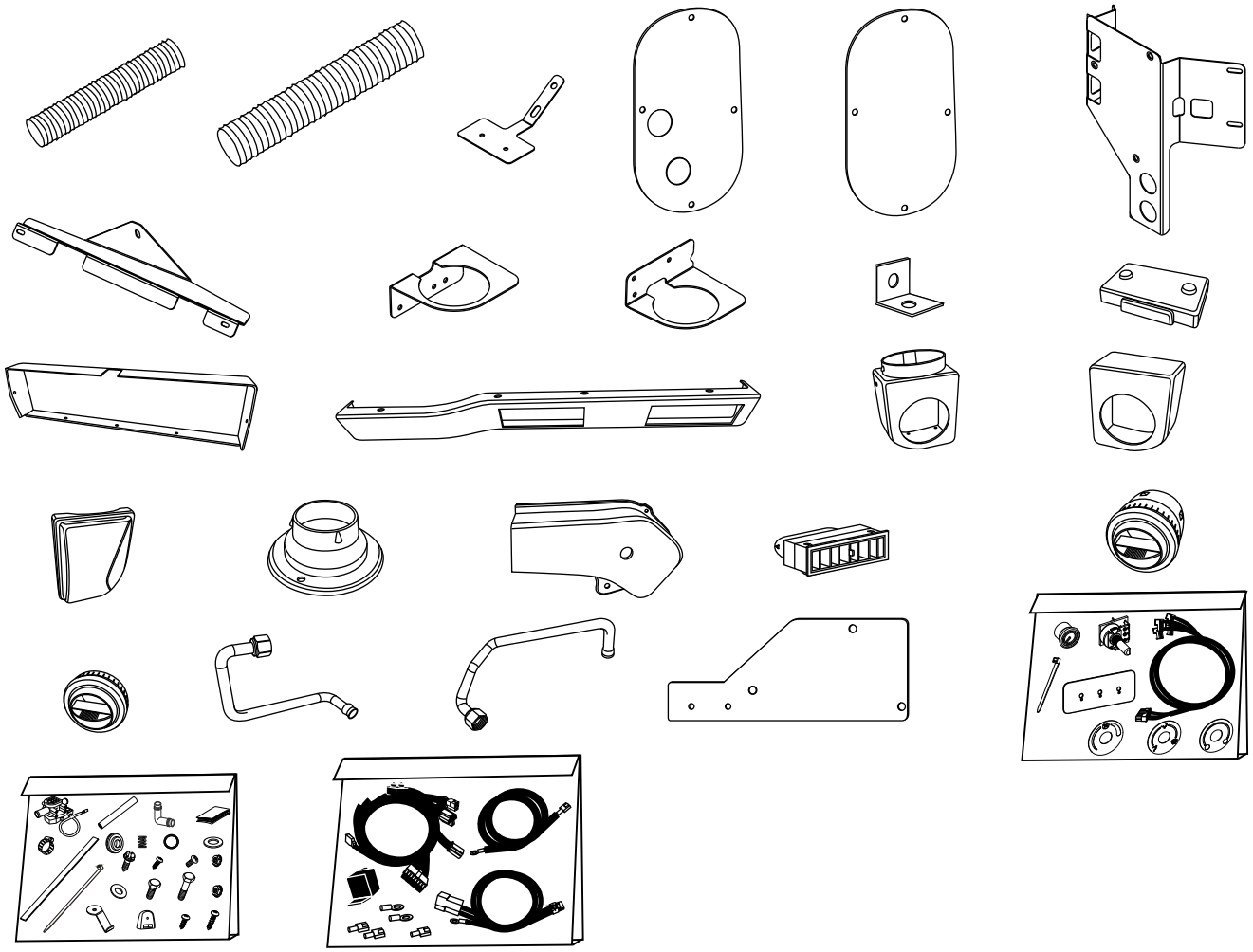
**** Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.**

1



Gen IV 4-Vent Evaporator Sub Case 744015

2



Accessory Kit 791150

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

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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. (28.8 oz.) or 816 grams 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 and 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 and 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 or 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.

Control Panel Information—Please Read

The Vintage Air SureFit™ system for your 1961-64 Ford F-100 includes provisions for a control panel consisting of (3) individual rotary potentiometers with black plastic knobs and their respective labels (See Photo A, below). As an **optional upgrade,** black aluminum fluted knobs (Part # 497005) are available for additional purchase (See Photo B, below). These may be installed at the time of system installation or anytime thereafter.

Photo A

Photo B

Vintage Air also offers an **optional upgrade control panel kit** for the 1961-64 Ford F-100 that features our stylish Streamline control panel (See Photo C, below). Available in both Polished and Black Anodized, it may be installed at the time of system installation or retrofitted anytime thereafter with a simple modification to the center louver bezel. **NOTE: Additional purchase of Vintage Air Kit # 491644 or 491645 is required. See bit.ly/vapanelupgrade for installation instructions.**

Photo C

Engine Compartment Disassembly

NOTE: Before starting the installation, check the function of the vehicle (horn, lights, etc.) for proper operation, and study the instructions, illustrations, & diagrams. Retain OEM bolts, washers and nuts, as some hardware will be reused.

Perform the Following:

1. Disconnect and remove the battery.
2. Place a jack stand under the axle bar on the passenger side of the vehicle (See Photo 1, below), and remove the passenger side front tire.
3. Drain the radiator.
4. Remove the battery tray by removing (5) bolts (See Photo 2, below).
5. Remove the (2) heater hoses from where they attach to the heater assembly at the firewall (discard) (See Photo 3, below).

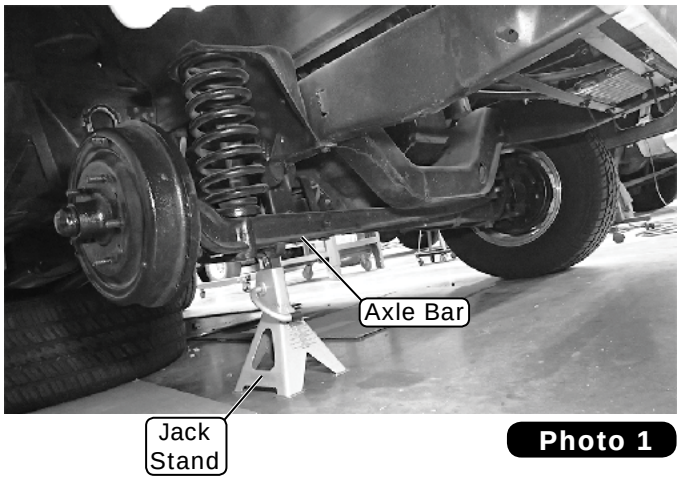
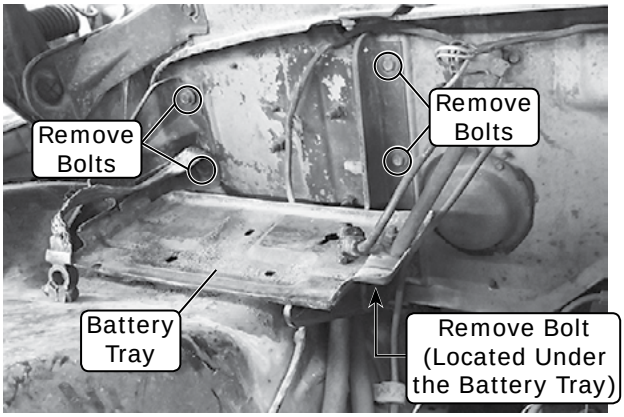


Photo 1



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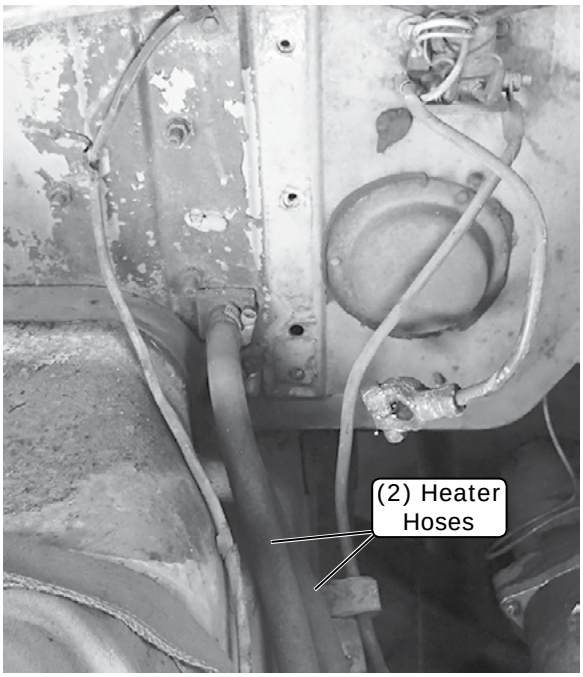

Photo 3

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 bracket.

Pulleys

1. In most instances, the belt lengths will remain the same.

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Passenger Compartment Disassembly

Perform the Following:

1. Remove the glove box by removing (7) screws (discard) (See Photo 1, below).
2. Remove the (2) defrost vents by removing (2) screws on each vent (retain) (See Photos 2 and 3, below).
3. Detach the defrost hoses from the heater assembly and remove them (discard) (See Photos 3 and 4, below).
4. Disconnect all wires from behind the heater fan control (See Photos 5 and 6, below).
5. Remove the cable attached to the heater assembly by removing (1) screw (See Photo 4, below).

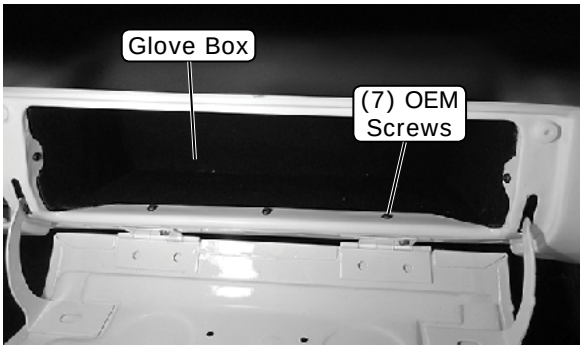
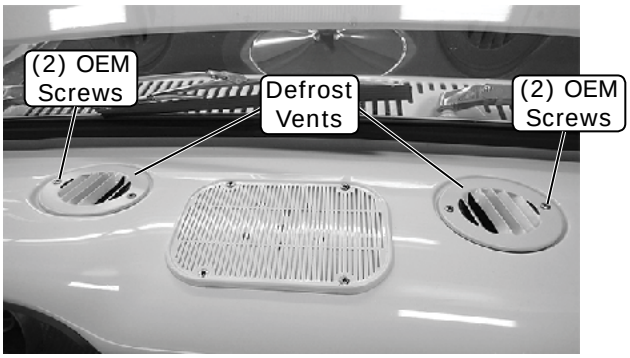


Photo 1



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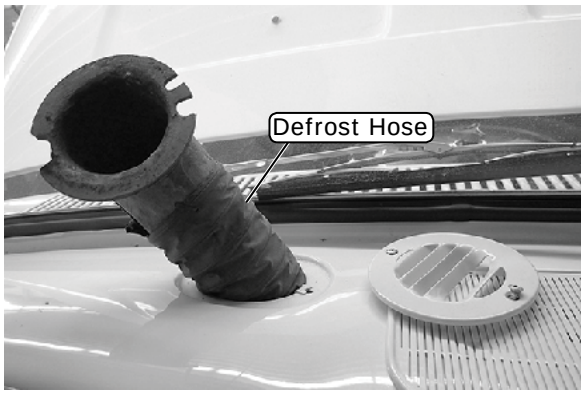


Photo 3

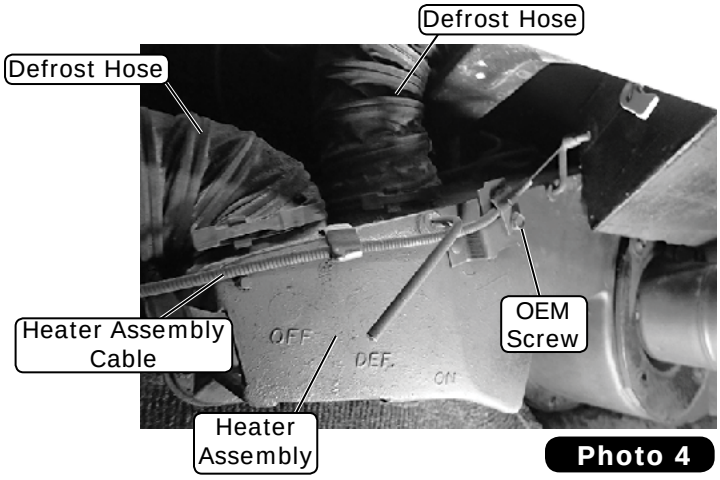


Photo 4

Photo 5

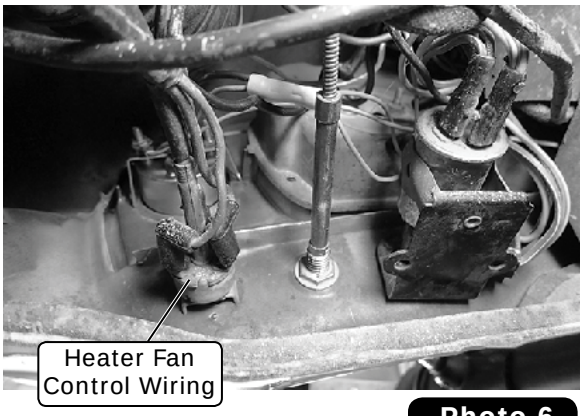


Photo 6

Passenger Compartment Disassembly (Cont.)

6. Remove the heater assembly by removing (3) nuts from the engine side of the firewall (discard) (See Photos 7 and 8, below).
7. Remove the driver and passenger side kick panel fresh air vents by removing (4) screws on each vent (See Photo 9, below). **NOTE: The driver side kick panel will be covered, which is an optional step. Vintage Air recommends blocking any air leaks inside the cabin, as this can lead to poor performance of the A/C system.**
8. Disconnect the cable attached to the kick panel fresh air vents by removing (1) screw on each vent (See Photo 9, below).
9. **Optional-** Locate the driver side kick panel cover, and apply a 1/2" bead of silicone around the mating surface. Install the cover onto the driver side kick panel using (4) OEM screws (See Photo 10, below).
10. Remove the dash support brace located under the ashtray by removing (2) screws (discard) (See Photos 11 and 12, below).

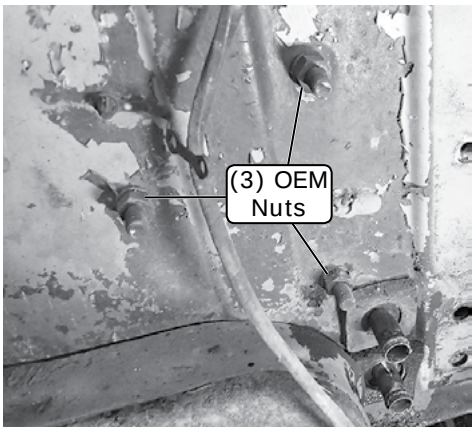


Photo 7

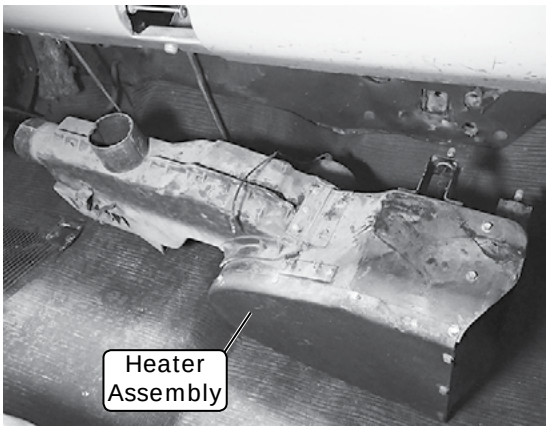


Photo 8

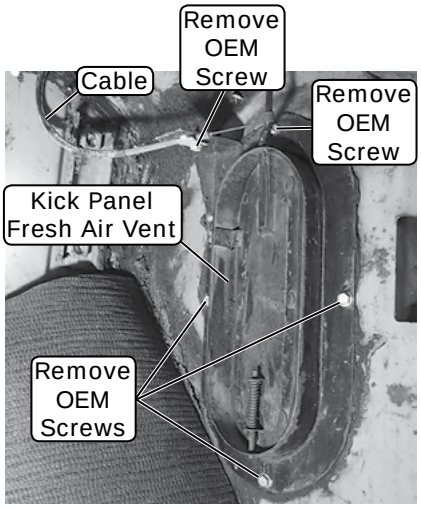
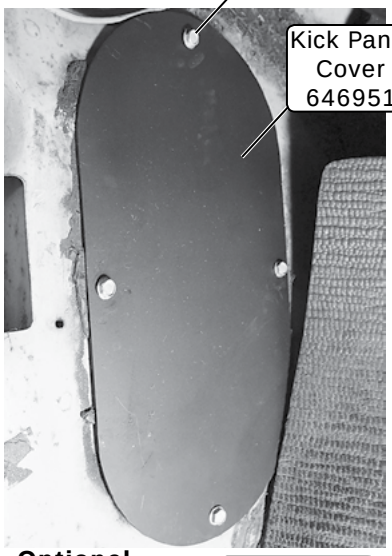


Photo 9



Optional

Photo 10

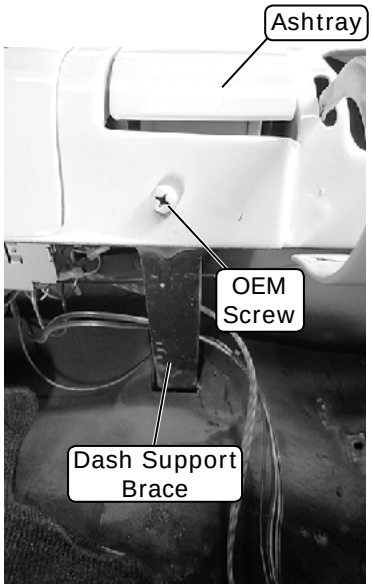


Photo 11

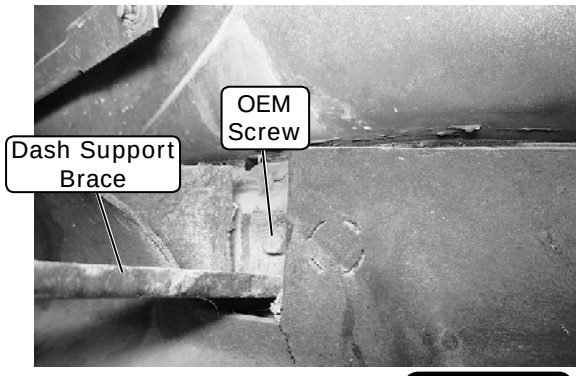


Photo 12

Defrost Duct Installation

1. Install (2) new defrost ducts into the dash using the OEM screws (See Photo 1, below).

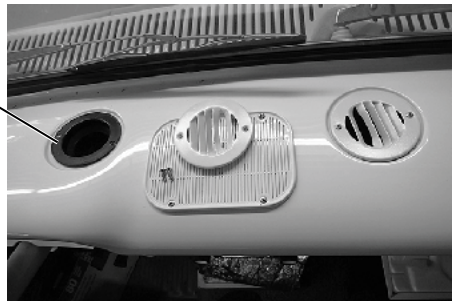


Photo 1

Glove Box Door Latch Installation

NOTE: Due to tight clearance behind the glove box opening, it is necessary to remove the OEM glove box door springs. As the glove box door springs held the glove box door in the closed position, it is also necessary to install the new glove box door latch provided with this kit.

1. Remove the (2) glove box door springs located on each side of the glove box door (discard) (See Photo 1, below). **NOTE: There is (1) spring on each side.**
2. Remove the glove box door knob (retain) by removing (1) screw (discard) (See Photo 2, below).
3. Install the OEM knob onto the glove box door along with the glove box door latch bracket, spring and cover, and secure using a #10 x 1″ screw as shown in Photo 3 and Figure 1, below.

   NOTES:

   A. To open the glove box door with the latch installed, push up on the glove box knob.

   B. To better secure the glove box door latch and prevent movement, Vintage Air recommends coating the #10 x 1" screw with silicone prior to installation. Do not overtighten the screw, or the door will not latch.

   C. Proper fitment of the glove box door latch varies between year models. As a result, the latch may need to be adjusted by bending it forward or backward, allowing the door to close and latch securely (See Figure 1, below).

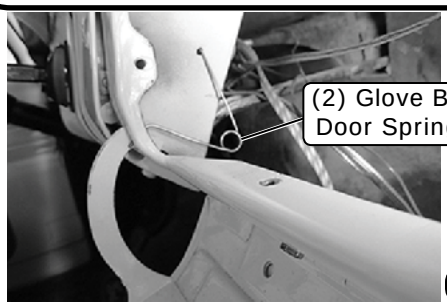
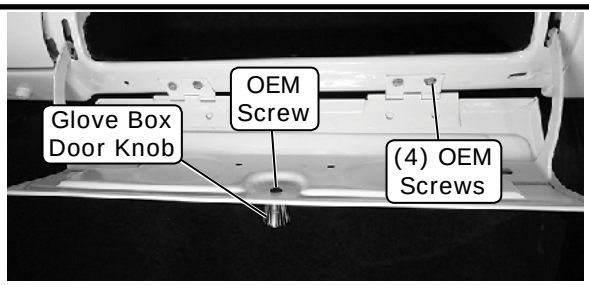


Photo 1



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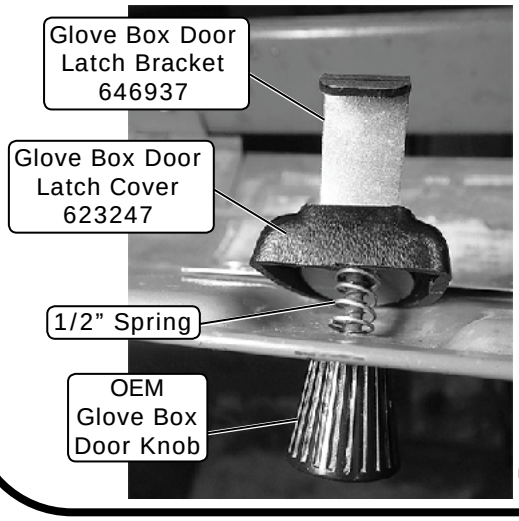

Photo 3

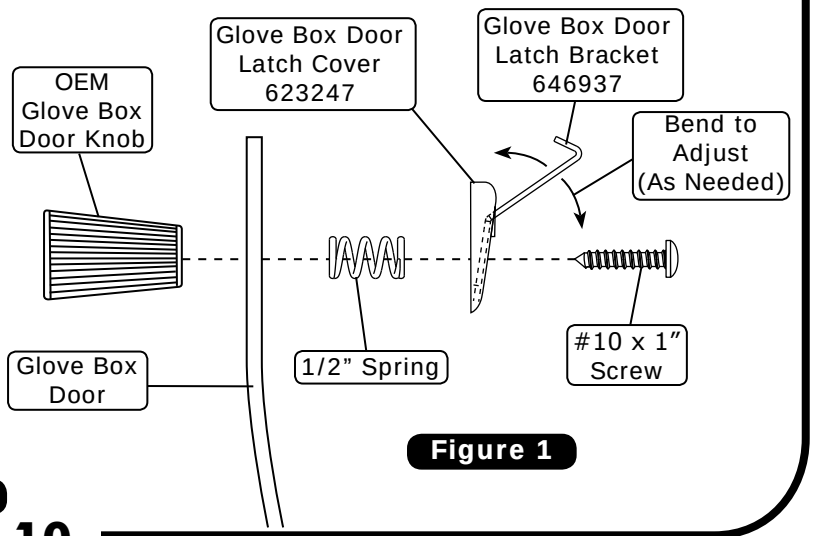

Figure 1

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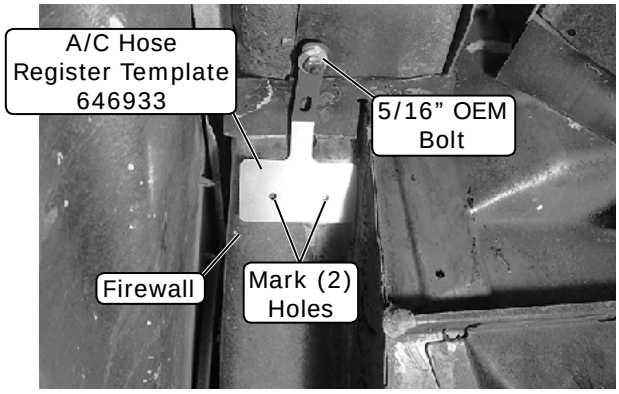
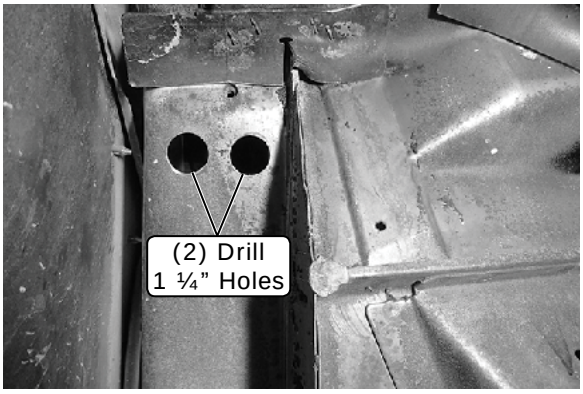
Firewall and Passenger Side Fender Modification

1. Place the A/C hose register template under the passenger side fender on the firewall (See Photo 1, below). Secure the template using the 5/16" OEM bolt. **NOTE: The template must sit flat on the firewall.** Mark the center of the (2) holes on the template.
2. Remove the template and drill (2) 1 ¼" holes through the firewall (See Photo 2, below). Deburr the holes.
3. Install (2) grommets into the holes (See Photo 3, below).
4. Locate the 3/4" OEM hole on the fender (See Photo 4, below). Measure 4 ½" from the center of the 3/4" OEM hole toward the core support (See Photo 4, below). Drill and deburr a 7/8" hole.
5. On the engine compartment side of the firewall, locate the upper (2) holes used to secure the OEM heater assembly, and enlarge them to 3/8" (See Photo 5, below).



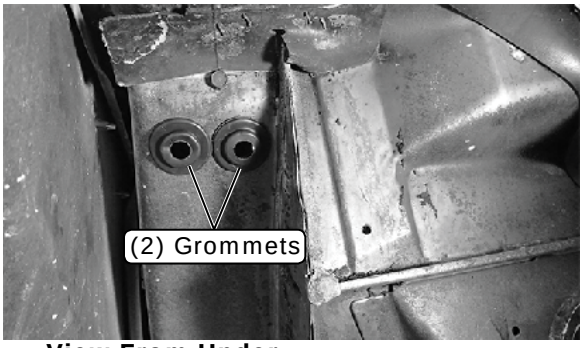
View From Under Passenger Side Fender

Photo 1



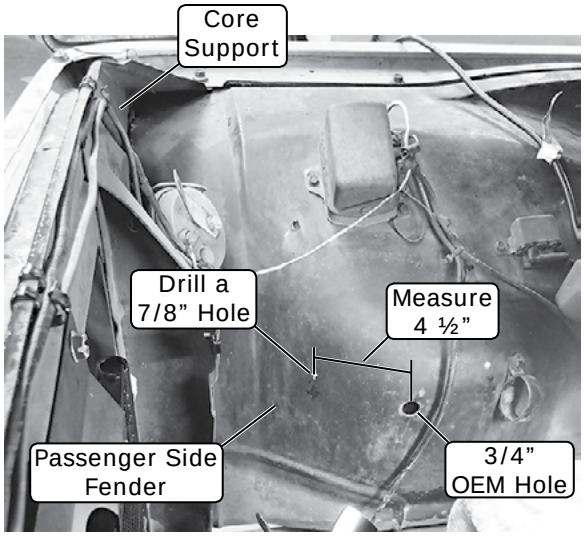
View From Under Passenger Side Fender

Photo 2



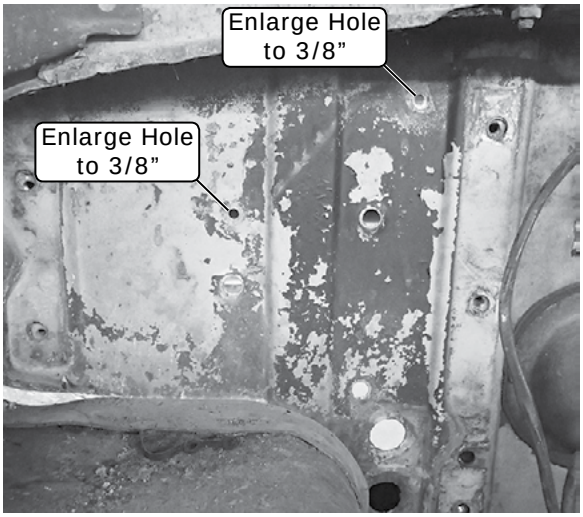
View From Under Passenger Side Fender

Photo 3



View From Engine Compartment

Photo 4



View From Engine Compartment

Photo 5

Firewall Insulation

NOTE: For proper operation of the evaporator unit, Vintage Air recommends using heat-blocking insulation in the area around the sub case (firewall, inner cowl and kick panel). Due to tight clearance for the evaporator unit between the firewall and dash, Vintage Air recommends an insulation thickness of no more than 1/4".

1. Remove the OEM insulation and clean the surface where the new insulation will be installed (See Photo 1, below).
2. Install the insulation pieces using spray adhesive, and cover the seams using duct tape (See Photo 2, below). **NOTE: Mark the area where the evaporator bracket is going to be installed. Do not install insulation in this area. During evaporator installation, if the evaporator assembly doesn't fit properly, look for places where insulation may be interfering with evaporator clearance, and trim as needed.**

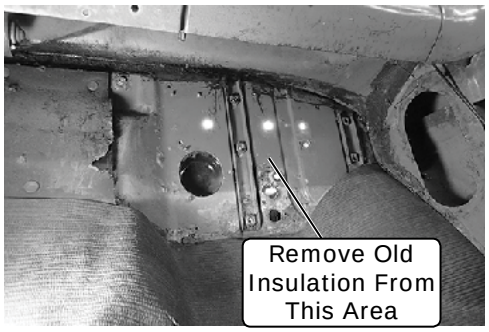


Photo 1

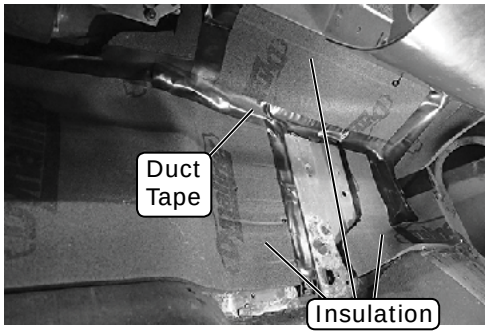


Photo 2

A/C Hose and Kick Panel Cap Installation

Standard Hose Kit:

1. Locate the #6 A/C hose. From under the fender, insert one of the straight fittings through the right side grommet (See Photo 1, below).
2. Locate the #10 bulkhead/evaporator A/C hose. Insert the 45° fitting through the left side grommet (See Photo 1, below).
3. From the passenger compartment, loop the #6 and #10 A/C hoses inside the kick panel and make a 360° turn. Then pull the fittings through the kick panel opening (See Photo 2, below). **NOTE: This is done to prevent kinking of the A/C hoses.**

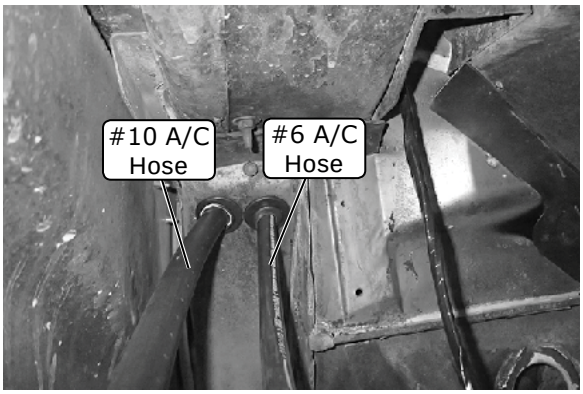


Photo 1

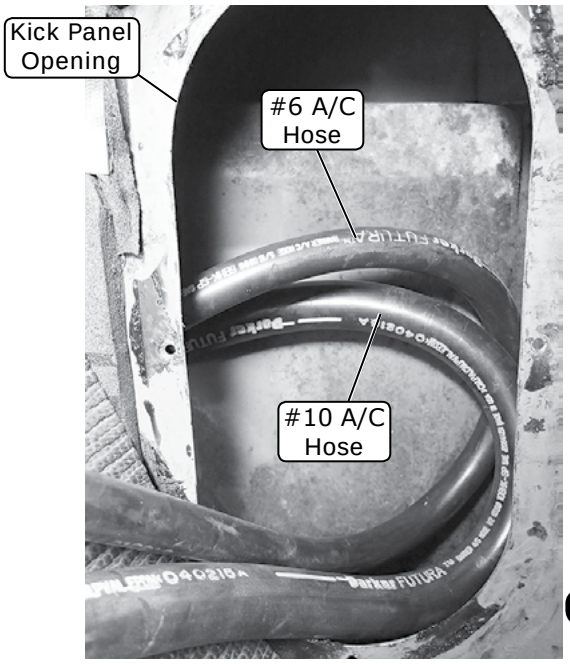


Photo 2

A/C Hose and Kick Panel Cap Installation (Cont.)

4. Locate the kick panel cap and insert (2) grommets into the holes. Route the #6 and #10 A/C hoses through the grommets (See Photo 3, below). **NOTE: For the #10 A/C hose, it is easier to feed the hose into the kick panel cap and then through the grommet.**
5. Apply a 1/2" bead of silicone to the mating surface of the kick panel cap and install it onto the kick panel using (4) OEM screws (See Photo 4, below).
6. From under the fender, install the other straight end of the #6 A/C hose onto the drier with a properly lubricated #6 O-ring (See Lubricating O-rings, Page 20, and Photo 5, below).
7. Install the bulkhead fitting of the #10 A/C hose into the newly drilled 7/8" hole on the inner fender (See Photos 6 and 7, below).

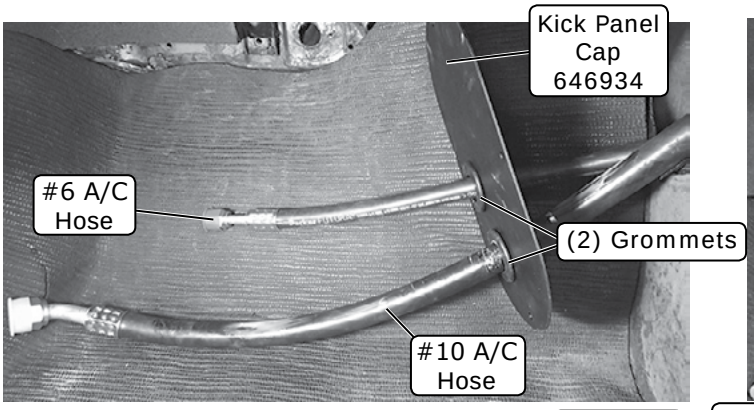


Photo 3

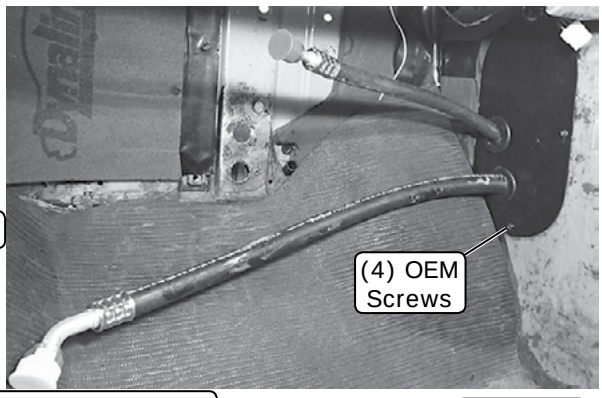


Photo 4

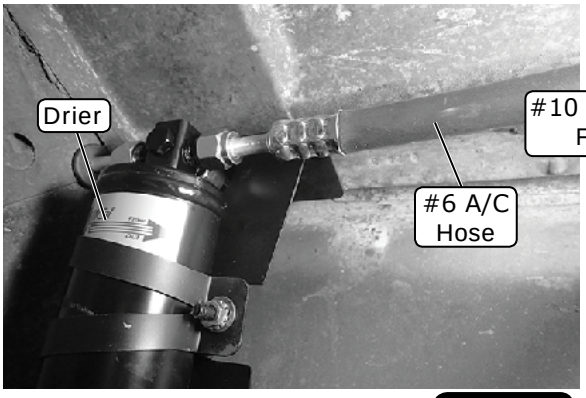


Photo 5

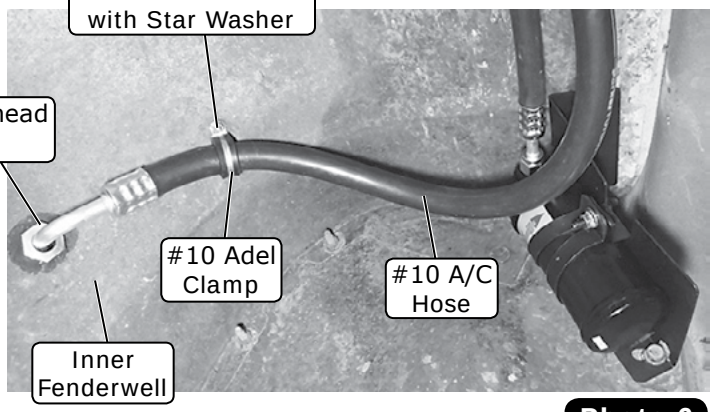


Photo 6

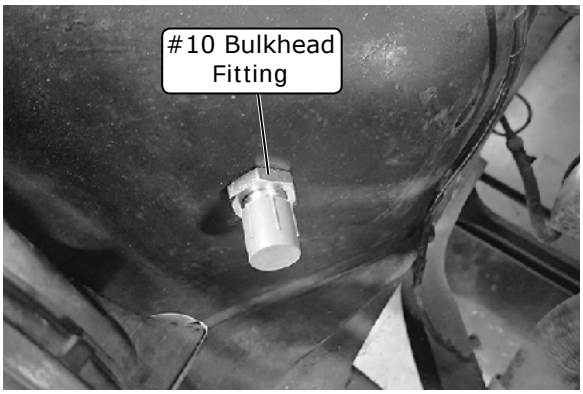
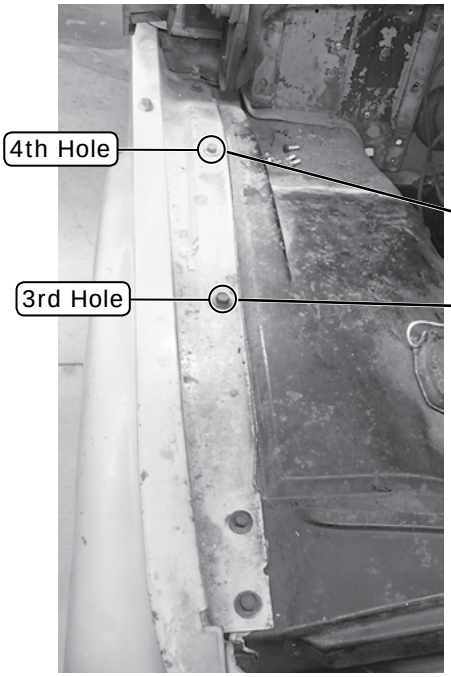


Photo 7

A/C Hose and Kick Panel Cap Installation (Cont.)

8. Locate the (2) Adel clamp brackets and install them onto the 3rd and 4th holes under the fender using OEM bolts, washers and nuts (See Photos 8, 9, 10, and Figure 1, below).

9. Install (2) #6 Adel clamps and (2) #10 Adel clamps using (2) 10-32 x 1/2" screws and (2) 10-32 nuts with star washers (See Photos 10 and 11, below).



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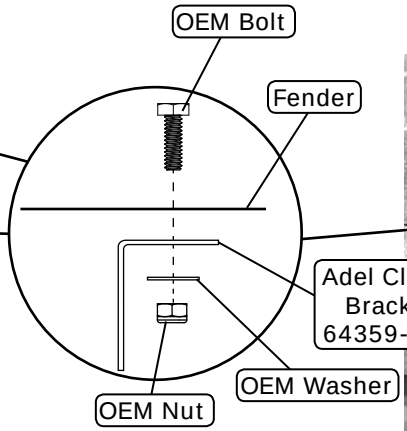


Figure 1

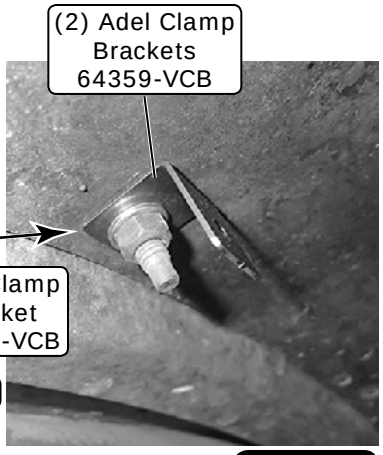


Photo 9

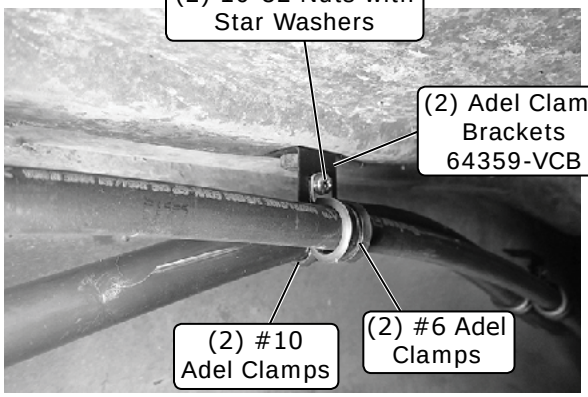


Photo 10

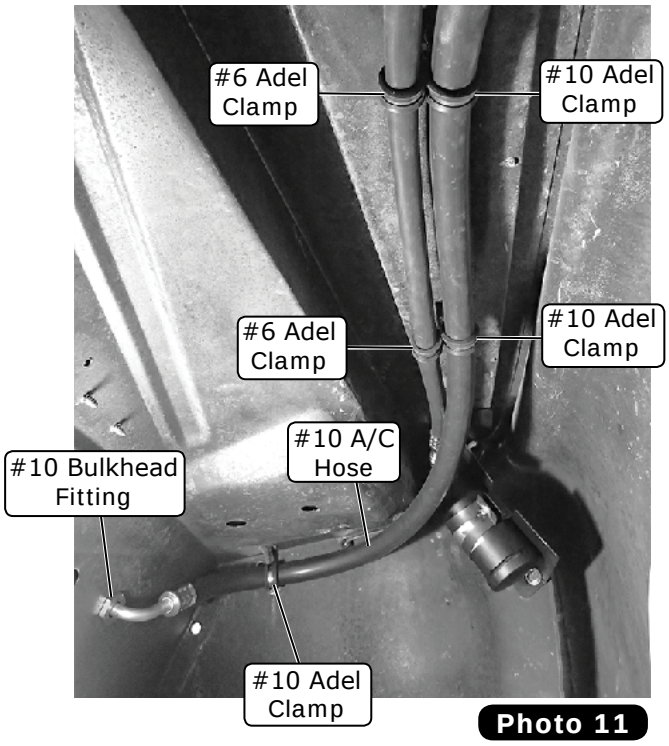


Photo 11

A/C Hose and Kick Panel Cap Installation (Final)

10. Using a 10-32 x 1/2” screw and a 10-32 nut with star washer, install a #10 Adel clamp into the small OEM hole near the #10 bulkhead fitting (See Photo 6, Page 13).

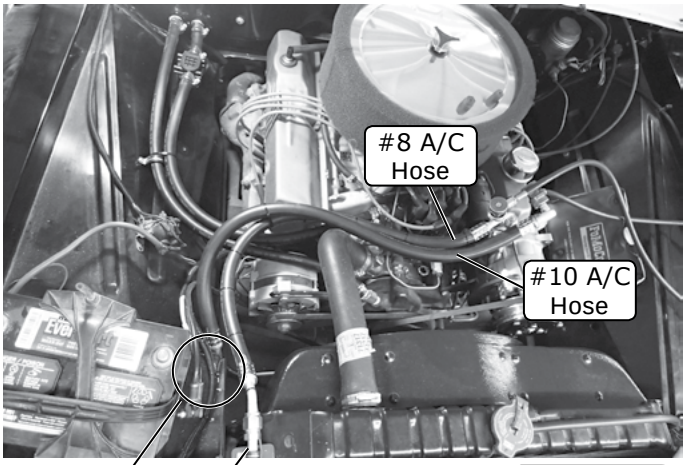
11. Locate the #10 compressor/bulkhead A/C hose. Using (2) properly lubricated #10 O-rings (See Lubricating O-rings, Page 20), install the 135° fitting with service port onto the compressor, and install the 90° fitting onto the bulkhead of the other #10 hose (See Photo 14, below).

12. Locate the #8 A/C hose. Using (2) properly lubricated #8 O-rings (See Lubricating O-rings, Page 20), install the 90° fitting with service port onto the compressor, and install the 45° fitting onto the #8 hardline attached to the condenser.

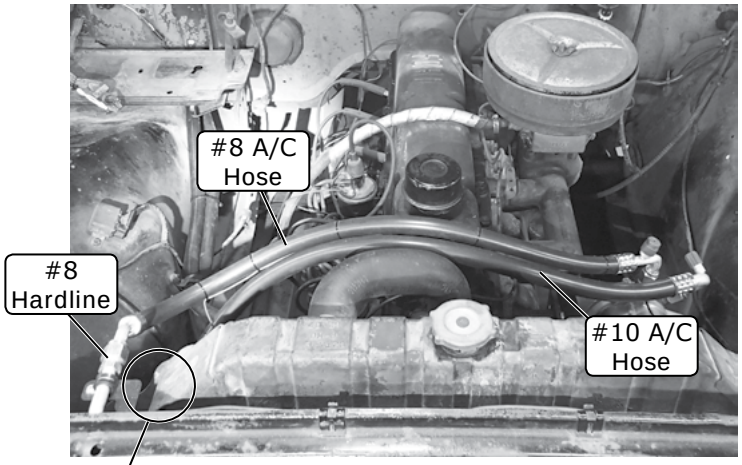
13. Use tie wraps to secure the A/C hoses together.

Modified Hose Kit:

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



V8 Configuration **Photo 12**



6-Cylinder Configuration **Photo 13**

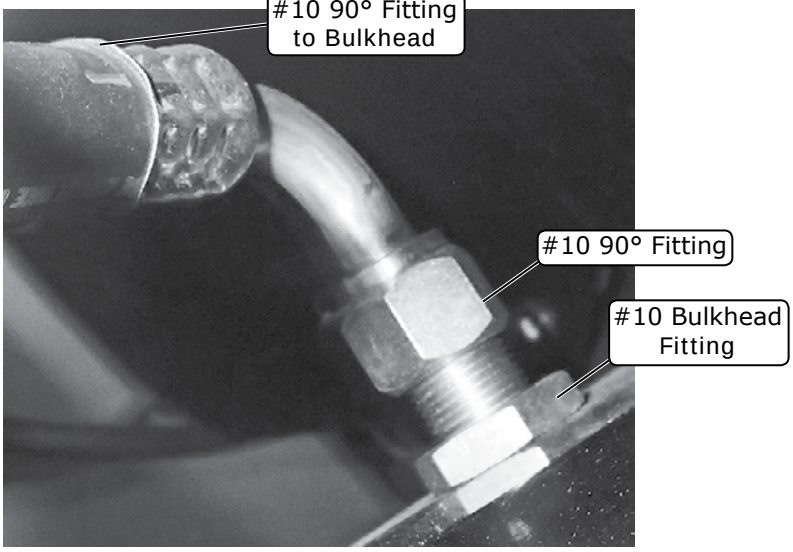


Photo 14

Evaporator Bracket and Hardline Installation

1. On a workbench, install the evaporator front bracket using (4) 1/4-20 x 1/2” bolts (supplied on the evaporator sub case) (See Photo 1, below).
2. Install double-sided transfer tape onto the bracket mating surface (See Photo 2, below). **NOTE: The tape will temporarily keep the rubber boot in place during the installation.**
3. Install (2) heater hardlines with properly lubricated #10 O-rings (See Lubricating O-rings, Page 20) using a 1 1⁄16” wrench or the wrench provided with the condenser kit (if applicable) (See Photo 3, below).
4. Place the rubber boot over the (2) heater line ends, being careful to keep the hardlines centered and tight inside the bracket holes (See Photo 4, below). **NOTE: Remove the heater line caps before installing the rubber boot. Replace caps onto heater lines after the rubber boot has been installed. Be sure the heater hardline holes and the threaded holes are centered with the rubber boot holes for a correct fit.**

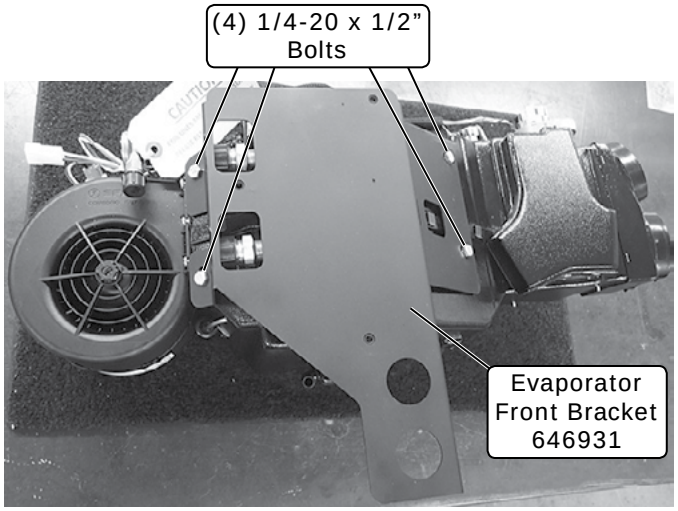


Photo 1

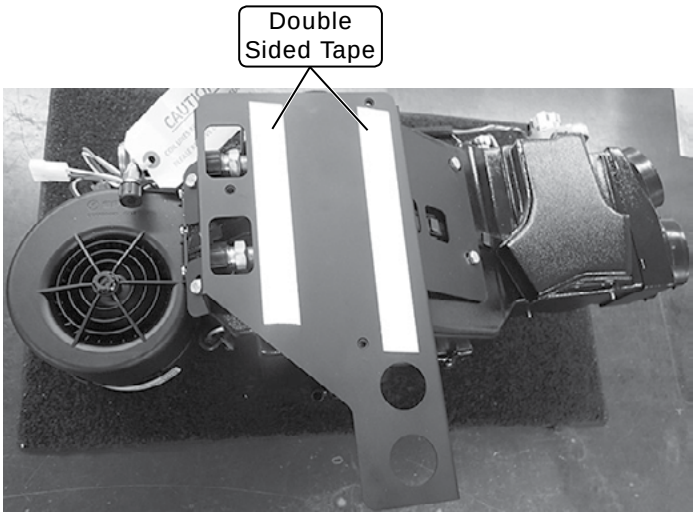


Photo 2

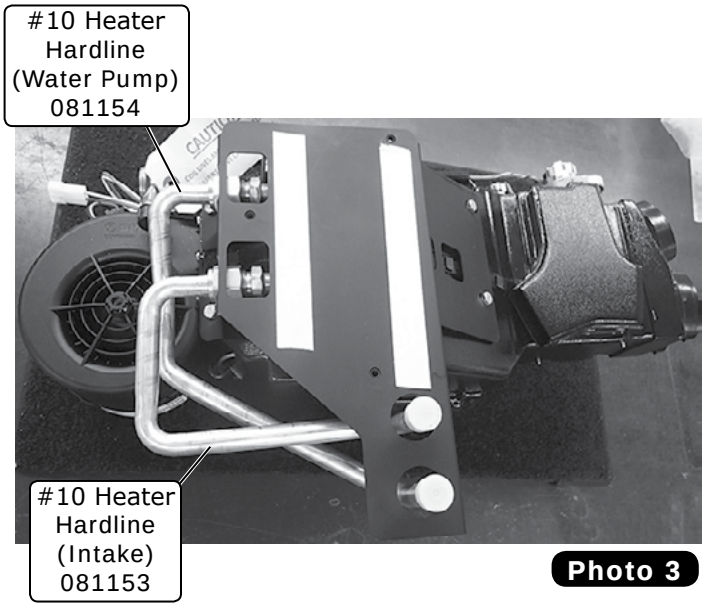


Photo 3

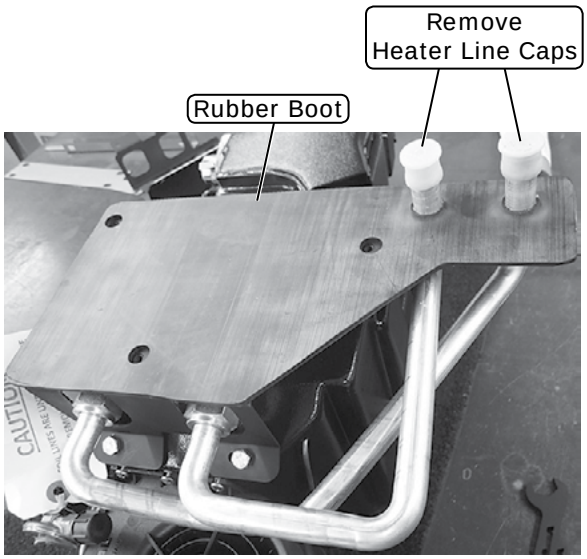


Photo 4

Wiring Harness Installation

NOTE: Before continuing with the installation of the evaporator unit under the dash, install the main wiring harness. Once the evaporator unit is installed, there will not be a sufficient amount of space to install the harness. Vintage Air recommends running the wires through the firewall, close to the passenger side fender. A detailed tech video outlining a similar installation process for the 1967-72 Ford F-100 vehicles is available on Vintage Air's Youtube channel. See Page 2 for the link to the video.

1. Locate a small OEM hole on the firewall next to the kick panel opening. Enlarge the hole to 5/8" to accommodate the 3/8" ID x 7/8" OD grommet provided (See Photo 1, below). **NOTE: Some vehicles may not have this OEM hole and a new hole will need to be drilled in this location.**
2. Disconnect the circuit breaker from the main wiring harness (See Photo 2, below).
3. Route the heater control valve plug through the 3/8" ID x 7/8" OD grommet (See Photo 3, below).
4. Install the 3/8" ID x 7/8" OD grommet into the previously enlarged 5/8" firewall hole (See Photo 4, below).

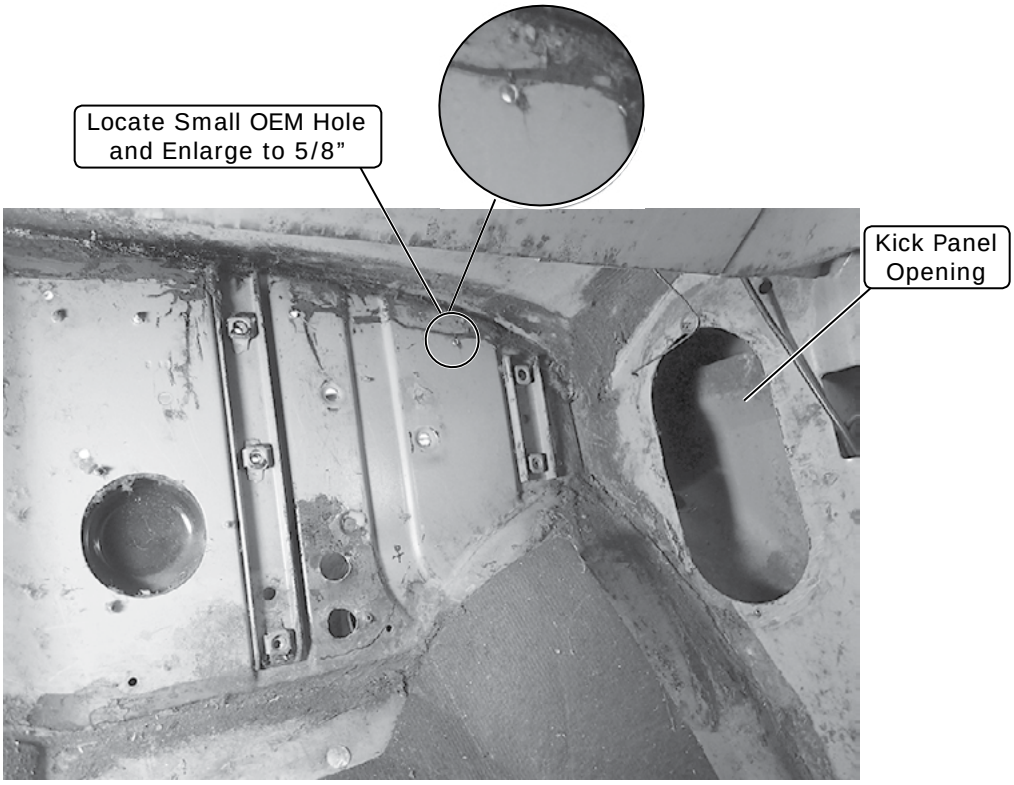


Photo 1

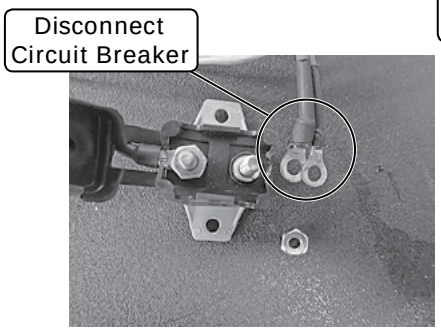


Photo 2

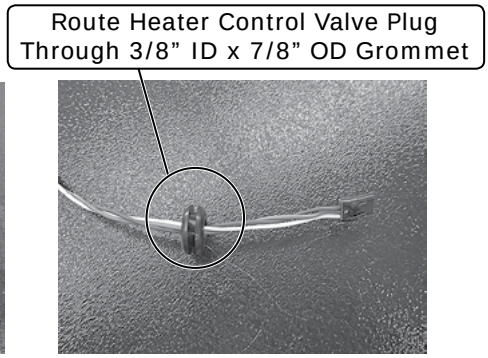


Photo 3

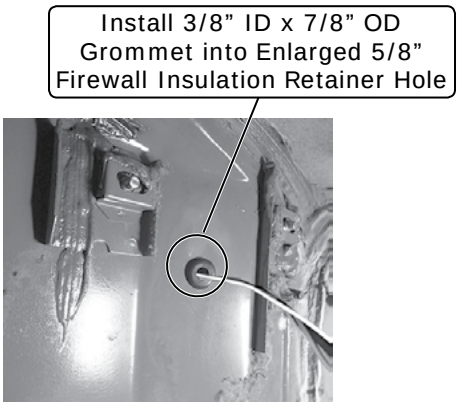
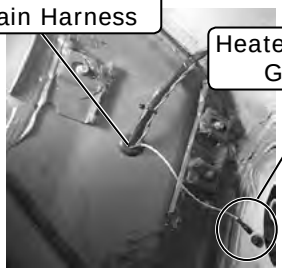


Photo 4

Wiring Harness Installation (Cont.)

5. Route the red, white and blue wires from the main wiring harness through the 3/8” ID x 7/8” OD grommet into the engine compartment (See Photo 5, below).
6. Attach the white ground wire eyelet from the heater control valve to a suitable ground (See Photo 5, below).
7. Mount main harness relay where it will not interfere with the evaporator installation.
8. Plug the white connector from the heater control valve into the white connector on the main wiring harness (See Photo 6, below).
9. Plug the white connector from the blower motor into the white connector on the main wiring harness (See Photo 7, below)
10. Route the red and white wires toward the battery in the engine compartment (See Photo 8, below).
11. Route the blue wire from the main wiring harness between the firewall and the back of the inner fender. Run the blue wire along the #10 A/C hose securing it to the hose with the supplied tie wraps.
12. Crimp the supplied 1/4” female terminal to the blue wire, and connect it to the safety switch on the drier (See Photos 9 and 10, below).
13. Place the circuit breaker onto the vehicle body, and secure it using (2) #10 x 1/2” sheet metal screws. Reconnect the positive wires to the circuit breaker (See Photo 8, below).
14. Crimp the supplied 5/16” ring terminals to the white ground and red power wires, then connect them to the negative side of the battery (See Photo 11, below). **NOTE: Do not connect the positive side of the battery until the install is complete.**



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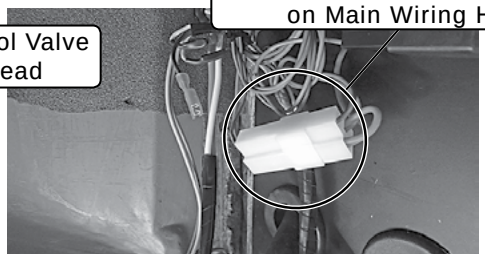

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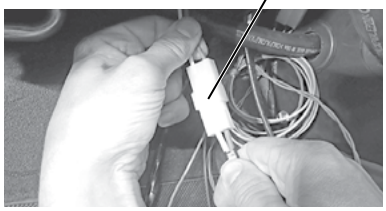
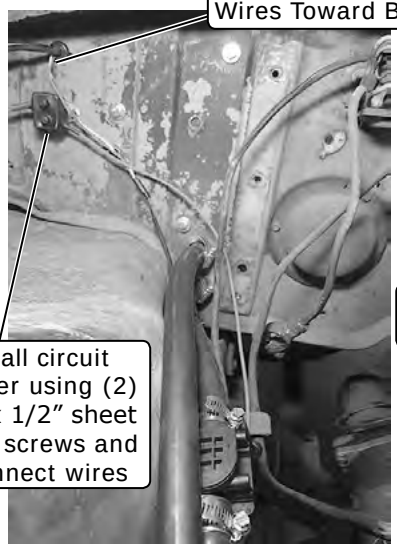


Photo 7



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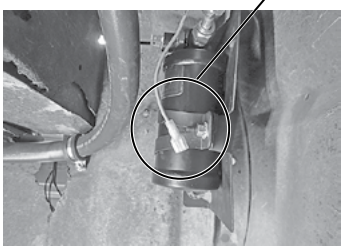

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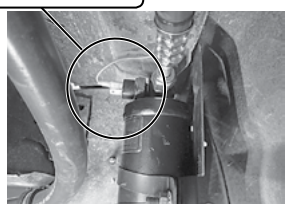


Photo 10

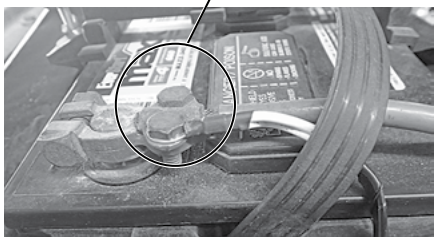


Photo 11

Evaporator Installation

NOTE: To ensure a watertight seal between the passenger compartment and the vehicle exterior, for all bolts passing through the firewall, Vintage Air recommends coating the threads with silicone prior to installation.

1. Remove the glove box door by removing (4) OEM screws (See Photo 2, Page 10).
2. Place the evaporator on the passenger side floorboard, and install the #6 A/C hose onto the expansion valve with a properly lubricated #6 O-ring (See Lubricating O-rings, Page 20) (See Photo 1, below).
3. Carefully install the evaporator assembly into the passenger compartment while pushing the #6 A/C hose into the kick panel. Insert the heater lines into the firewall holes. **NOTE: Remove the heater line caps before installing the heater lines into the firewall.** Then, using (2) 1/4-20 x 3/4" bolts, (1) 1/4-20 x 1 ¼" bolt and (3) 1/4" washers, secure the evaporator assembly onto the firewall from the engine compartment side (See Photo 2, below). **NOTE: Do not tighten the bolts at this time. Replace the caps onto the heater lines.**
4. Install the #10 A/C hose onto the evaporator with a properly lubricated #10 O-ring (See Lubricating O-rings, Page 20, and Photo 3, below), and insulate the #10 fitting with press tape (See Photo 4, below).

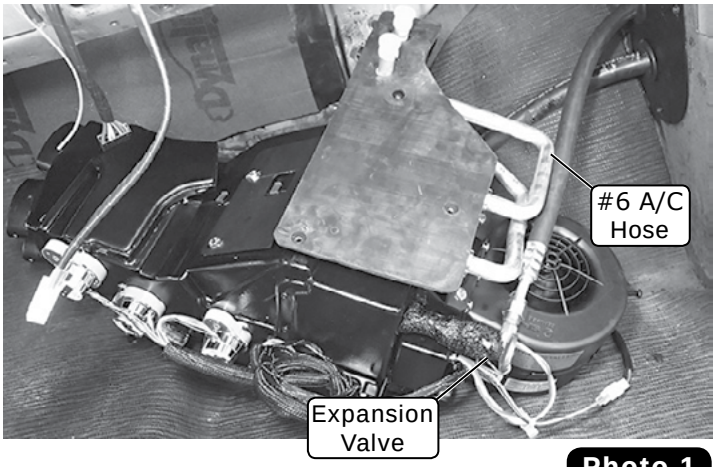


Photo 1

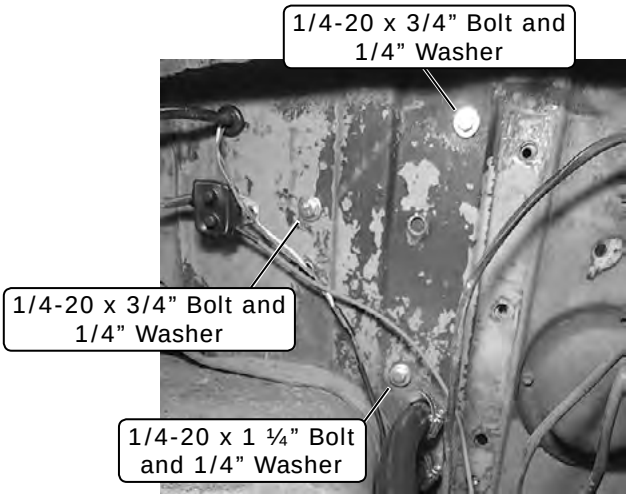
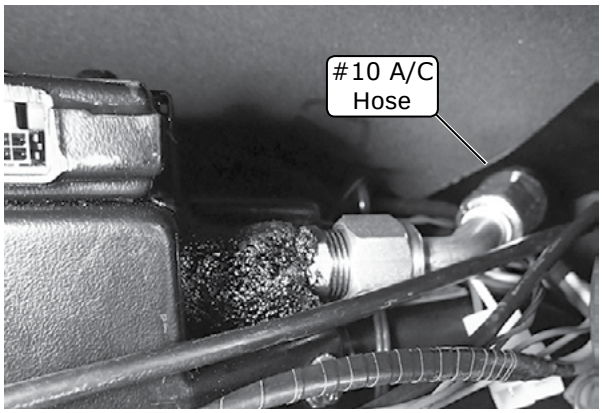


Photo 2



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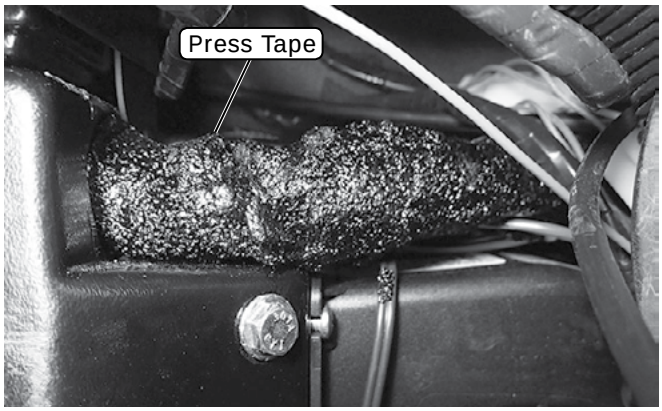


Photo 4

Evaporator Installation (Cont.)

5. Remove the 1/4” Allen screw from the evaporator unit and install the rear evaporator bracket, securing it with the Allen screw, (2) 10-32 x 1/2” pan head screws, (4) washers ((2) 1/4” washers on the outside and (2) 10-32 washers on the inside) and (2) 10-32 nuts with star washers (See Photo 5 and Figure 1, 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. Tighten all mounting bolts on the front and rear brackets.**

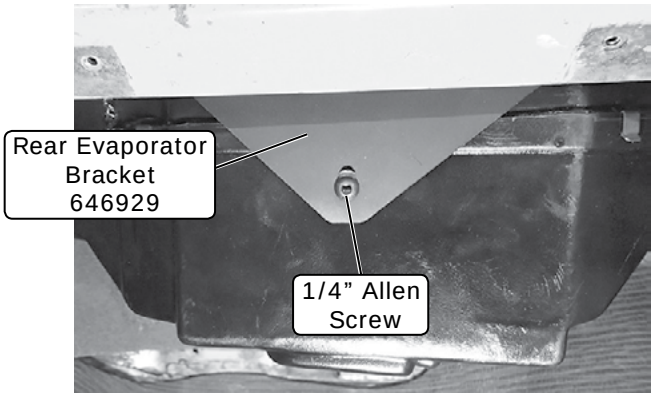


Photo 5

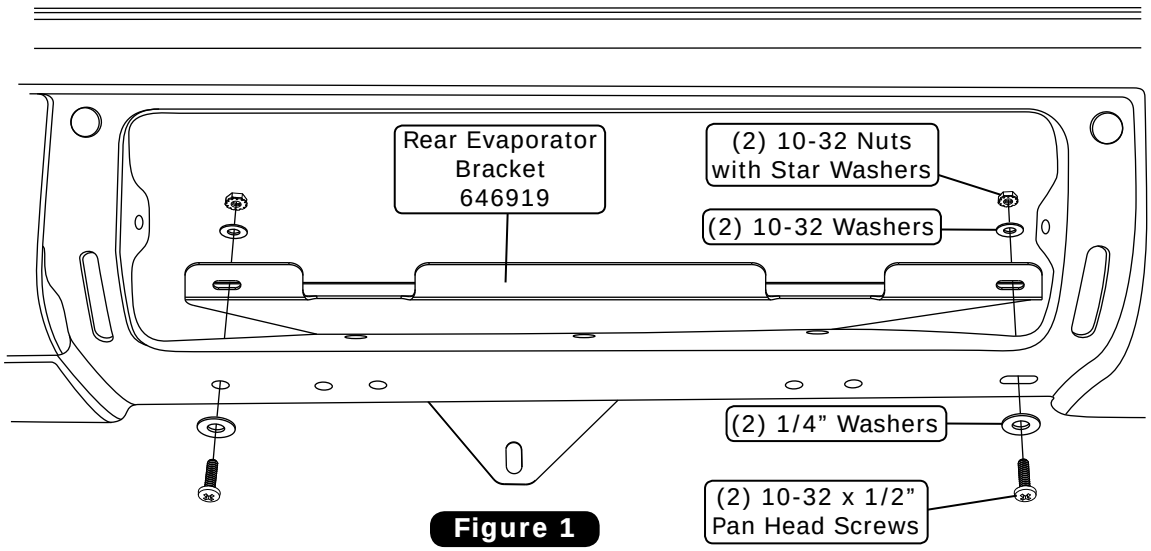
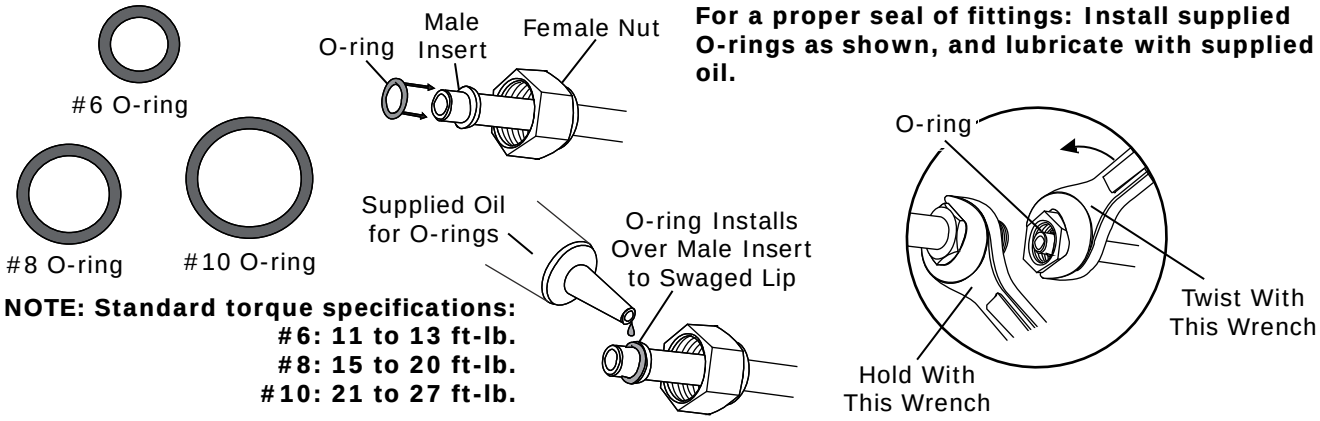


Figure 1

Lubricating O-rings



For a proper seal of fittings: Install supplied O-rings as shown, and lubricate with supplied oil.

NOTE: Standard torque specifications:
#6: 11 to 13 ft-lb.
#8: 15 to 20 ft-lb.
#10: 21 to 27 ft-lb.

Drain Hose Installation

1. Locate the evaporator drain on the bottom of the evaporator case (See Figure 1, below).
2. In line with the drain, lightly make a mark on the firewall. Measure 1 ¼" down and drill a 5/8" hole through the firewall (See Figure 1, below).
3. Insert the drain hose into the 5/8" hole on the heater line cover and then through the firewall (See Photo 1, below). While inserting the drain hose into the firewall, install the heater line cover onto the bottom 1/4-20 x 1 ¼" bolt securing the evaporator front bracket to the firewall (See Photo 1, below). Secure the heater line cover by using a 1/4" washer and 1/4-20 nut with star washer (See Photo 2, below).
4. Use the bottom hole of the heater line cover as a template, and drill a 9/64" hole into the firewall (See Photo 1, below). Secure the bottom of the heater line cover using a #10 x 1" screw (See Photo 2, below).
5. Install the drain hose onto the evaporator drain on the bottom of the unit. (See Photo 2, below).
6. On the engine compartment side of the firewall, measure and cut the drain hose 1 ½" from the firewall. Install a 90° elbow onto the drain hose and attach another piece of drain hose to the other end (See Photo 3, below).

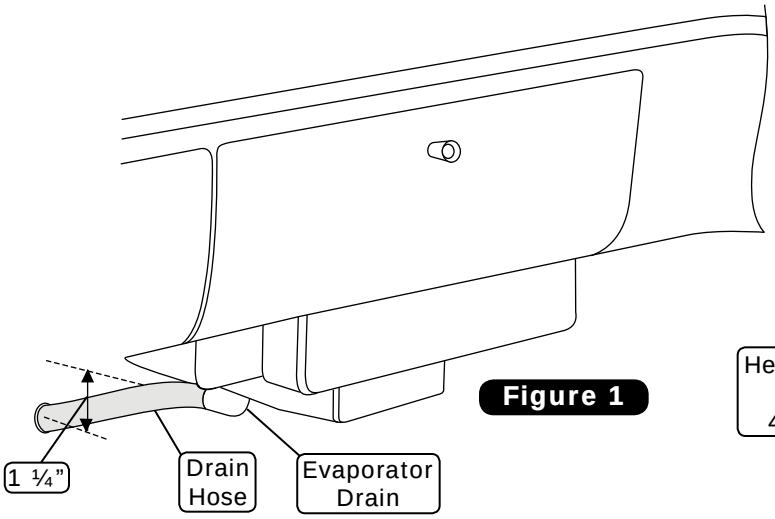


Figure 1

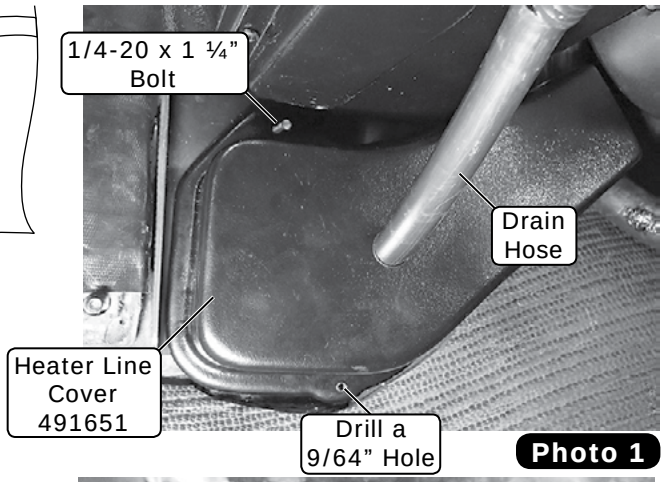


Photo 1

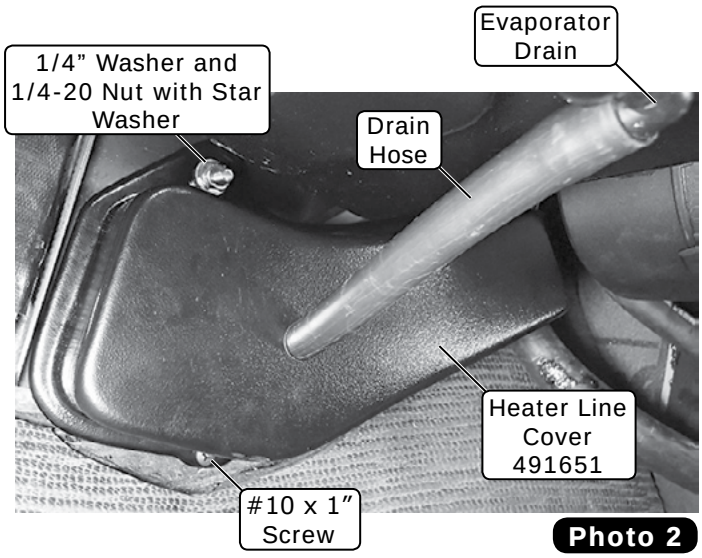
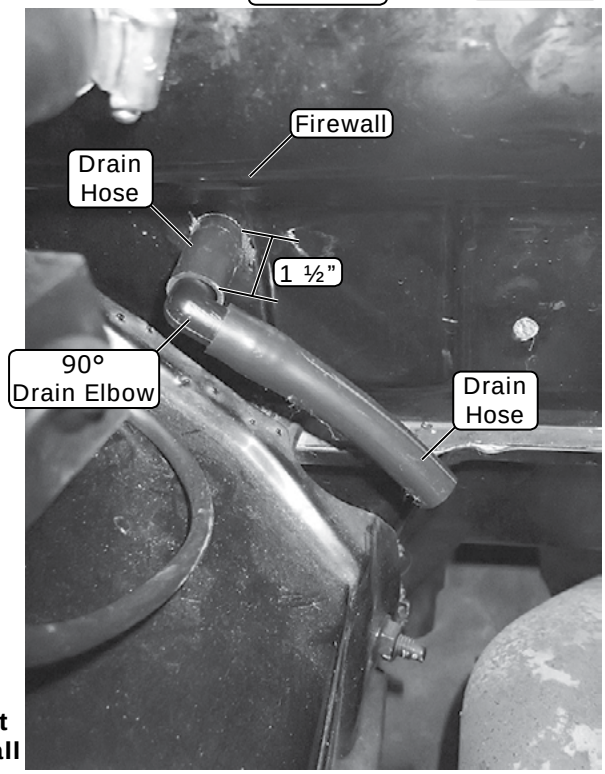


Photo 2



Engine Compartment Side of Firewall

Photo 3

Heater Hose and Heater Control Valve Installation

1. Route a piece of 5/8" heater hose from the water pump to the upper heater line at the firewall, and secure both ends with hose clamps (See Photos 1 and 3, below).
2. Cut an 8" piece of 5/8" heater hose and attach it to the heater control valve. Secure it with a hose clamp. Install the other side of the 8" heater hose onto the lower heater line at the firewall. Secure it with a hose clamp. Route one more piece of heater hose from the intake manifold (pressure side) to the heater control valve, and secure both ends with hose clamps (See Photos 1 and 3, and Figure 1, below). **NOTE: Ensure proper flow direction through the heater control valve (the flow direction follows the molded arrow on the valve).**
3. Plug the heater control valve connector into the connector on the main wiring harness (See Photo 2, below).

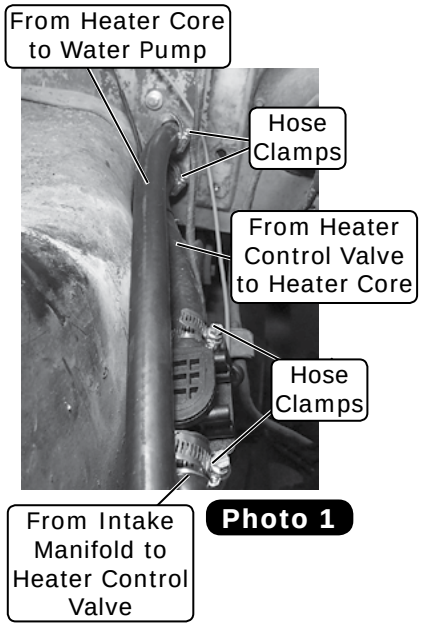
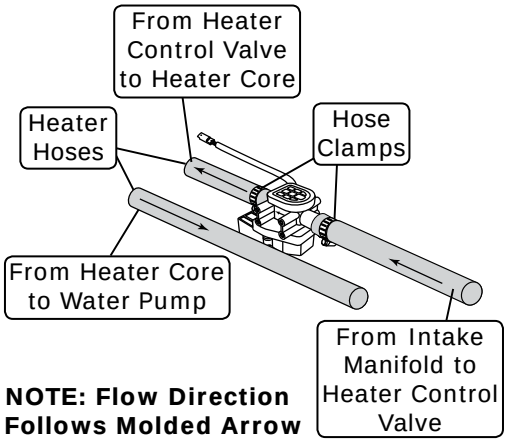


Photo 1



NOTE: Flow Direction Follows Molded Arrow on Valve.

Figure 1

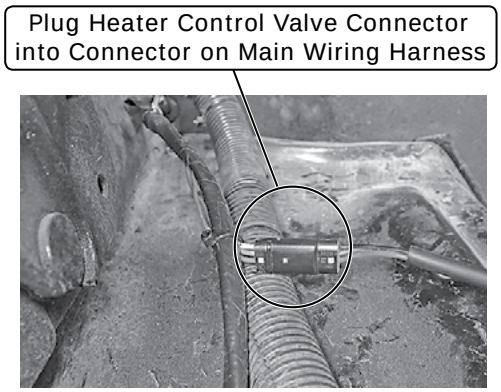


Photo 2

A/C and Heater Hose Routing

NOTE: Vintage Air Systems use 5/8" heater connections. On engines equipped with 3/4" hose nipples, these will need to be removed and replaced with 5/8" nipples (not supplied). For water pumps with a cast-in 3/4" heater outlet, a 3/4" x 5/8" reducer fitting (not supplied) will need to be installed in the heater hose.

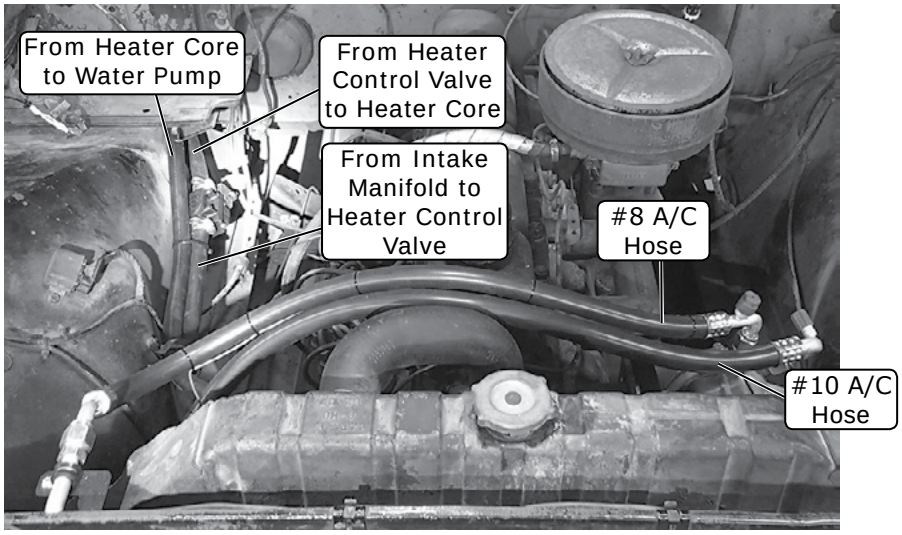


Photo 3

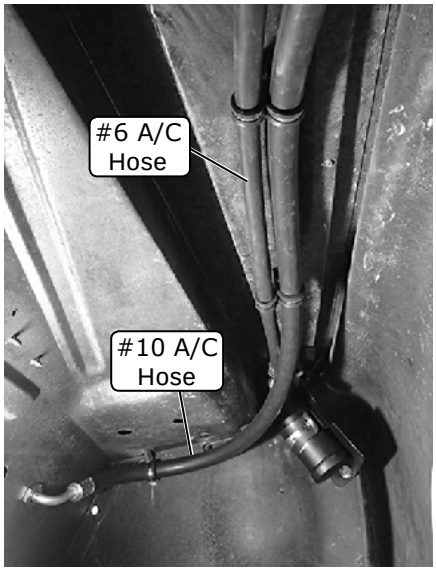


Photo 4

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Passenger Side Louver Installation

1. Locate the passenger side louver bezel, cap and bracket. Insert the bracket into the bezel as shown in Photo 1, below. Place the louver assembly against the passenger side kick panel in front of the evaporator fan, with the top front edge of the louver bezel against the bottom edge of the dash as shown in Photos 3 and 4, below. **NOTE: When placing the louver bezel, measure 2 ¾" from the face of the louver bezel to the evaporator fan as shown in Photo 5, below. This is to allow clearance for the installation of the louver cap.**
2. Once the louver is in the desired location and position, mark the (2) holes from the louver bracket onto the kick panel. Remove the louver assembly and drill (2) 5/32" holes into the kick panel (See Photos 1 and 2, below).
3. Install a length of 2 ½" duct hose onto the hose adapter at the top of the louver (See Photos 1 and 5, below). Install the louver assembly onto the kick panel using (2) #10 x 3/4" sheet metal screws (See Photo 3, below). **NOTE: Refer to Control Panel and Duct Hose Routing, Page 28, for duct hose lengths.**
4. Install the louver into the louver opening in the bezel (See Photo 4, below).
5. Install the louver cap from the bottom of the louver assembly, and secure using (3) #6 x 3/8" screws (See Photo 5, below).

Photo 1

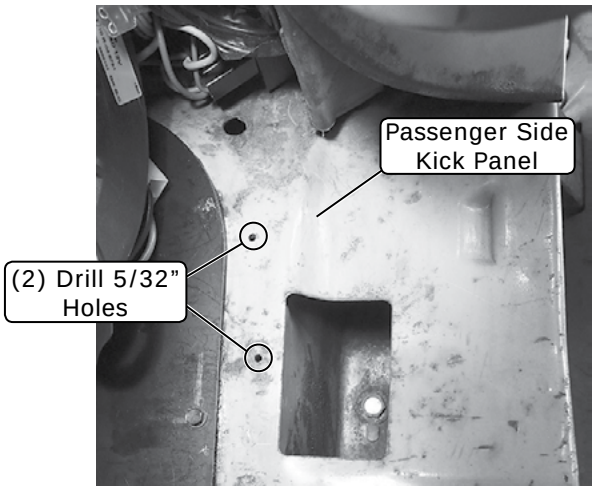


Photo 2

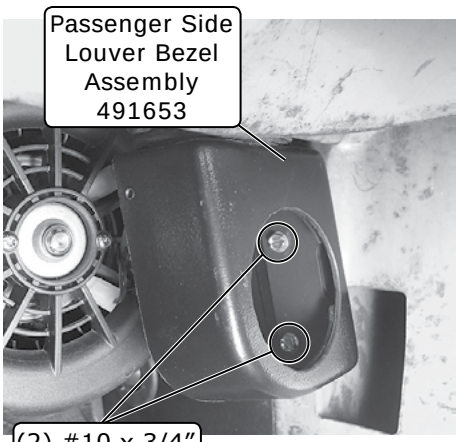


Photo 3

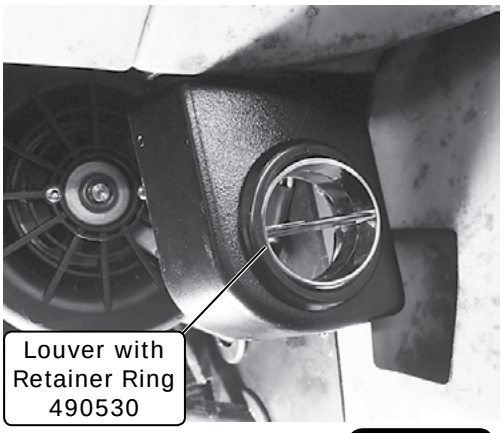


Photo 4

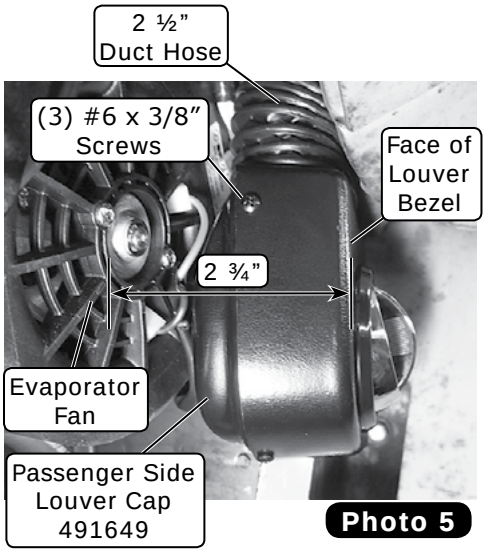


Photo 5

Driver Side Louver Installation

1. Locate the driver side louver bezel and bracket. Insert the bracket into the louver bezel (See Photo 1, below). Place the louver assembly against the driver side kick panel, and position the same as the passenger side.
2. Once the louver is in the desired location and position, mark the (2) holes from the bracket onto the kick panel. Remove the louver assembly and drill (2) 5/32" holes (See Photos 1, 2 and 3, below).
3. Install the louver assembly using (2) #10 x 3/4″ sheet metal screws (See Photo 4, below). Install the louver into the louver opening (See Photo 5, below). Install a length of 2 ½" duct hose onto the hose adapter on the back of the louver assembly. **NOTE: Refer to Control Panel and Duct Hose Routing, Page 28, for duct hose lengths.**

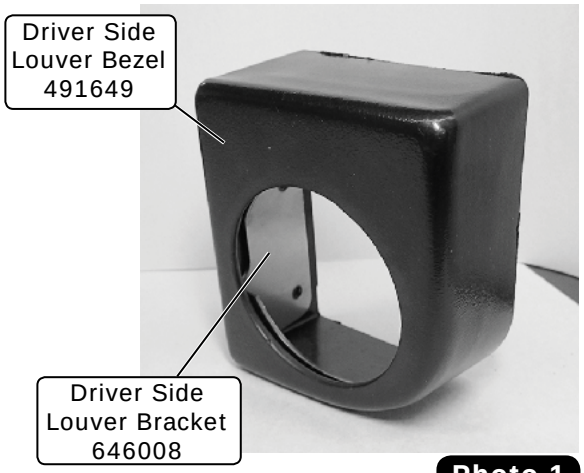


Photo 1

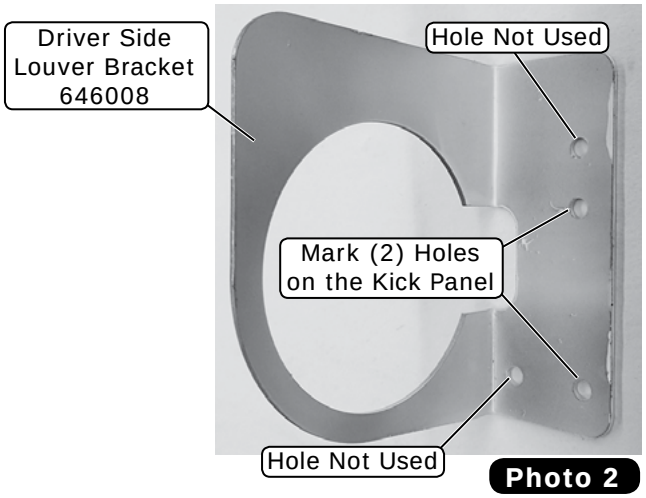
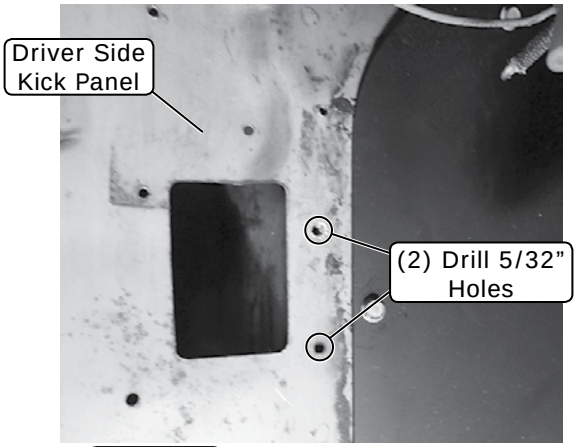


Photo 2



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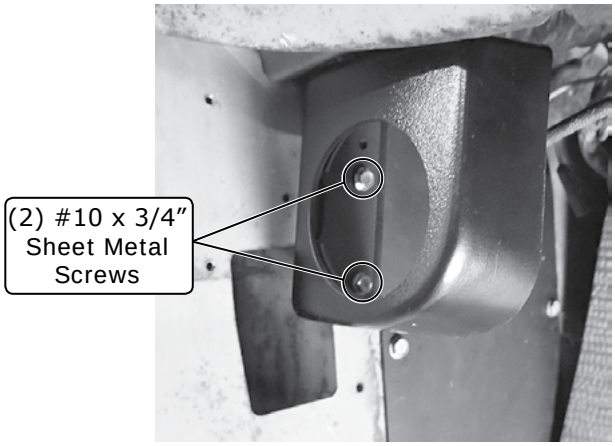


Photo 4

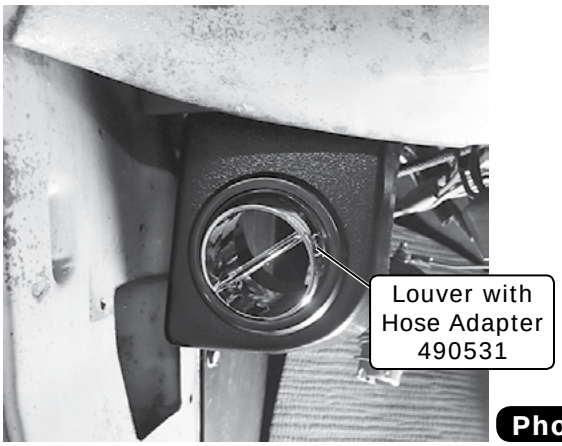


Photo 5

Center Louver and Control Panel Installation

1. Locate the control panel template bracket and the center louver bezel. Place the template into the bezel with the small holes toward the bottom of the louver, and slide the bracket all the way to the end. Secure the bracket using clamps or a vise grip. **NOTE: Protect the front of the bezel where the clamps are attached to avoid scratching the plastic.** Using the bracket as a template, drill (3) 19/64” and (3) 5/32” holes (See Photo 1, below).
2. Install the (3) labels as shown in Photo 2, below.
3. Install the (3) rotary pot assemblies into the back side of the bracket/template. Insert the notch of the rotary pot into the small hole and secure it into the louver and bracket using the washer and nut provided on each control (See Photos 3 and 4, below).
4. Install the wiring harness onto the rotary pot assemblies and secure using (5) small tie wraps as shown in Figure 1, below.

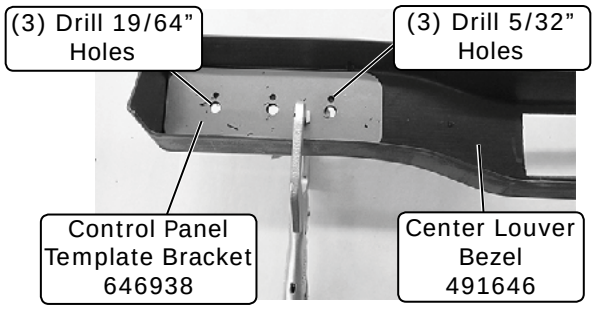


Photo 1

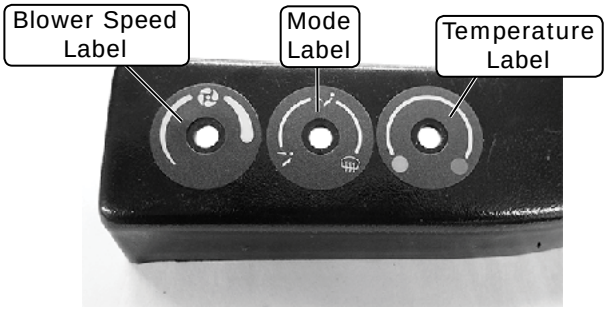


Photo 2

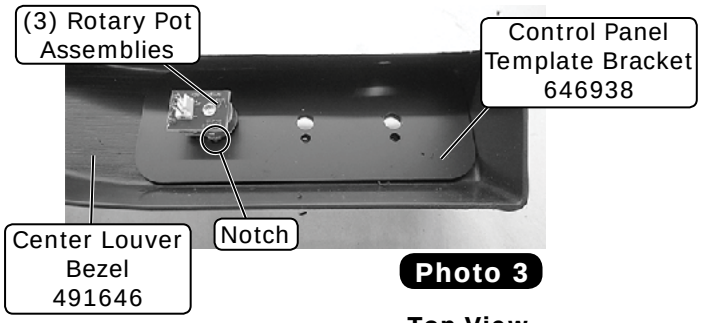


Photo 3

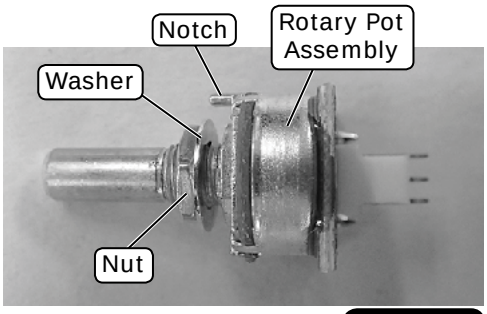


Photo 4

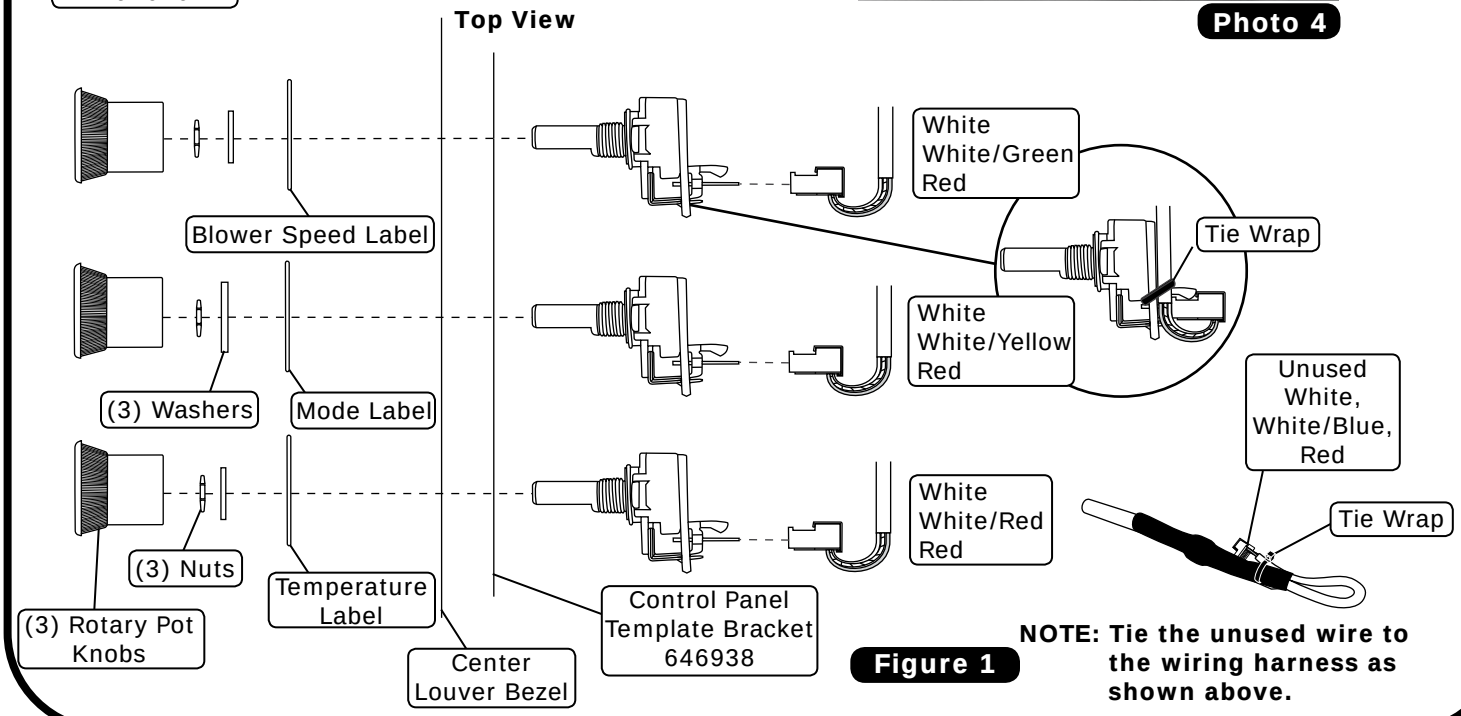


Figure 1

NOTE: Tie the unused wire to the wiring harness as shown above.

Center Louver and Control Panel Installation (Cont.)

5. Install the (3) control knobs (See Photo 5, below).
6. Install the center louver assembly under the dash using the OEM holes and (4) 1/4-20 x 3/4” bolts, (8) 1/4” washers and (4) 1/4-20 nuts with star washers (See Photo 6 and Figure 2, below). **NOTE: If the dash does not have all of the OEM holes, use the louver bezel as a template to mark and drill 5/16” holes to install the necessary hardware. OEM dash stamped holes may vary, in some cases you may need to enlarge some mounting holes onto the new underdash louver bezel to align it following the OEM dash contour.**
7. Insert (2) lengths of 2 ½” duct hose through the center louver openings, and install onto (2) center louver vent hose adapters. Push the center louver vents in to secure them into the center louver bezel (See Photos 7 and 8, below). **NOTE: Refer to Control Panel and Duct Hose Routing, Page 28, for duct hose lengths.**

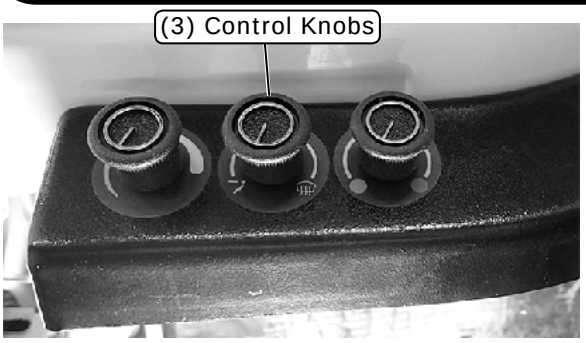


Photo 5

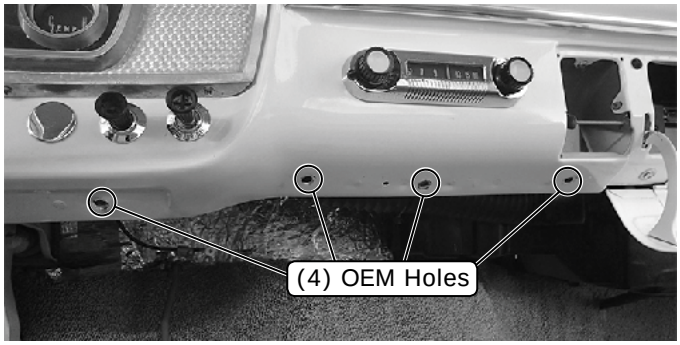


Photo 6

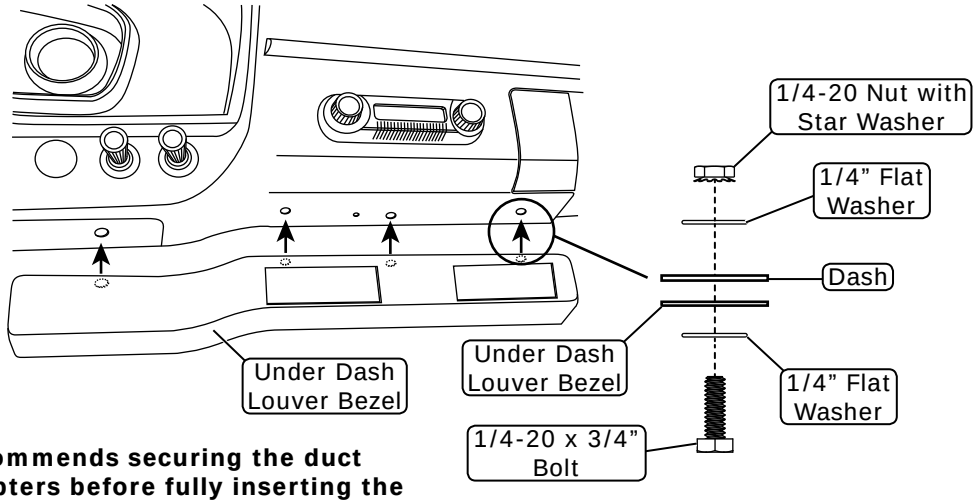


Figure 2

NOTE: Vintage Air recommends securing the duct hoses to the hose adapters before fully inserting the louvers into the bezel. Once the louvers are installed, they can be difficult to remove.

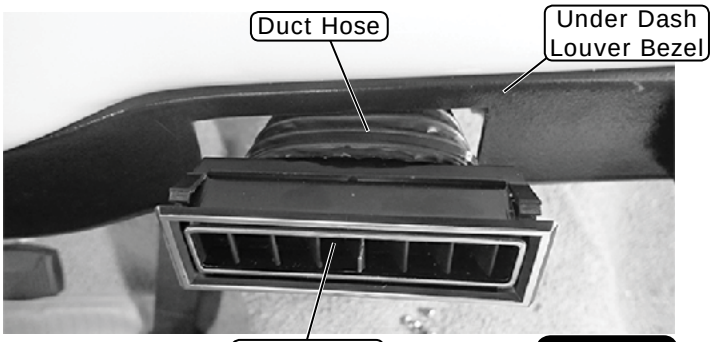


Photo 7

Photo 8

Final Steps

1. Install the duct hoses onto the sub case (See Figure 1, Page 28).
2. Plug the wiring harnesses into the ECU module on the sub case. Wire according to the wiring diagrams on Pages 29 and 30.
3. Remove the backing from the Velcro strip on the inside of the ECU cover, and install the ECU cover onto the ECU as shown in Photo 1, below. **NOTE: Ensure mating surfaces are clean and free of grease.**
4. Install the new glove box into the glove box opening and secure it using (5) #8 x 1/2″ pan head screws (See Photos 2 and 3, below). **NOTE: To ease the glove box into the opening, slide it in towards the kick panel, and once it is all in, install it onto the back of the dash.**
5. Reinstall the glove box door using OEM hardware.
6. Reinstall all other previously removed items.
7. 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.
8. Double check all fittings, brackets and belts for tightness.
9. Vintage Air recommends that all A/C systems be serviced by a licensed automotive A/C technician.
10. Evacuate the system for a minimum of 45 minutes prior to charging, and perform a leak check prior to servicing.
11. Charge the system to the capacities stated on Page 4 of this instruction manual.
12. See Operation of Controls procedures on Page 31.

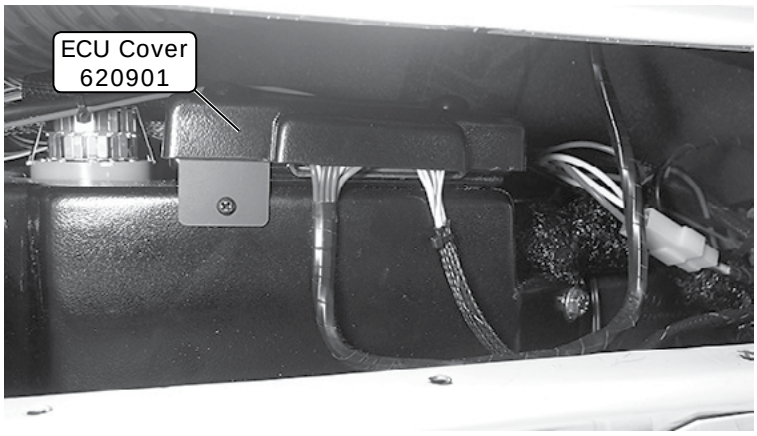
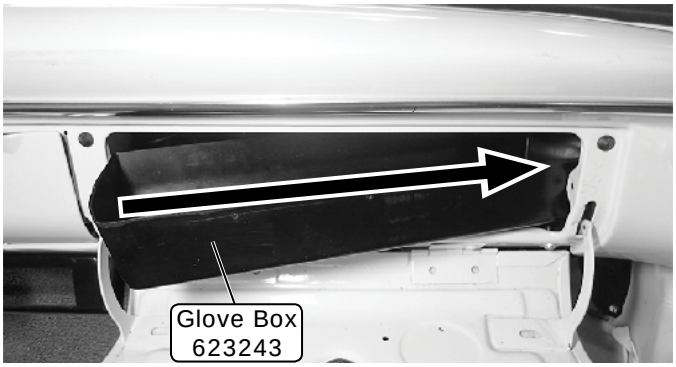


Photo 1



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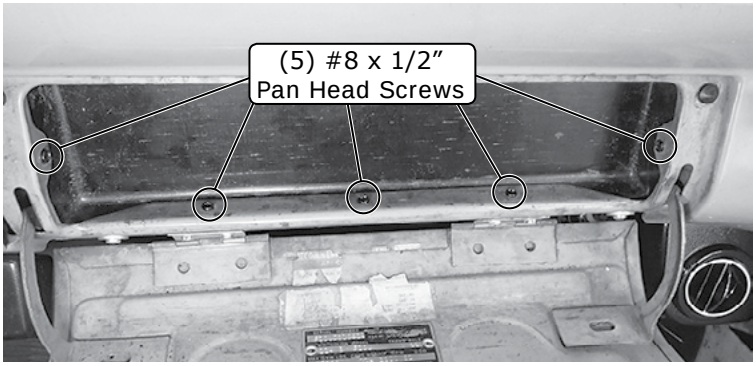


Photo 3

Control Panel and Duct Hose Routing

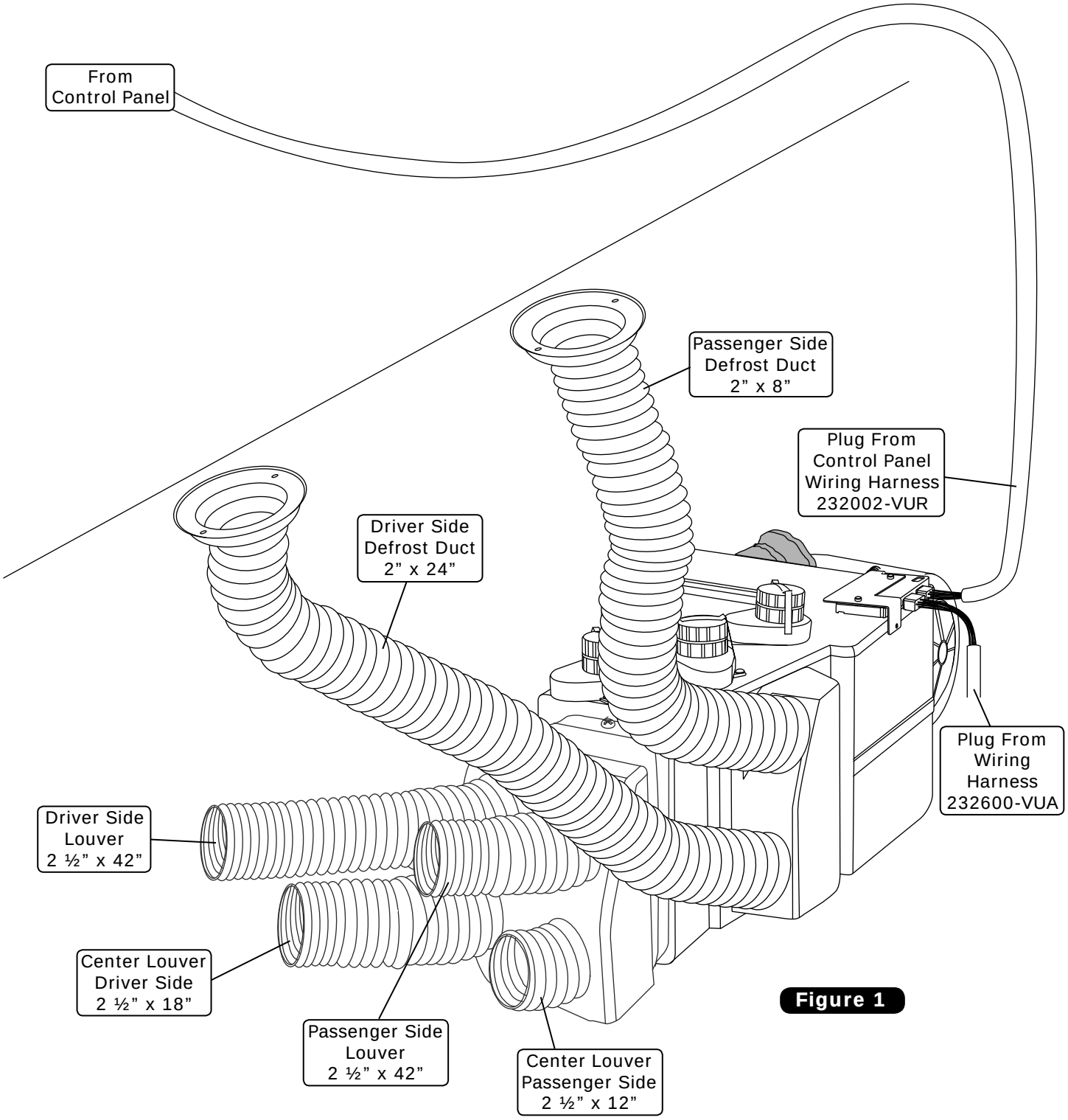
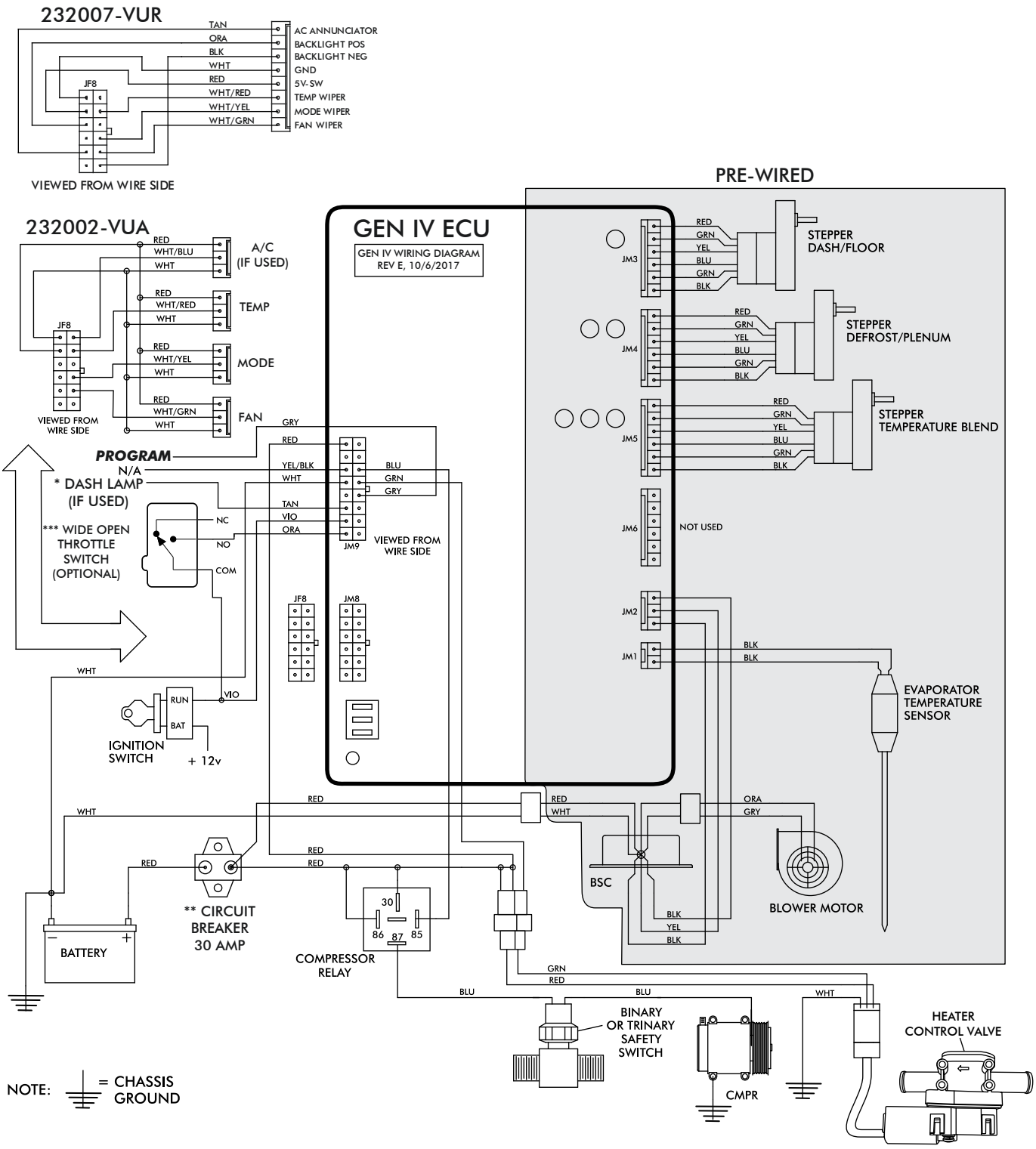


Figure 1

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.

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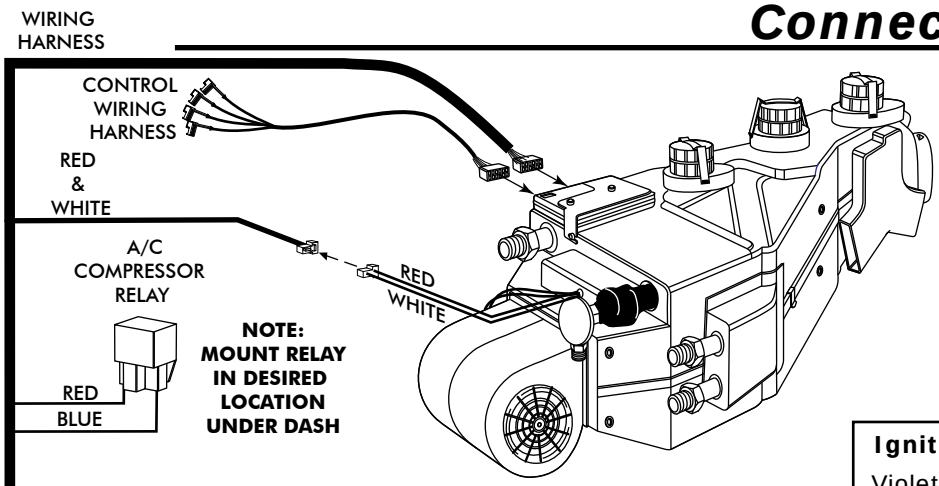
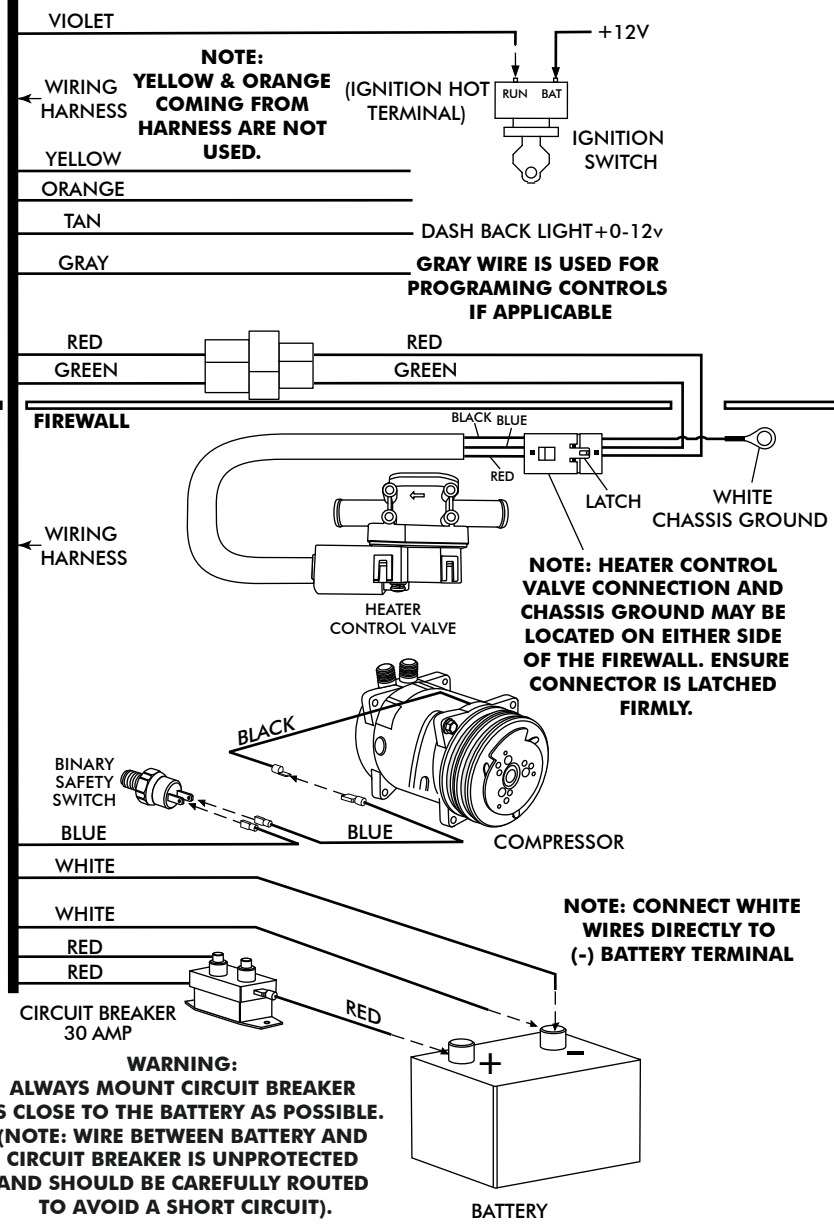
Gen IV Wiring Connection Instruction





Ignition Switch:

Violet 12V ignition switch source (key on accessory) position must be switched.

Dash Light:

When using a Vintage Air supplied control panel, connect the tan wire from the Gen IV evaporator wiring harness to the factory dash lights to enable panel backlighting.

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.

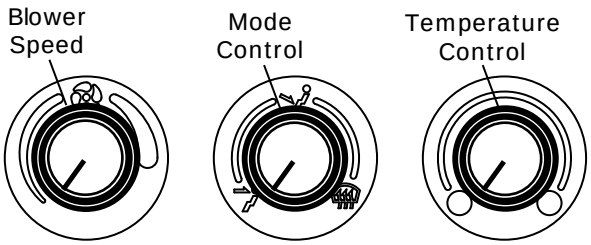
Operation of Controls

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.

Blower Speed
This lever/knob controls blower speed, from OFF to HI.

Mode Control
This lever/knob controls the mode positions, from DASH to FLOOR to DEFROST, with a blend in between.

Temperature Control
This lever/knob controls the temperature, from HOT to COLD.

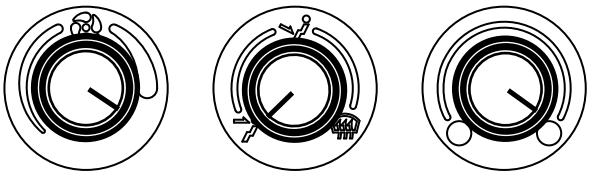


A/C Operation

Blower Speed
Adjust to desired speed.

Mode Control
Adjust to desired mode position (DASH position recommended).

Temperature Control
For A/C operation, adjust to coldest position to engage compressor (Adjust between HOT and COLD to reach desired temperature).



Heat Operation

Blower Speed
Adjust to desired speed.

Mode Control
Adjust to desired mode position (FLOOR position recommended).

Temperature Control
For maximum heating, adjust to hottest position (Adjust between HOT and COLD to reach desired temperature).

Defrost/De-fog Operation

Blower Speed
Adjust to desired speed.

Temperature Control
Adjust to desired temperature.

Mode Control
Adjust to DEFROST position for maximum defrost, or between FLOOR and DEFROST positions for a bi-level blend (Compressor is automatically engaged).

Troubleshooting Guide

Symptom	Condition	Checks	Actions	Notes
1a.				
Blower stays on high speed when ignition is on.	No other functions work.	Check for damaged pins or wires in control head plug.	Verify that all pins are inserted into plug. Ensure that no pins are bent or damaged in ECU.	
		Check for damaged ground wire (white) in control head harness.	Verify continuity to chassis ground with white control head wire at various points.	Loss of ground on this wire renders control head inoperable.
	All other functions work.	Check for damaged blower switch or potentiometer and associated wiring.		See blower switch check procedure.
1b.				
Blower stays on high speed when ignition is on or off.		Unplug 3-wire BSC control connector from ECU. If blower shuts off, ECU is either improperly wired or damaged.	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU.	
		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).	No other part replacements should be necessary.
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.**
	System is charged.	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 5V, and will vary with pot lever position.
		Check for disconnected or faulty thermistor.	Check 2-pin connector at ECU housing.	Disconnected or faulty thermistor will cause compressor to be disabled.
3.				
Compressor will not turn off (All other functions work).		Check for faulty A/C potentiometer or associated wiring.	Repair or replace pot/control wiring.	Red wire at A/C pot should have approximately 5V with ignition on. White wire will have continuity to chassis ground. White/ Blue wire should vary between 0V and 5V when lever is moved up or down.
		Check for faulty A/C relay.	Replace relay.	

Troubleshooting Guide (Cont.)

Symptom	Condition	Checks	Actions	Notes
4. System will not turn on, or runs intermittently.	Works when engine is not running; shuts off when engine is started (typically early Gen IV, but possible on all versions).	Noise interference from either ignition or alternator.	Install capacitors on ignition coil and alternator. Ensure good ground at all points. Relocate coil and associated wiring away from ECU and ECU wiring. Check for burned or loose plug wires.	Ignition noise (radiated or conducted) will cause the system to shut down due to high voltage spikes. If this is suspected, check with a quality oscilloscope. Spikes greater than 16V will shut down the ECU. Install a radio capacitor at the positive post of the ignition coil (see radio capacitor installation bulletin). A faulty alternator or worn out battery can also result in this condition.
	Will not turn on under any conditions.	Verify connections on power lead, ignition lead, and both white ground wires.	Check for positive power at heater valve green wire and blower red wire. Check for ground on control head white wire.	
		Verify battery voltage is greater than 10 volts and less than 16.	Verify proper meter function by checking the condition of a known good battery.	
5. Loss of mode door function.	No mode change at all.	Check for damaged mode switch or potentiometer and associated wiring.		Typically caused by evaporator housing installed in a bind in the vehicle. Be sure all mounting locations line up and don't have to be forced into position.
	Partial function of mode doors.	Check for obstructed or binding mode doors.		
		Check for damaged stepper motor or wiring.		
6. Blower turns on and off rapidly.	Battery voltage is at least 12V.	Check for at least 12V at circuit breaker.	Ensure all system grounds and power connections are clean and tight.	System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
	Battery voltage is less than 12V.	Check for faulty battery or alternator.	Charge battery.	
7. Erratic functions of blower, mode, temp, etc.		Check for damaged switch or pot and associated wiring.	Repair or replace.	
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.	

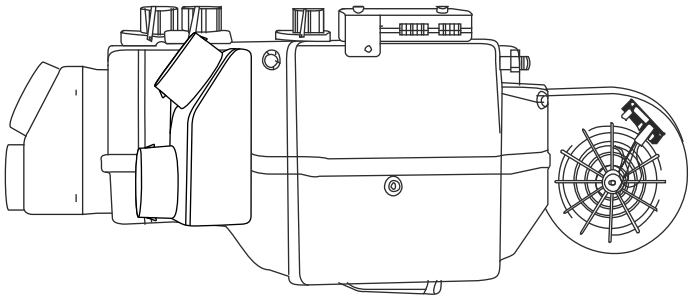
Packing List: Evaporator Kit (754150)

No.	Qty.	Part No.	Description	
1.	1	744015	Gen IV 4-Vent Evaporator Sub Case	_____
2.	1	791150	Accessory Kit	_____

Checked By: _____
Packed By: _____
Date: _____

1

Gen IV 4-Vent Evaporator Sub Case 744015



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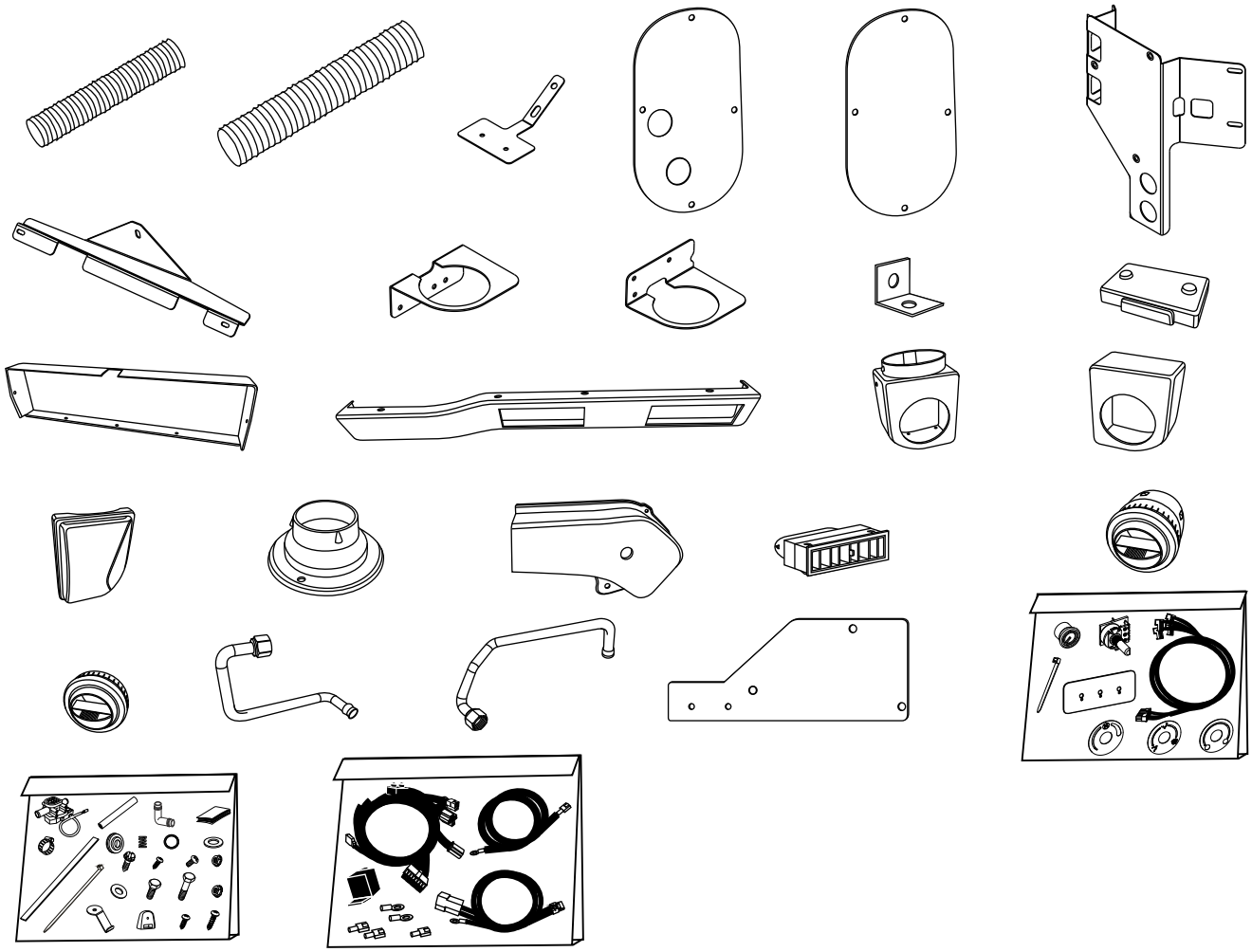

Accessory Kit 791150

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