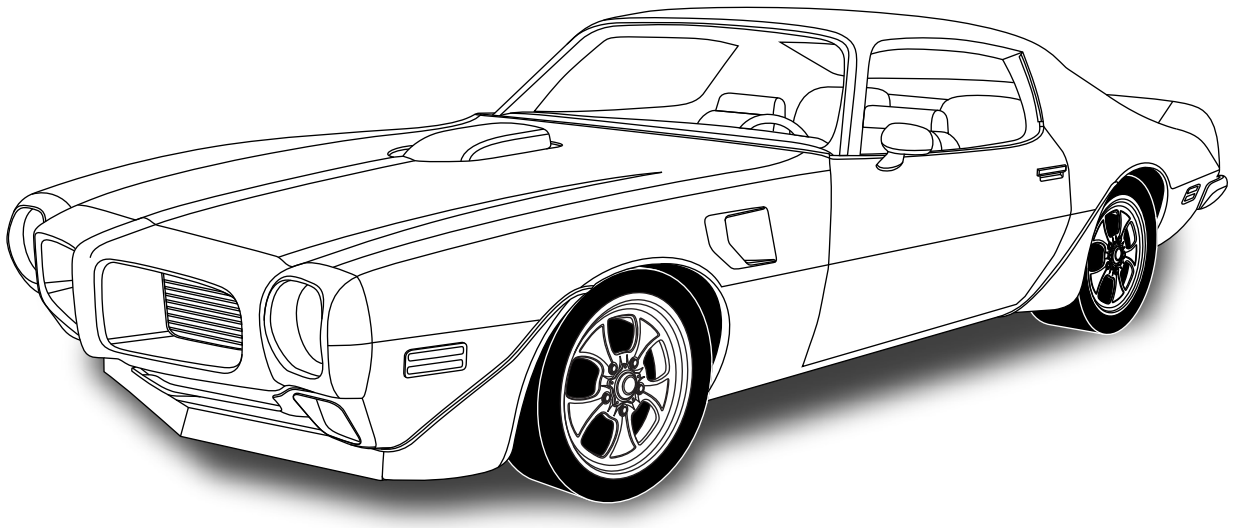
an ISO 9001:2015 Registered Company

1970-81 Pontiac Firebird

without **Factory Air**
Evaporator Kit
(561150)



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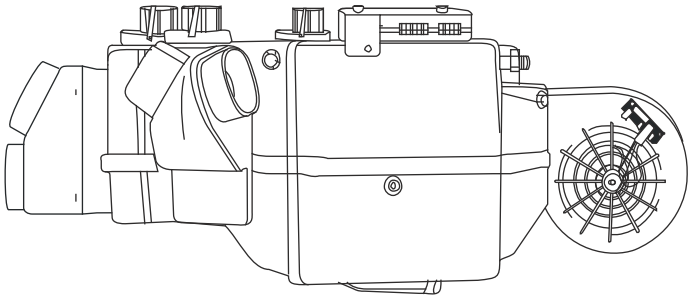
Packing List: Evaporator Kit (561150)

No.	Qty.	Part No.	Description
1.	1	744004-VUE	Gen IV 4-Vent Evaporator Sub Case w/ 204 ECU
2.	1	781182	Accessory Kit

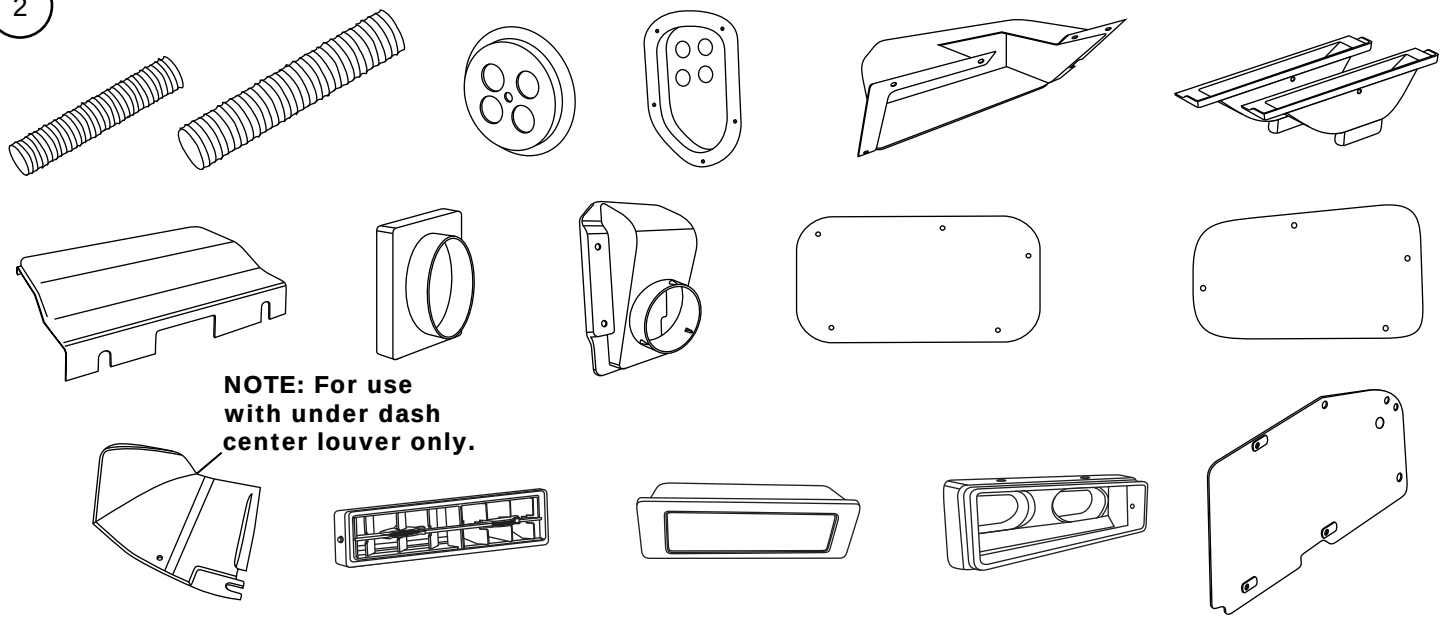
**** Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.**

1

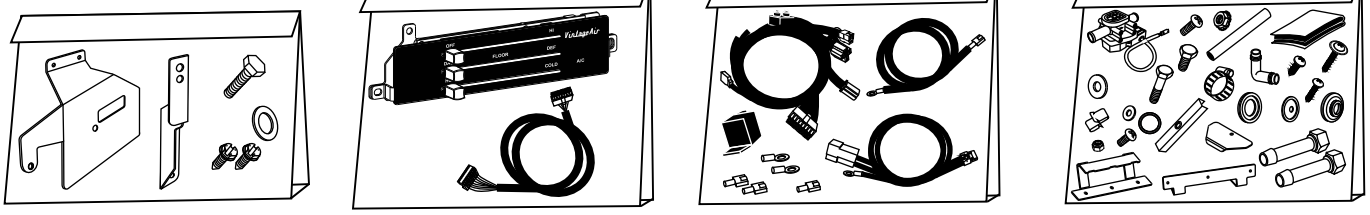


Gen IV 4-Vent Evaporator Sub Case w/ 204 ECU 744004-VUE

2



NOTE: For use with under dash center louver only.



Accessory Kit 781182

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 remain 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.

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Center Louver Information—Please Read

In their original configuration, 1970-81 Pontiac Firebirds without factory air are equipped with driver and passenger side louver vents, but no center louver vent. To ensure maximum performance, your Vintage Air SureFit™ system includes provisions for a center louver vent.

Depending on whether or not your model includes an OEM center console, the following center louver configurations are available. Because the installation procedure differs for each configuration, Vintage Air recommends making this determination before beginning the evaporator kit installation.

A. Console Mounted Center Louver (Vehicles Equipped with OEM Center Console):
This configuration features a louver vent mounted in the center console in place of the map pocket as shown below. **NOTE: Your evaporator kit includes all necessary parts. See instructions on Pages 22-24 for further information.**

B. Under Dash Center Louver (Vehicles without OEM Center Console):
This configuration features a center louver vent mounted below the dash as shown below. **NOTE: Your evaporator kit includes all necessary parts. See instructions on Page 25 for further information.**

C. OPTIONAL UPGRADE—Factory Air-Style Center Louver:
This configuration features two center louver vents mounted in the instrument panel trim plate as shown below. **NOTE: Additional purchase of Vintage Air Kit # 623241 or 623242 and dash modification are required. See http://www.vintageair.com/GM%20SureFit%20Instructions.asp for installation instructions and video. See Page 15 of this instruction manual for further information.**

A

B

C

NOTE: Additional purchase of Vintage Air Kit # 623241 or 623242 is required for factory air-style center louver upgrade.

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.

Perform the Following (NOTE: Retain OEM bolts, screws, washers and nuts, as some hardware will be reused):

1. Place (2) jack stands under the sway bar below the frame to keep the complete frame straight (See Photo 1, below).
2. Disconnect battery.
3. Drain radiator.
4. Remove the (2) OEM heater hoses (discard) (See Photo 2, Page 8).
5. Remove the air cleaner (retain) (See Photo 2, Page 8).
6. Remove the passenger side front tire (retain).
7. Remove the passenger side inner fender and radiator overflow (retain) (See Photo 4, Page 8). To remove the inner fender, remove the passenger side lower fender bolts (See Photo 3, Page 8). **NOTE: Protect the fender and door to avoid scratching the paint.**
8. Remove the (5) nuts and (2) bolts from the OEM heater assembly with blower motor (discard) (See Photo 5, Page 8).
9. Disconnect the heater blower connector (See Photo 6, Page 8).

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.

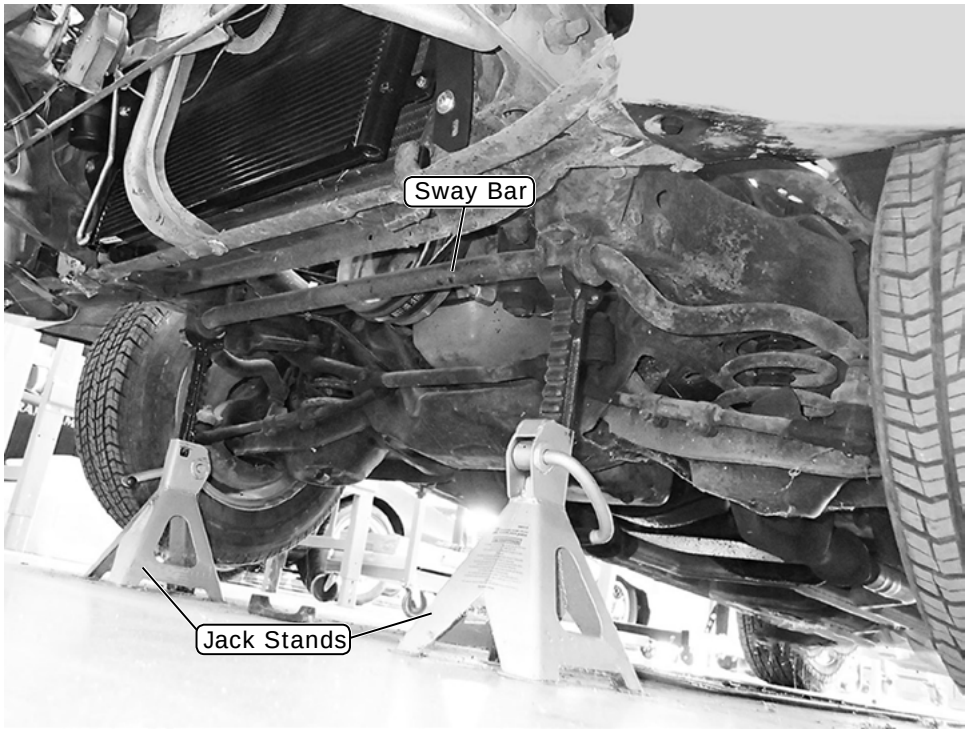


Photo 1

Engine Compartment Disassembly (Cont.)

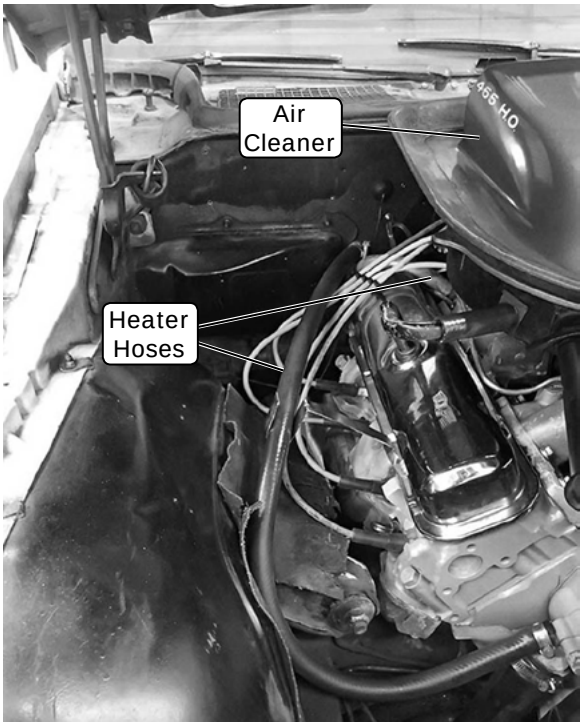


Photo 2

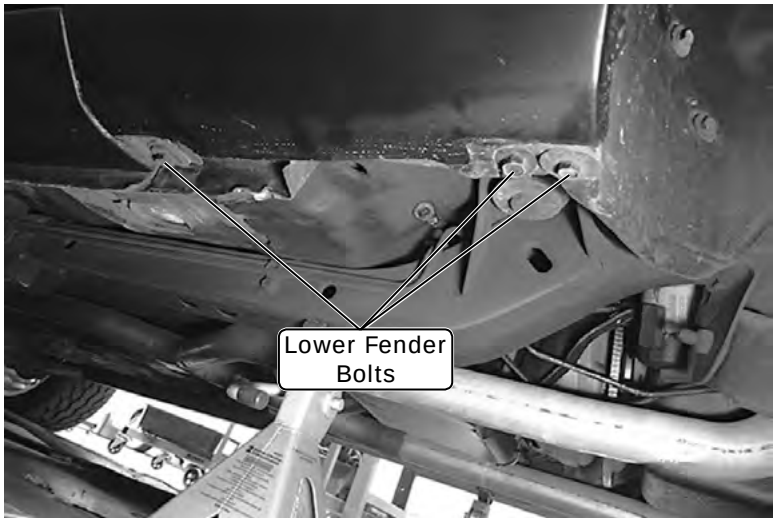


Photo 3

Photo 4

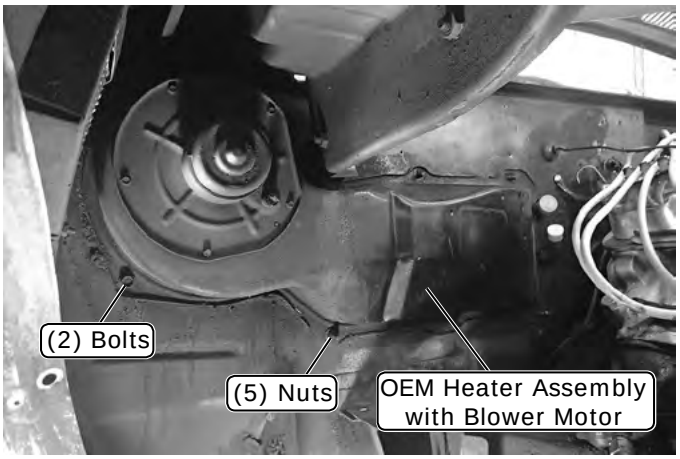


Photo 5

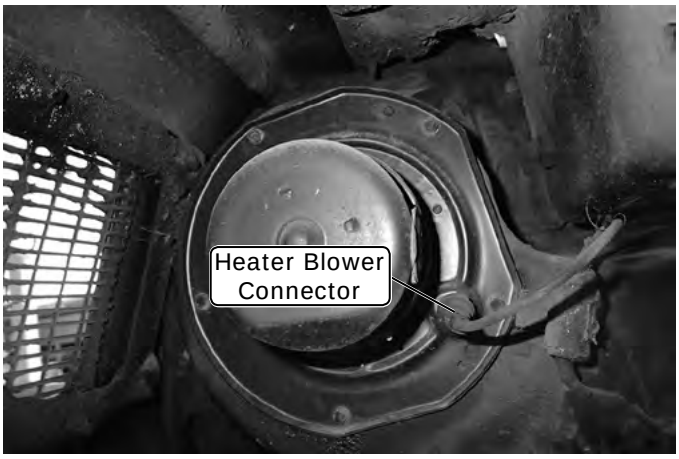


Photo 6

OEM Control Panel Removal

Perform the Following:

1. Remove (2) screws retaining the plastic cover beneath the steering column as shown in Photo 7, below (retain). Remove the cover (retain).
2. Remove the instrument panel trim plate by removing (2) lower screws (See Photo 8, below), (3) upper screws (See Photo 9, below), and the lighter retainer nut ring (See Photos 10 and 11, Page 10) (retain).
3. Disconnect cables and wires from the back of the control panel as shown in Photo 13, Page 10. **NOTE: For ease of access to the control panel cables and wires, Vintage Air recommends removing the gauge cluster located directly above the control panel (See Photo 12, Page 10).**
4. Remove the OEM control panel (discard).

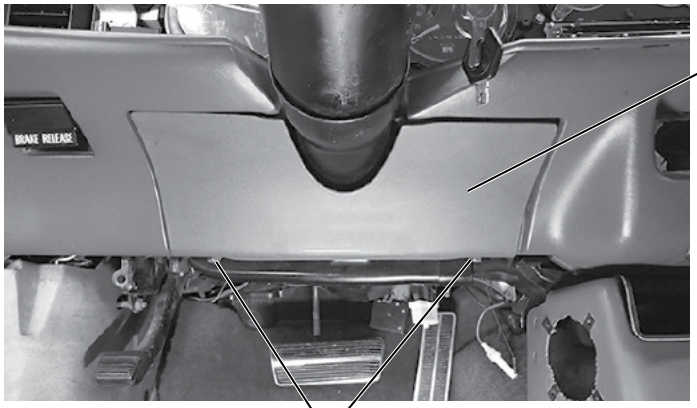


Photo 7

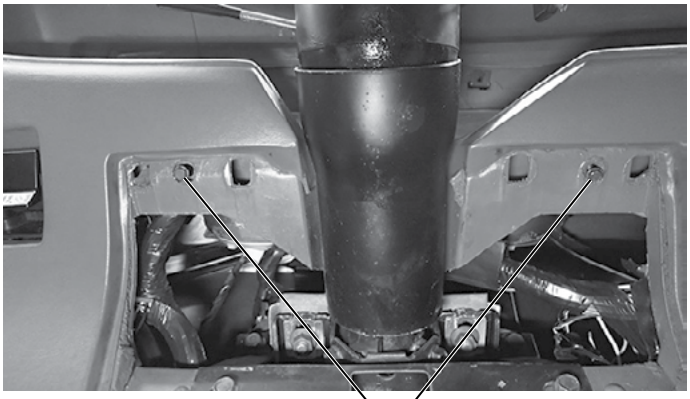


Photo 8

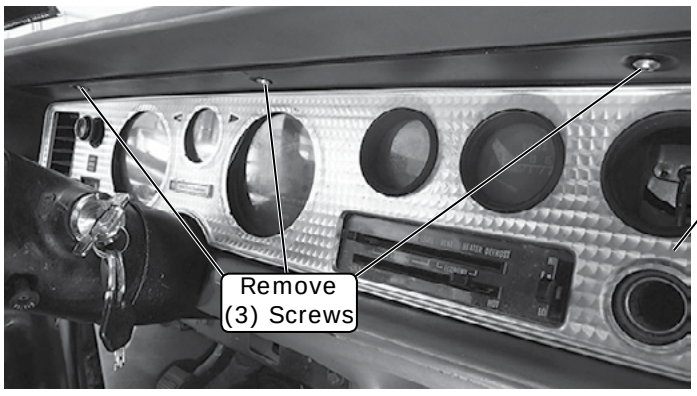


Photo 9

OEM Control Panel Removal (Cont.)

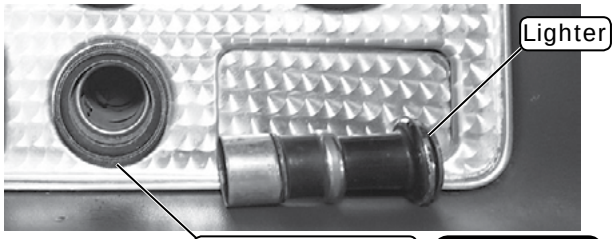
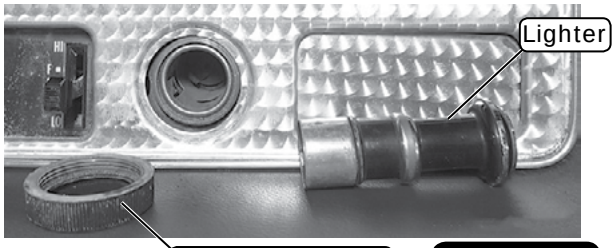


Photo 10



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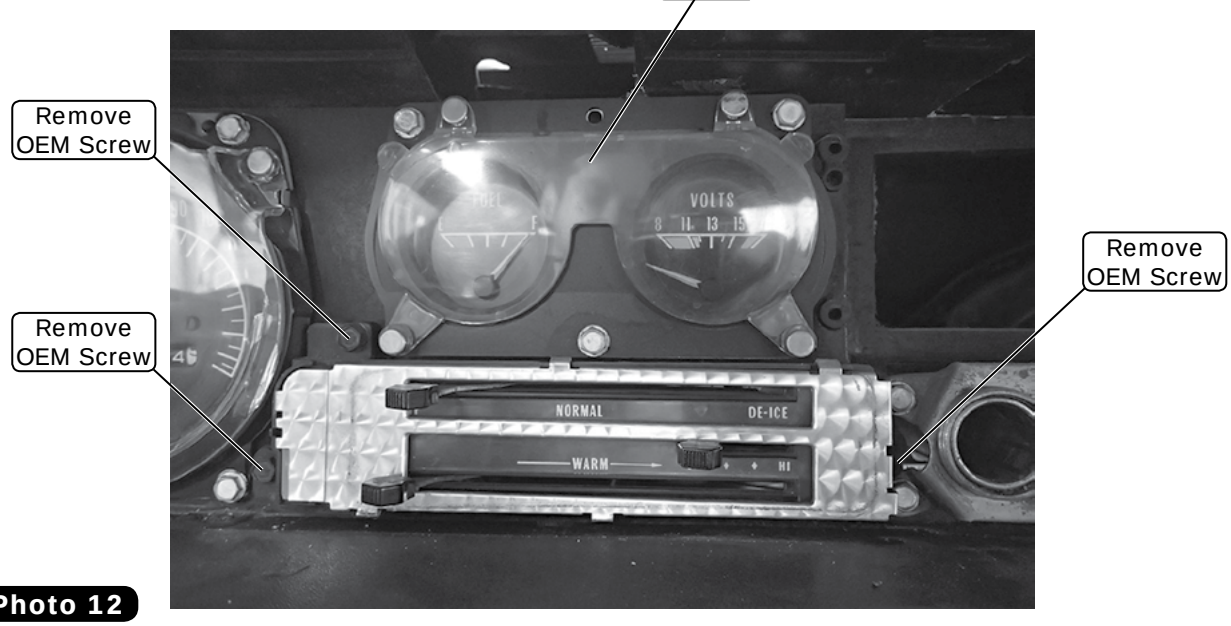

Photo 12

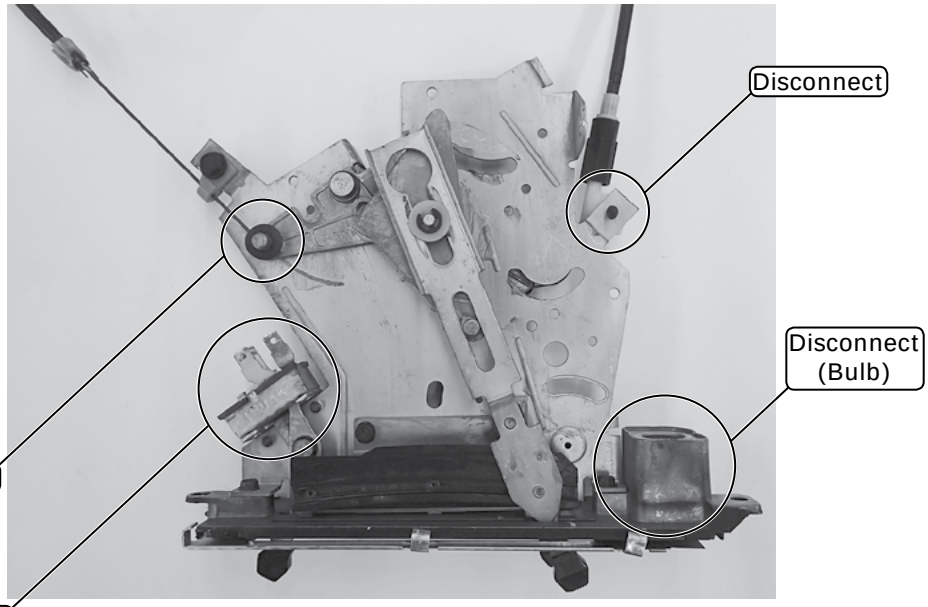

Photo 13

Passenger Compartment Disassembly

Perform the Following (NOTE: Retain OEM bolts, screws, washers and nuts, as some hardware will be reused):

1. For ease of access in the passenger compartment, remove the passenger seat (retain).
2. Remove the glove box door (retain) (See Figure 1, below).
3. Remove the glove box (discard) (See Figure 1, below).
4. Remove the OEM heater assembly ducting and defrost ducts (discard) (See Figure 2, below).
5. Remove the OEM heater assembly (discard) (See Figure 2, below).
6. Remove the OEM blower wire and grommet from the firewall (discard) (See Photo 14, Page 12).
7. Remove the passenger side kick panel by removing (5) OEM screws (retain). Disconnect the passenger side fresh air cables from the panel by removing the clips from the back side of the kick panel (See Figures 3 & 3a, Page 12).
8. Remove the cable from the passenger side astro vent duct, and then remove the astro vent duct by removing (5) screws (See Figure 2, below).
9. Remove the cable from the driver side astro vent duct, and then detach the astro vent duct by removing (4) screws (See Figure 2, below). To remove the driver side astro vent duct:
   - **A.** Remove (4) bolts and (2) nuts to lower the steering wheel and steering column (See Photo 15, Page 12).
   - **B.** Carefully remove the light conductor by removing (1) fastener (See Photo 16, Page 12).
   - **C.** Remove the instrument gauge cluster by removing (4) screws. Disconnect the wires and cables from the back side of the cluster (See Photo 16, Page 12).
   - **D.** Remove the driver side louver by pushing it all the way up while at the same time pulling out the bottom of the louver.
   - **E.** Loosen the windshield wiper switch by removing (3) screws. **NOTE: It is not necessary to unplug the connector.**
   - **F.** Remove the headlight switch by removing (2) screws and disconnecting the wire connector (See Photo 17, Page 12). **NOTE: On some cars, it may be necessary to loosen the driver side of the dashboard to remove the driver side astro vent and ducting. Refer to the OEM assembly manual as needed.**

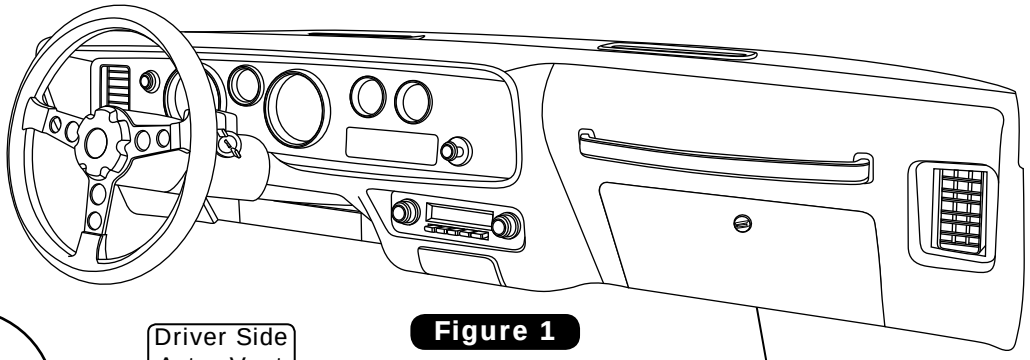

Figure 1

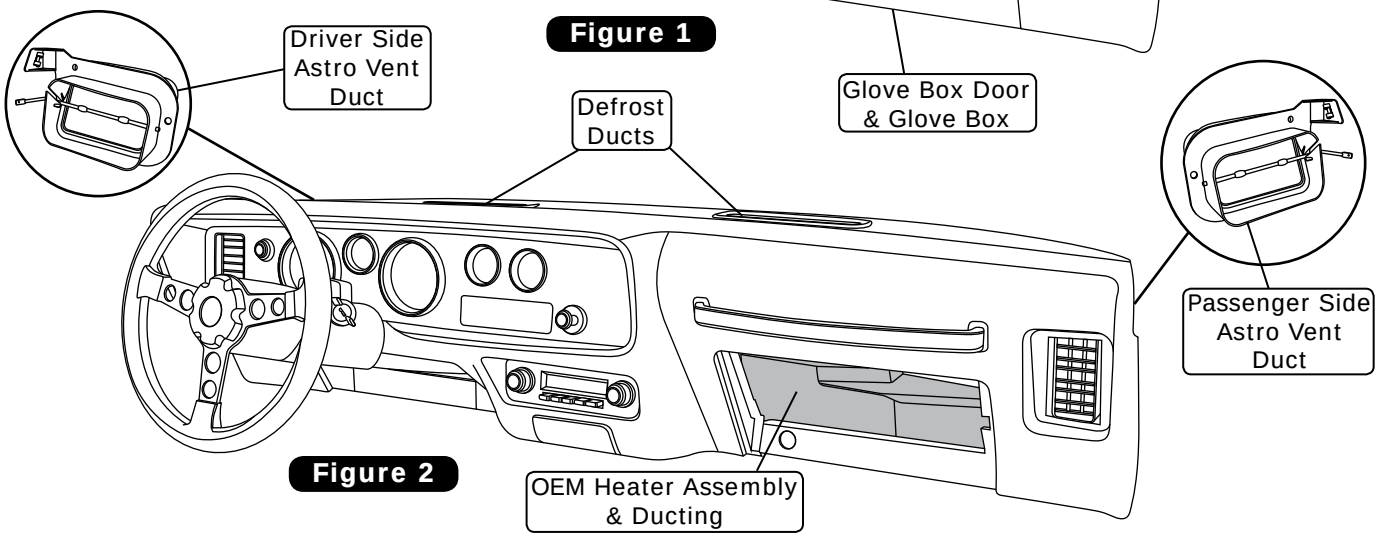

Figure 2

Passenger Compartment Disassembly (Cont.)

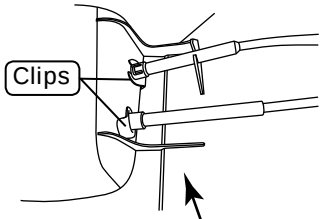

Figure 3a

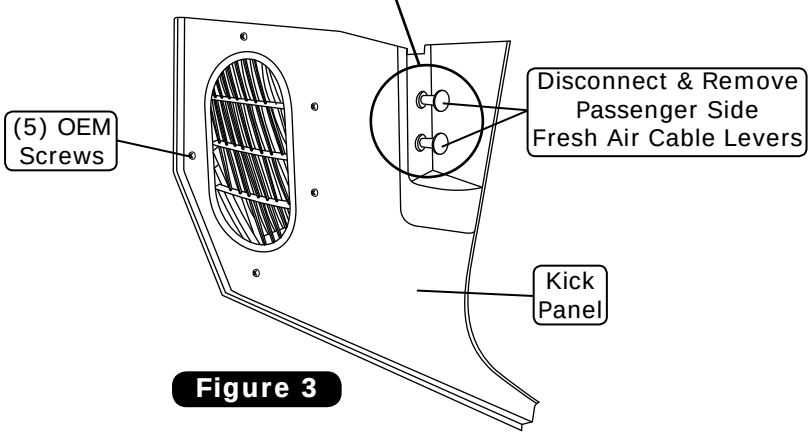

Figure 3

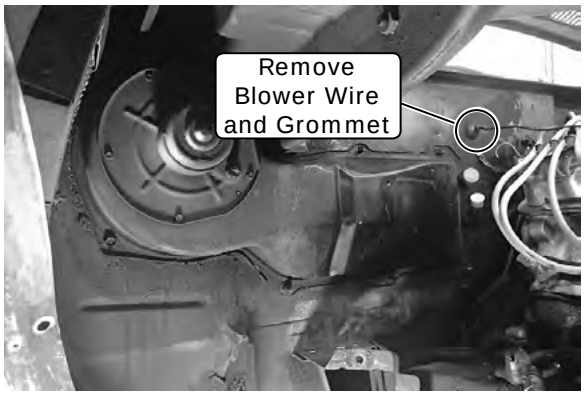

Photo 14

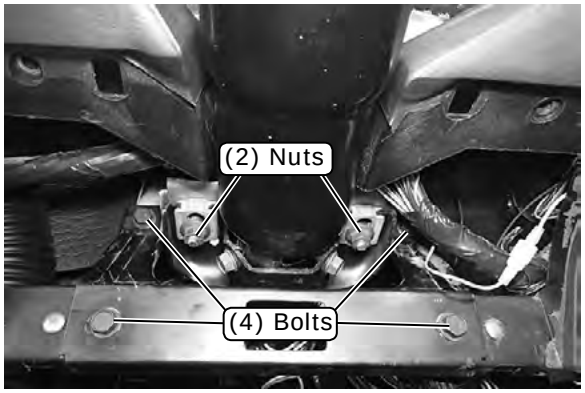

Photo 15

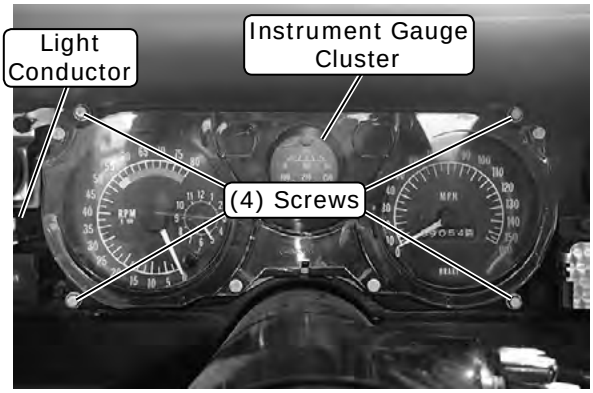

Photo 16

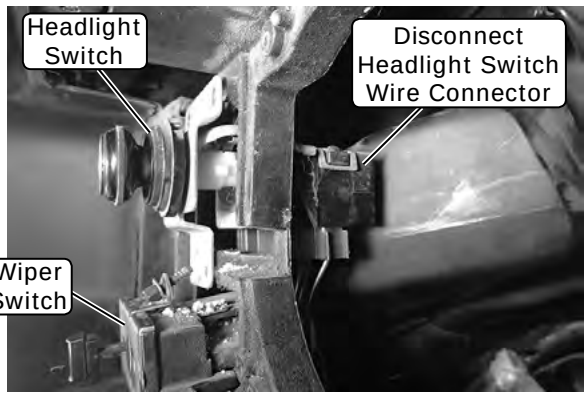

Photo 17

Fresh Air Cap Installation

1. Install (4) grommets into the fresh air cap as shown in Figure 4, below.
2. Apply a 1/4" bead of silicone around the mating surface of the fresh air cap as shown in Figure 4, below.
3. Attach the fresh air cap to the firewall using the fresh air cap bracket, a 1/4-20 x 1 ½" bolt, and a washer as shown in Figure 4, below. **NOTE: The fresh air cap installs on the engine side of the firewall.**
4. Install a 1 ¼" plug into the firewall (See Figure 4, below).

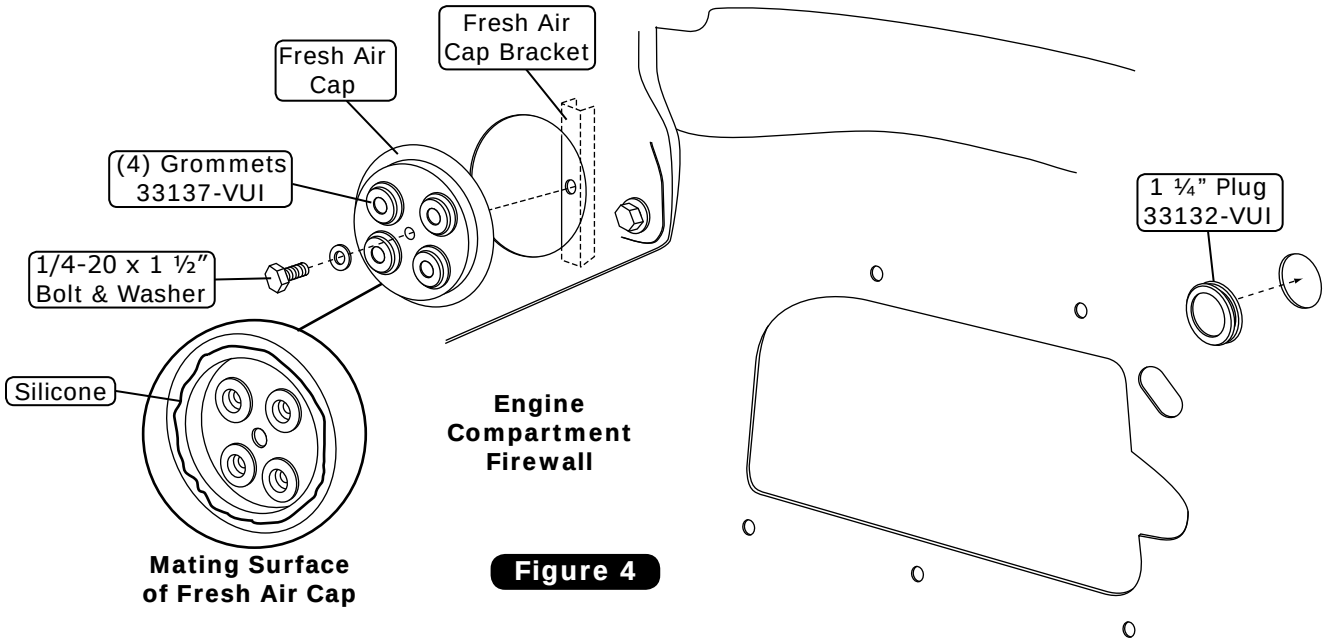

Figure 4

Firewall Cover Installation

1. Apply a 1/4" bead of silicone around the mating surface of the firewall cover (See Figure 5, Page 14).
2. From the passenger compartment, install the firewall cover onto the firewall. From the engine compartment, secure the firewall cover to the firewall using (3) 1/4-20 x 1/2" hex bolts, a 1/4-20 x 3/4" hex bolt, (5) washers and a 1/4" nut with star washer (See Figure 5, Page 14).
3. From the passenger compartment, drill a 5/16" hole using the firewall cover as a template, and then install a 1/4-20 x 3/4" bolt, (2) washers, and a nut with star washer (See Figure 5, Page 14). **NOTE: For a finished appearance and a watertight seal, Vintage Air recommends applying a smooth bead of automotive seam sealer in the engine compartment to the joint between the firewall cover and the firewall (See Photo 18, Page 14).**
4. Install a 3/8" grommet into the hole on the firewall cover, and then route the A/C wires through the grommet (12-volt, ground, binary switch, heater control valve) (See Photo 18, Page 14).

Firewall Cover Installation (Cont.)

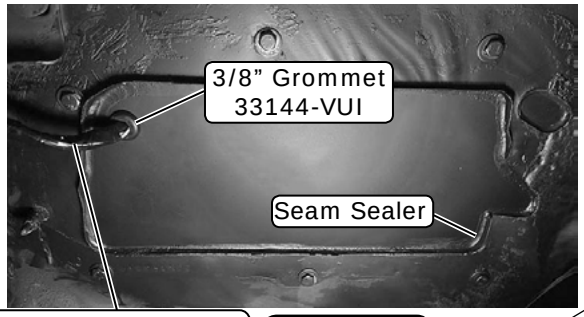

Photo 18

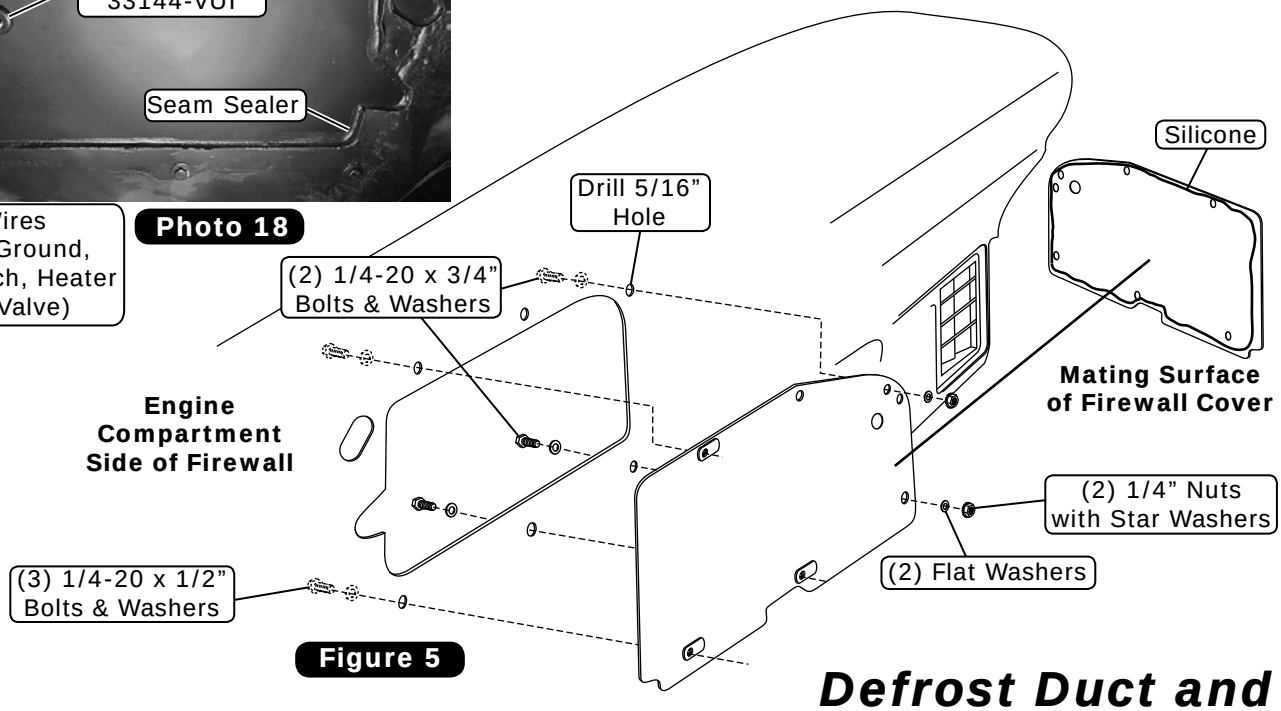

Figure 5

Defrost Duct and Fresh Air Cover Installation

1. Locate the driver and passenger side fresh air covers. Apply a 1/4" bead of silicone to the mating surface, and install using OEM screws as shown in Figure 6, below.
2. Locate the driver and passenger side defrost ducts. Attach a 22" length of 2" duct hose to the driver side defrost duct. Attach a 14" length of 2" duct hose to the passenger side defrost duct (See Figure 6, below).
3. Install the (2) defrost ducts onto the OEM defrost duct mounting flanges under the dash using (2) defrost brace brackets, (2) 10-32 x 1/2" screws and (2) 10-32 nuts with star washers (See Figure 6, below).

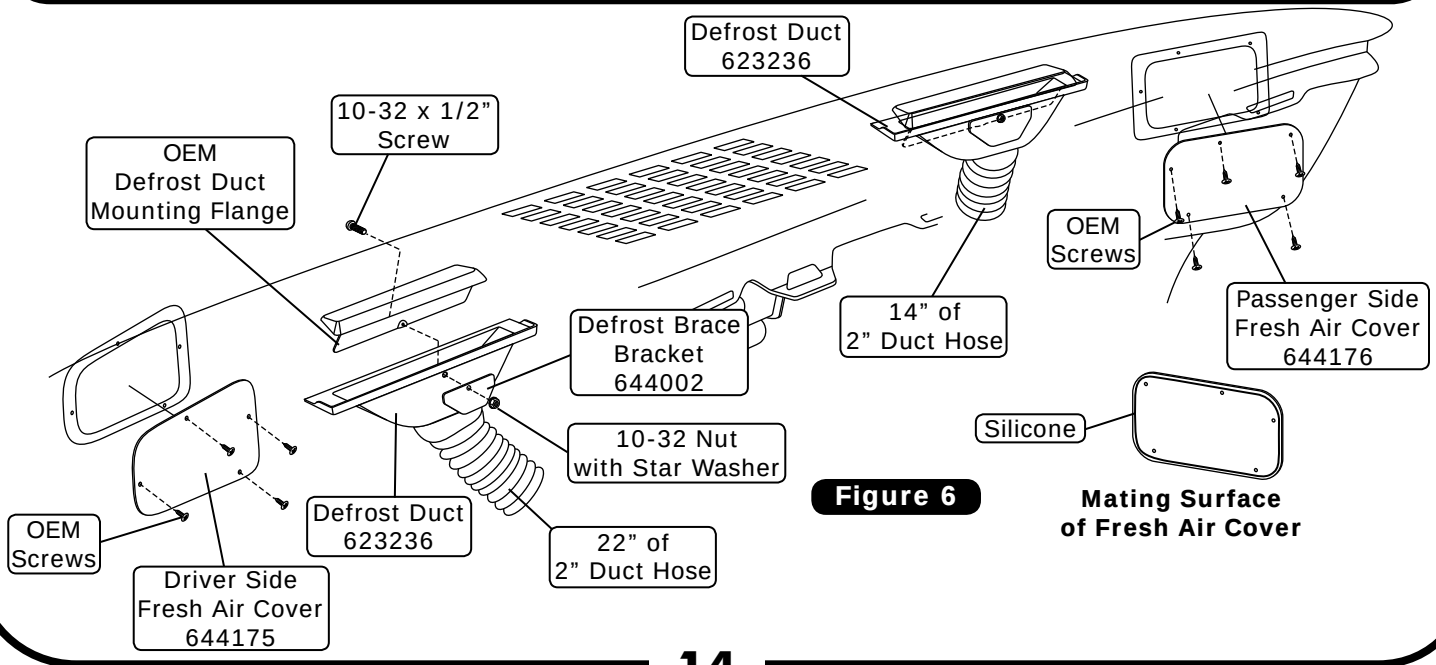

Figure 6

Duct Hose Adapter Installation

1. Locate the driver and passenger side hose adapters.
2. Install (2) S-clips ((1) on each side) onto the driver side hose adapter as shown in Figure 7, below.
3. Secure 36″ of 2 ½″ duct hose onto the driver side hose adapter as shown in Figure 7, below.
4. Install the driver side hose adapter onto the back side of the driver side OEM louver as shown in Figure 7, below.
5. Secure 50″ of 2 ½″ duct hose onto the passenger side hose adapter as shown in Photo 19, below.
6. Using (3) OEM screws, install the passenger side hose adapter onto the back side of the passenger side louver as shown in Photo 19, below.

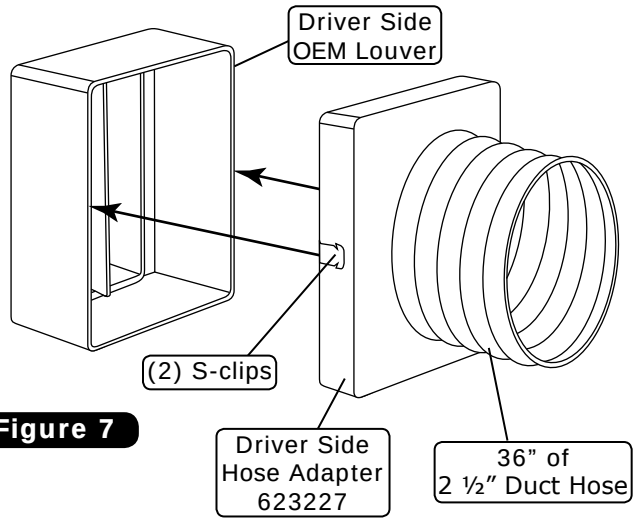

Figure 7

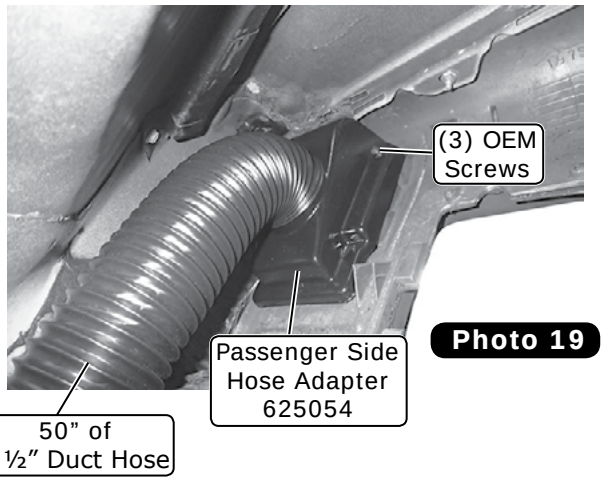

Photo 19

Optional Factory Air-Style Center Louver Upgrade Installation

1. Refer to separate instructions included with the optional factory air-style center louver upgrade kit.

Passenger Side Kick Panel and Fresh Air Cover Modification

1. Locate the OEM passenger side kick panel.

2. Remove the kick panel grille by cutting the kick panel along the outer edge of the grille (See Figure 8, below).

3. Enlarge the OEM lever housing holes to 1/2".

4. Install (2) 1/2" plastic plugs in the OEM lever housing holes (See Figure 8, below).

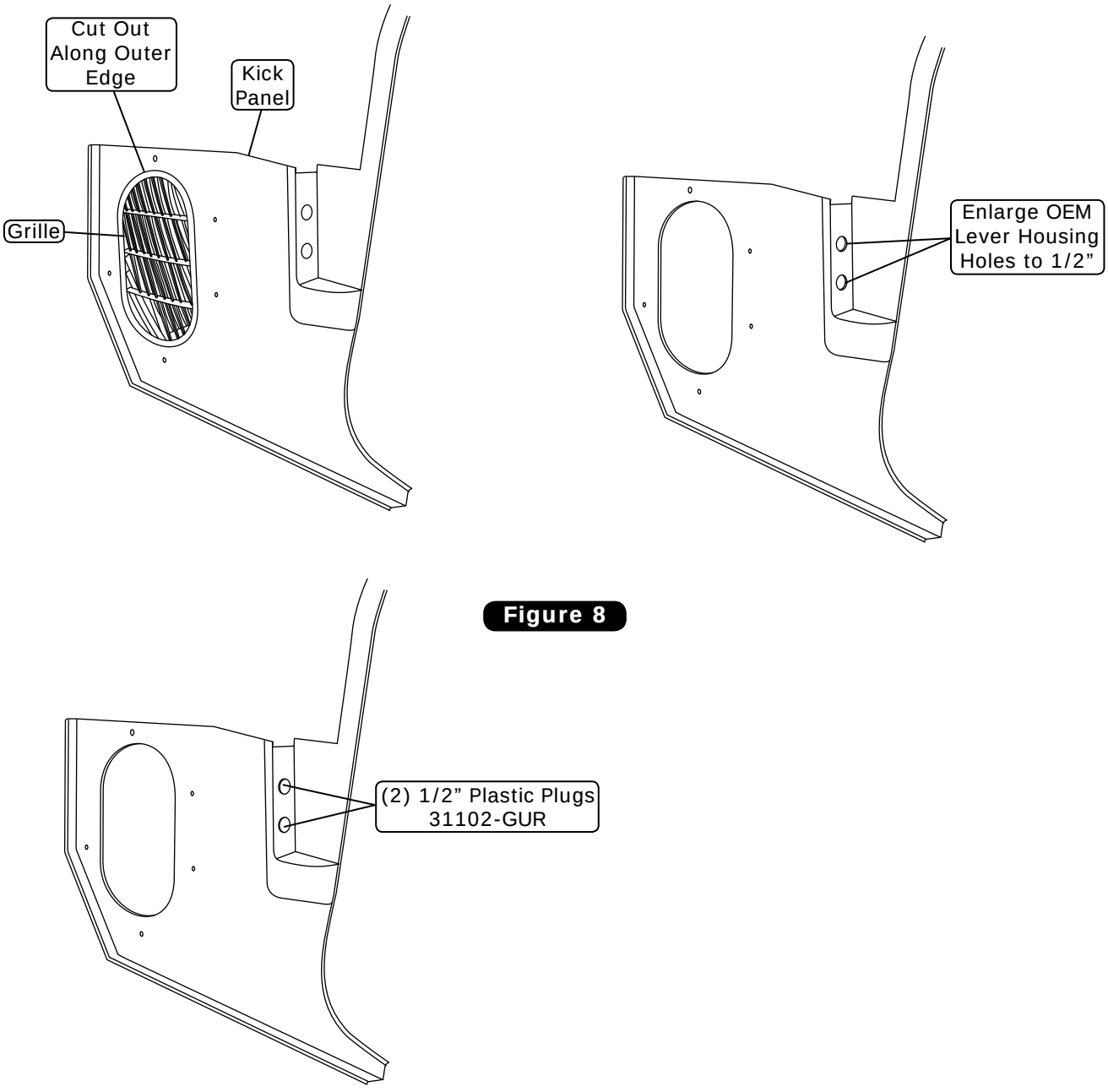

Figure 8

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Kick Panel Fresh Air Cap Installation

1. Install (4) grommets into the kick panel fresh air cap as shown in Figure 9a, below.
2. Place the kick panel into position in the passenger compartment. Route the A/C and heater hoses through the fresh air cap, the kick panel, and the kick panel fresh air cap as shown in Figures 9 & 9b, below.
3. Apply a 1/4" bead of silicone around the mating surface of the kick panel fresh air cap, and secure using (5) #8 x 1 ¼" countersunk screws with washers as shown in Figures 9a & 9b, below.

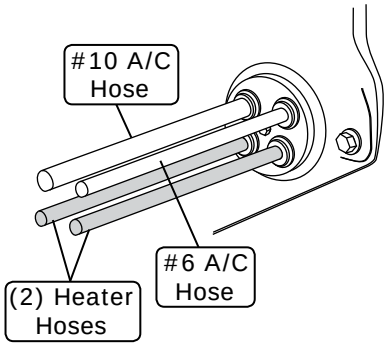


Figure 9

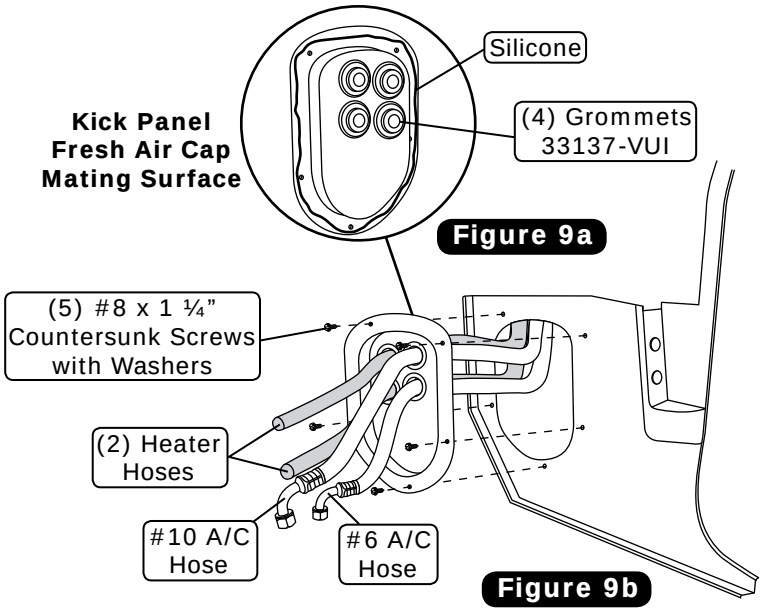


Figure 9a

Figure 9b

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. On a workbench, install the evaporator rear bracket using (2) 1/4-20 x 1/2" bolts (supplied on the evaporator sub case) (See Figure 10, Page 18).
2. Install (2) heater fittings (See Figure 10, Page 18) with properly lubricated O-rings (See Figure 13, Page 20).
3. Place the evaporator unit under the dashboard by the passenger side kick panel, and install the heater hoses and #6 A/C hose (See Figure 11a, Page 19). Use (2) hose clamps on the heater hoses.
4. Lift the evaporator sub case up under the dashboard. Using the top hole of the bracket, secure loosely to the firewall using a 1/4-20 x 1" bolt and washer (See Figure 11, Page 19). **NOTE: When lifting up the evaporator sub case, be careful to prevent damage to the drain outlet located at the bottom of the unit. Feed the hoses into or out of the kick panel fresh air cap as needed while lifting the evaporator sub case into position.**
5. Install the #10 A/C hose onto the evaporator (See Figure 11a, Page 19) with properly lubricated O-rings (See Figure 13, Page 20).
6. Install press tape all around the #10 A/C hose fitting as shown in Figure 11a, Page 19.
7. Install the front mounting bracket onto the evaporator using (2) 1/4-20 x 1/2" bolts, and tighten (See Figure 11, Page 19).
8. Using the front mounting bracket as a template, mark and drill (2) 5/32" holes on the inner cowl (See Figure 11, Page 19). **NOTE: To ensure proper drainage, it is very important that the evaporator is level, both left-right and fore-aft. Prior to drilling, check for level on the flat portions of the case around the drain.**
9. Loosely attach the front mounting bracket to the inner cowl using (2) #14 x 3/4" sheet metal screws (See Figure 11, Page 19).
10. Verify that the 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 sheet metal screws.**

Evaporator Installation (Cont.)

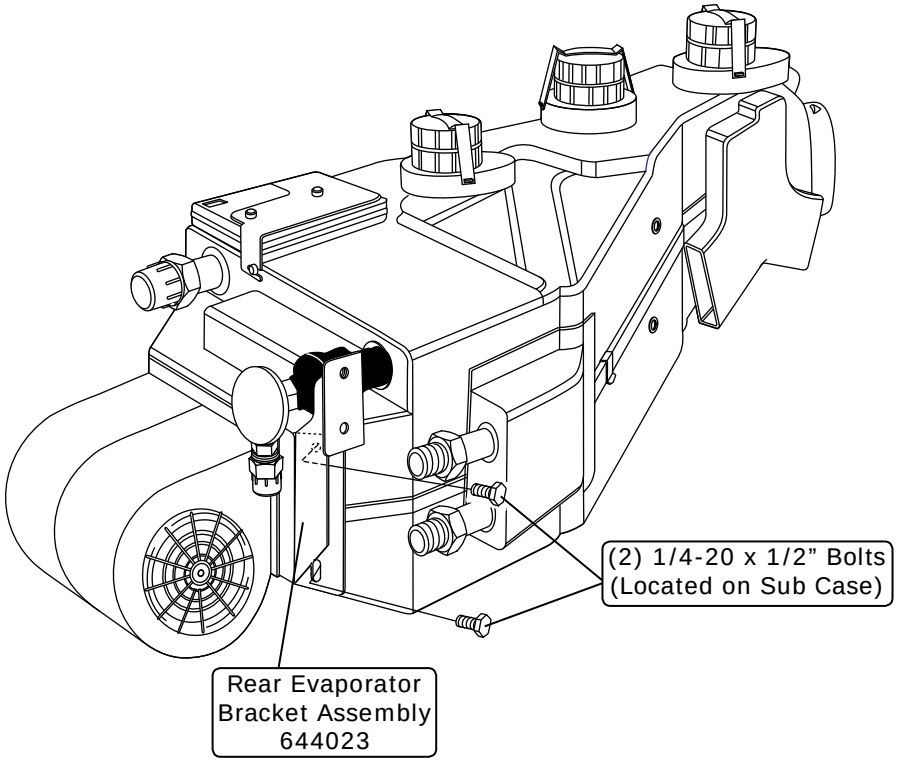
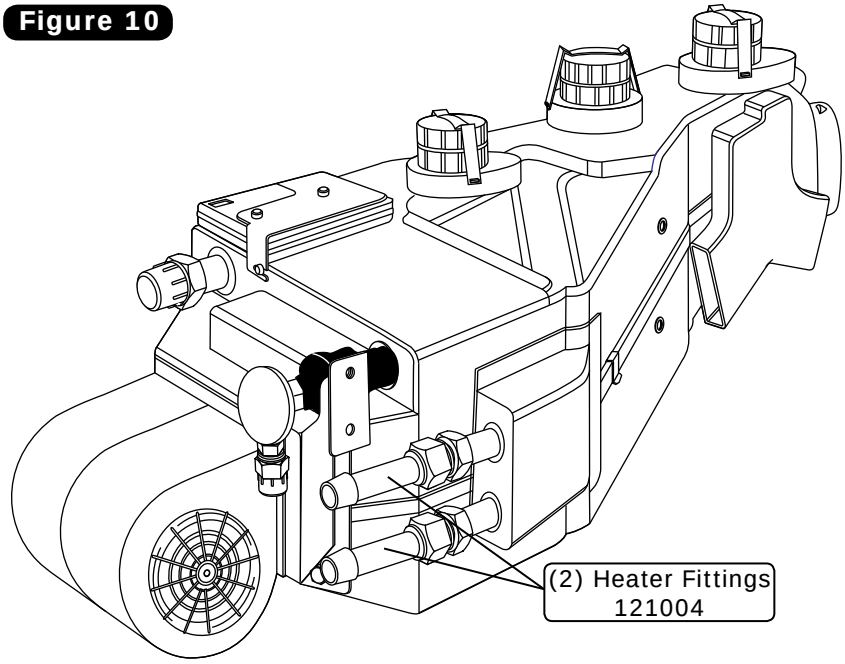


Figure 10



Evaporator Installation (Final)

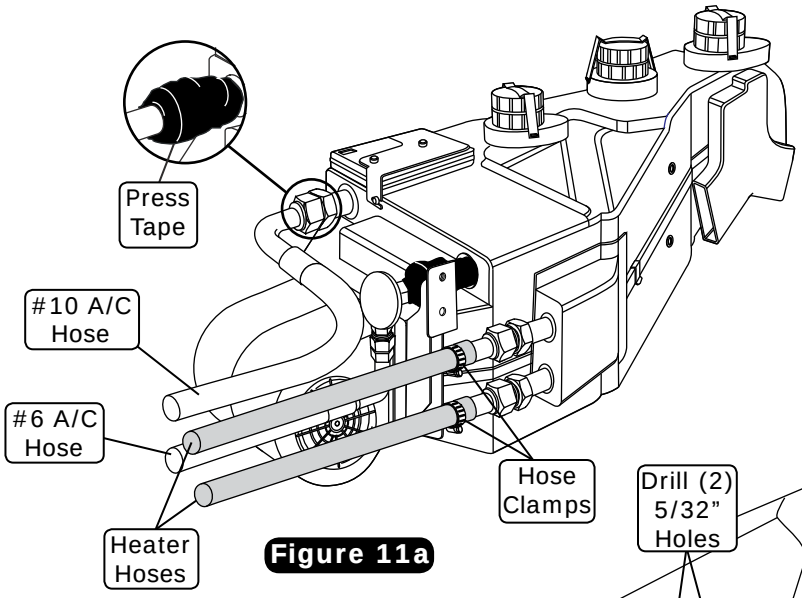


Figure 11a

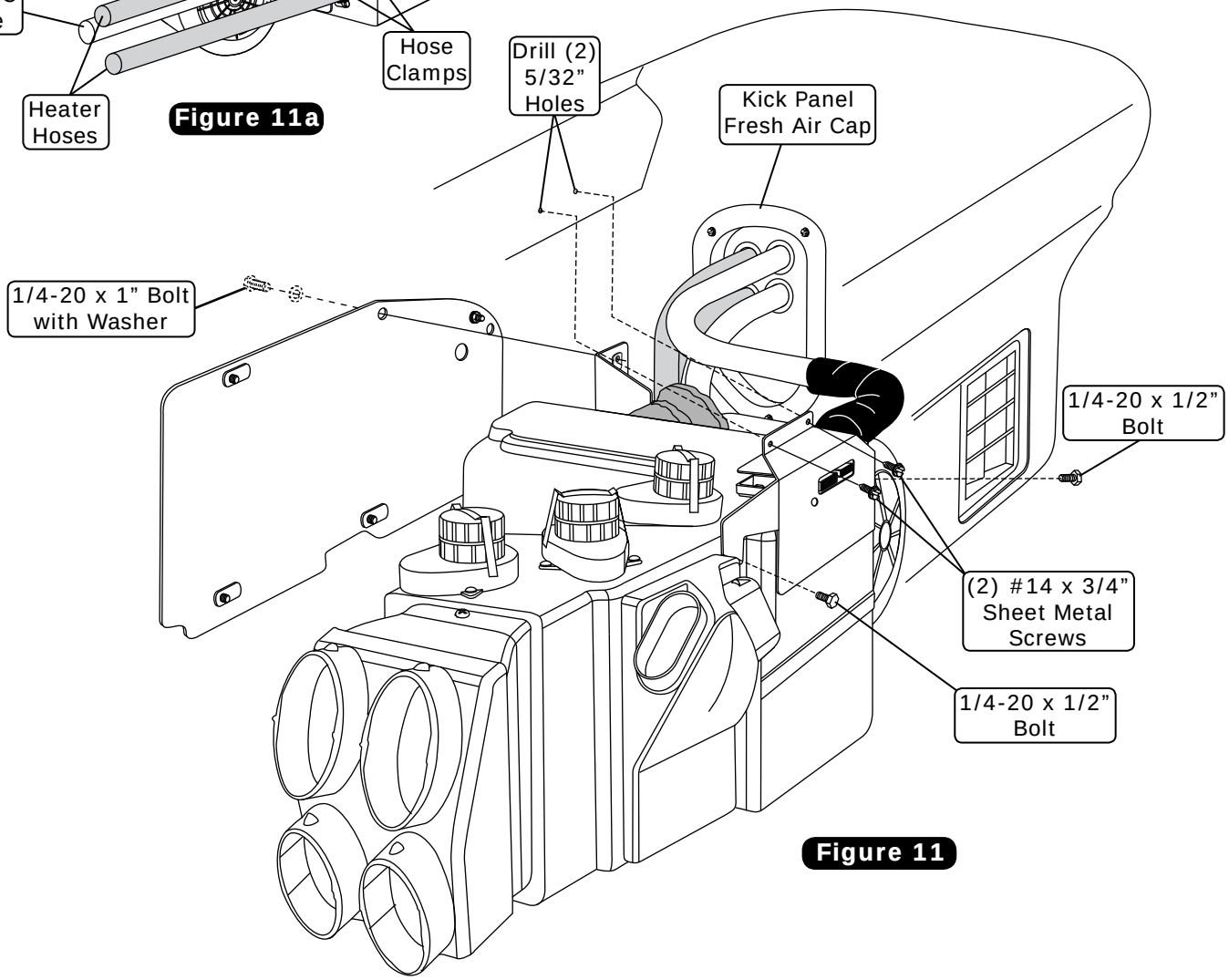


Figure 11

Drain Hose Installation

1. Locate the evaporator drain on the bottom of the evaporator case.
2. In line with the drain, lightly make a mark on firewall. Then, measure 1" down and drill a 5/8" hole through the firewall (See Figure 12, below).
3. Install the drain hose onto the evaporator drain on the bottom of the unit, and route through the firewall.

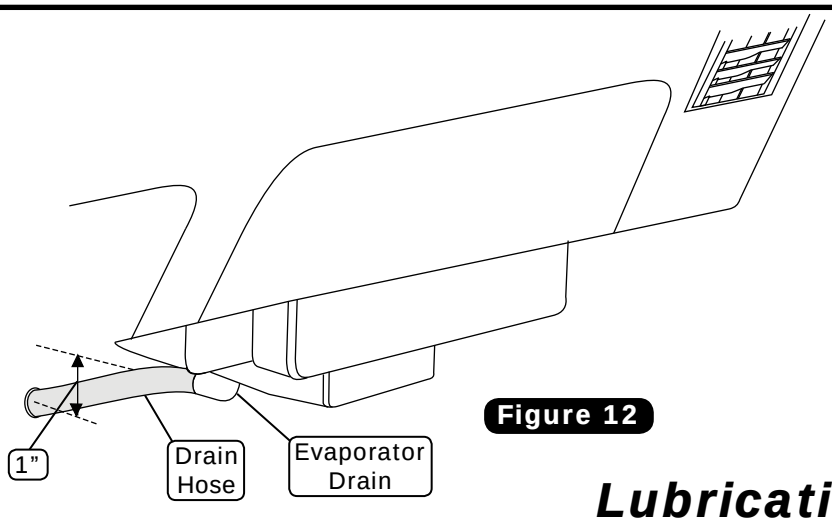
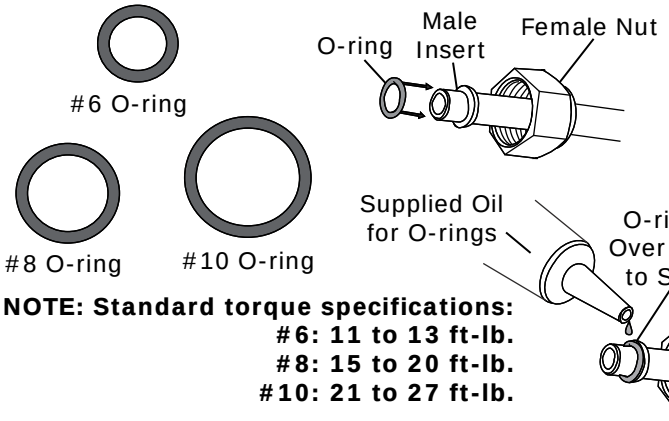


Figure 12

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.

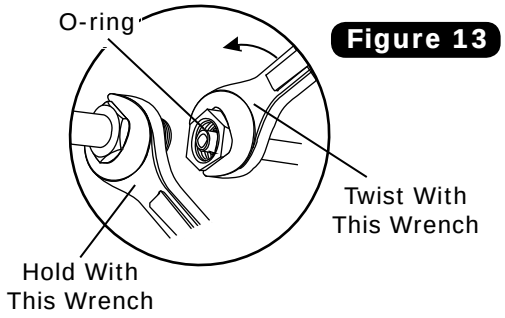


Figure 13

A/C Hose Installation

Standard Hose Kit:

1. Locate the #8 compressor A/C hose. Lubricate (2) #8 O-rings (See Figure 13, above) and connect the #8 135° fitting with 134a service port to the #8 discharge port on the compressor (See Photo 20, Page 21). Then route the #8 45° fitting to the #8 condenser hardline coming through the core support (See Photo 20, Page 21). Tighten each fitting connection.
2. Locate the #10 compressor A/C hose. Lubricate (2) #10 O-rings (See Figure 13, above) and connect the #10 135° fitting with 134a service port to the #10 suction port on the compressor (See Photo 20, Page 21). Then route the #10 90° fitting to the #10 fitting on the evaporator (See Figure 11a, Page 19, & Figure 14, Page 21). Tighten each fitting connection.
3. Locate the #6 evaporator A/C hose. Lubricate (2) #6 O-rings (See Figure 13, above) and connect the #6 straight fitting to the #6 hardline coming through the core support from the drier (See Photo 20, Page 21). Then route the #6 90° fitting to the #6 fitting on the evaporator (See Figure 11a, Page 19, & Figure 14, Page 21). Tighten each fitting connection.

Modified Hose Kit:

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

Heater Hose & Heater Control Valve Installation

1. Route a piece of heater hose from the water pump to the upper heater core fitting (See Photo 20, below, & Figure 11a, Page 19). Secure using hose clamps.
2. Route a piece of heater hose from the intake to the heater control valve, and from the heater control valve to the lower heater core fitting (See Photo 20 & Figure 14, below, & Figure 11a, Page 19). **NOTE: Install the heater control valve in line with the intake manifold (pressure side) heater hose, and secure using hose clamps. Also note proper flow direction.**

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.

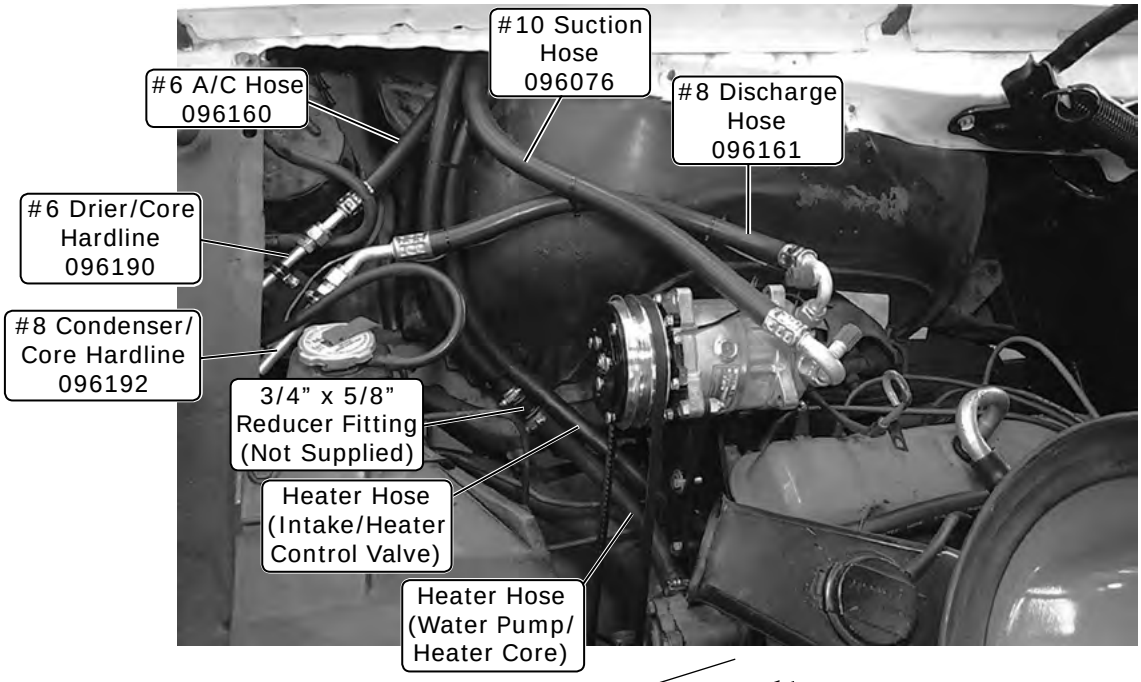


Photo 20

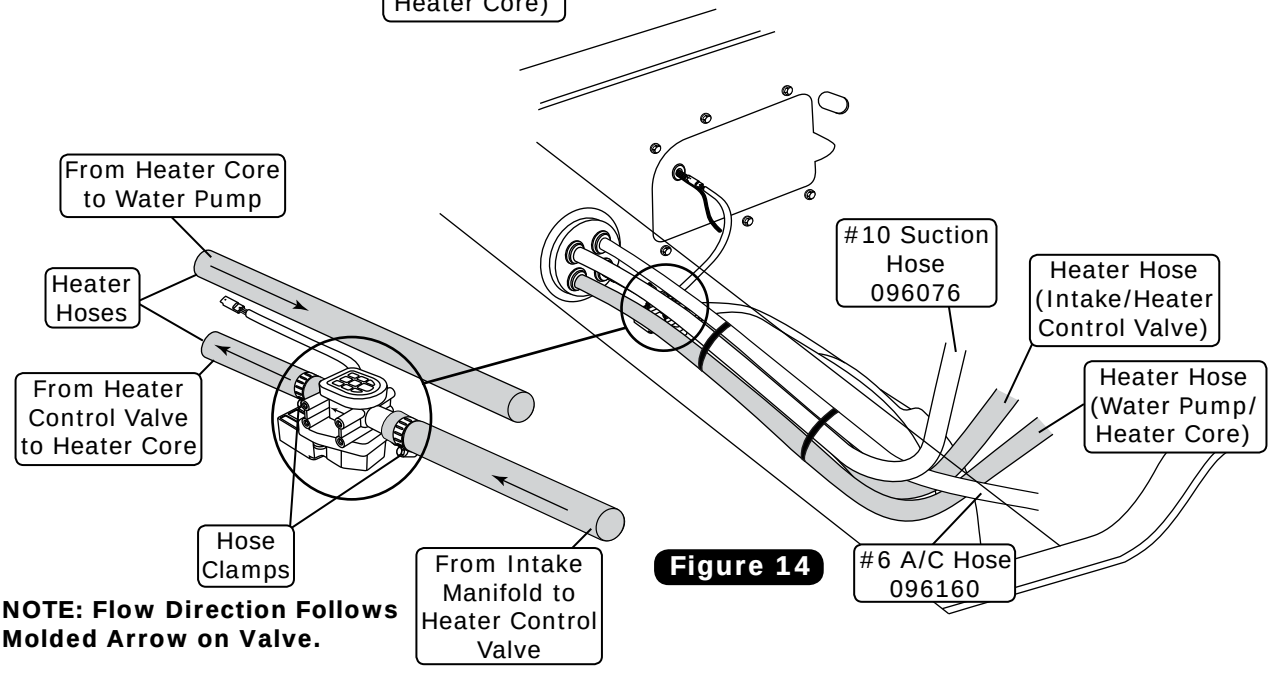


Figure 14

NOTE: Flow Direction Follows Molded Arrow on Valve.

Final Steps

1. Install the duct hoses onto the sub case (See Figure 15, Page 27).
2. Install the control panel assembly. Refer to control panel instructions.
3. Plug the wiring harnesses into the ECU module on the sub case. Wire according to the wiring diagrams on Pages 28 & 29.
4. Refer to the instructions below, and on Pages 23-25, and install the center louver assembly.
5. Refer to the instruction on Page 26, and install the glove box.
6. Refer to the instruction on Page 26, and install the driver side under dash cover.
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 licensed automotive A/C 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 30.

Console Mounted Center Louver Installation (with OEM Console)

1. Remove the center console assembly:
   - **A.** Open the center console glove box door and remove the console glove box by removing the (2) OEM screws (retain) (See Photo 21, Page 23).
   - **B.** Remove the (4) OEM screws from the bracket located under the console glove box (See Photo 22, Page 23).
   - **C.** Remove the shifter knob by removing the center button, and then the snap ring beneath it (See Photo 23, Page 23).
   - **D.** Remove the shifter escutcheon by removing (4) OEM screws (See Photo 23, Page 23).
   - **E.** Disconnect the light bulb from the back side of the shifter escutcheon (retain) (See Photo 24, Page 23).
   - **F.** Remove the (2) OEM screws from the center console support bracket located on the front side of the center console assembly (retain) (See Photos 25 & 25a, Page 23).
2. Remove the console map pocket by removing (4) screws (See Photos 26 and 27, Page 24).
3. Enlarge the (2) holes on the console bracket to 11/64" (See Photo 27, Page 24).
4. Locate the console mounted center louver housing and the center louver deflector. Install the center louver deflector into the housing (See Photo 28, Page 24).
5. Insert the center louver assembly into the console. **NOTE: The notch at the back of the center louver assembly indicates the bottom side of the console (See Photos 28 & 29, Page 24).**
6. Turn the console upside down, being careful to avoid moving the center louver assembly, and install the console mounted center louver bracket using (2) 8/32 x 3/8" bolts, washers and nyloc nuts (See Photo 30, Page 24).
7. Once the bracket has been installed, mark and drill (3) 5/64" holes onto the center louver assembly, using the bracket as a template, and secure using (3) #6 pan head screws (See Photo 30, Page 24).
8. Secure (2) 20" lengths of 2 ½" duct hose onto the back side of the center louver assembly while reinstalling the center console.

Console Mounted Center Louver Installation (with OEM Console) (Cont.)

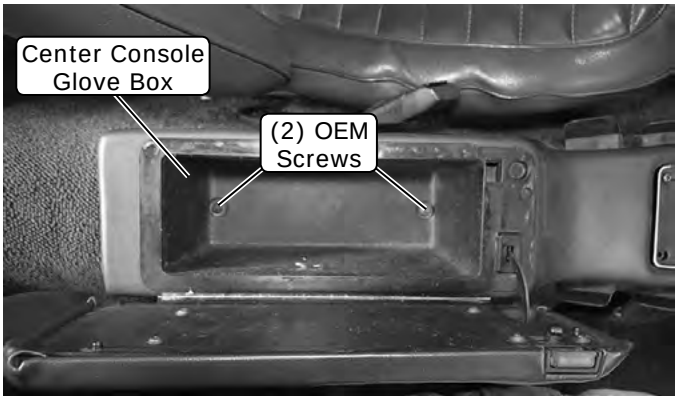


Photo 21

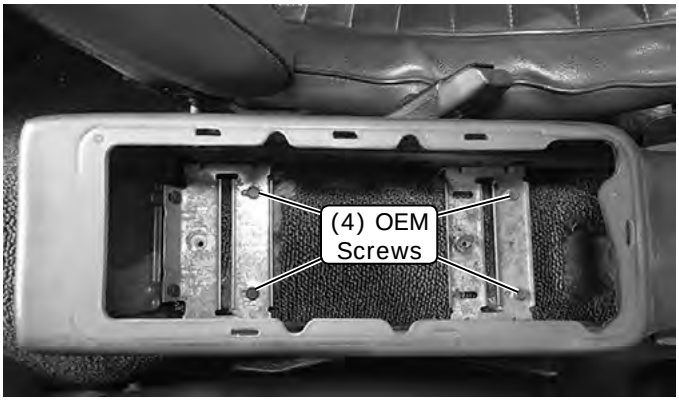


Photo 22

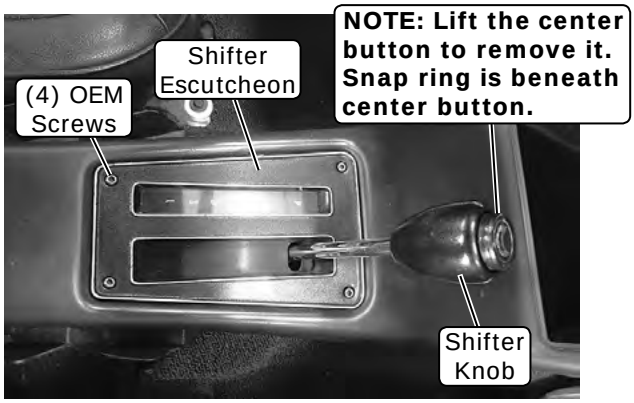


Photo 23

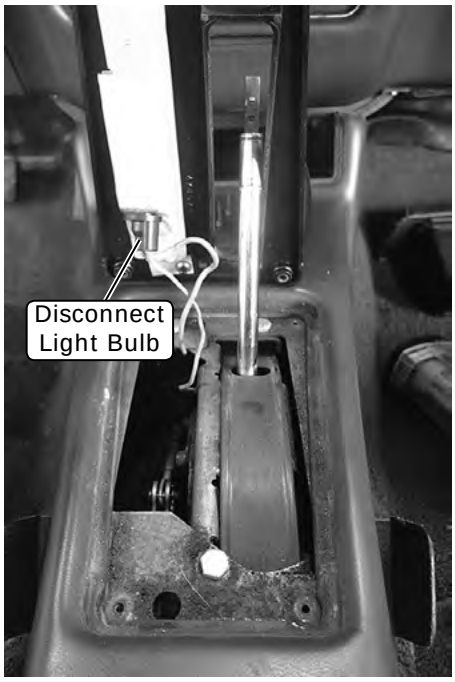


Photo 24

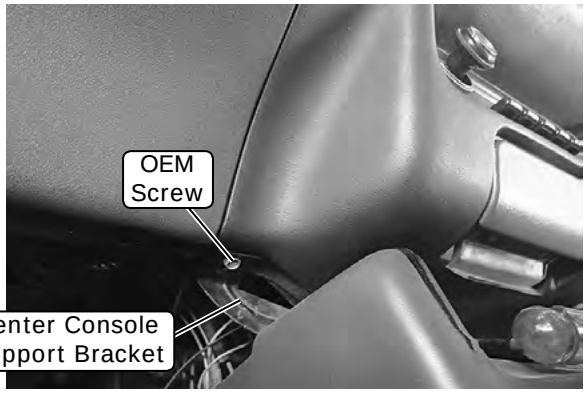


Photo 25

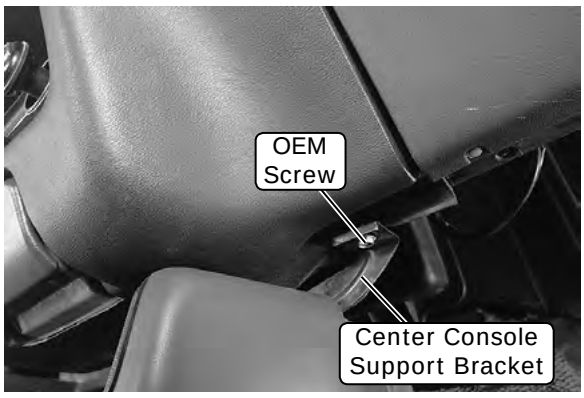


Photo 25a

Console Mounted Center Louver Installation (with OEM Console) (Final)

Top View of Center Console

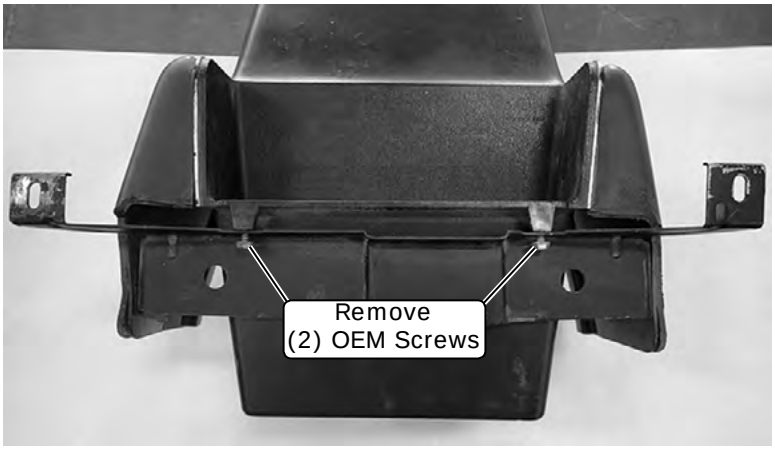


Photo 26

Bottom View of Center Console

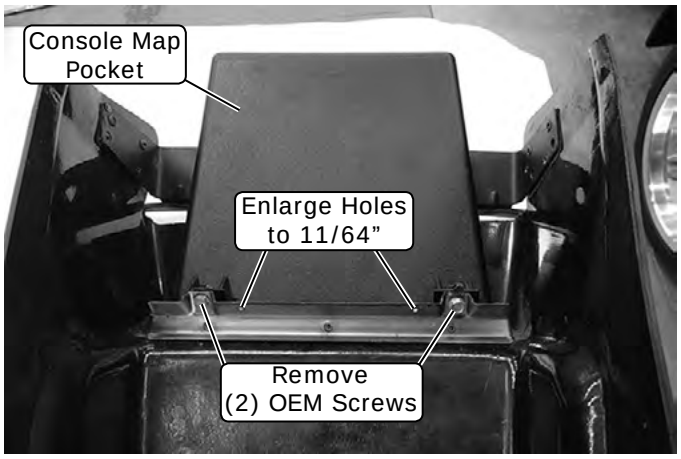


Photo 27

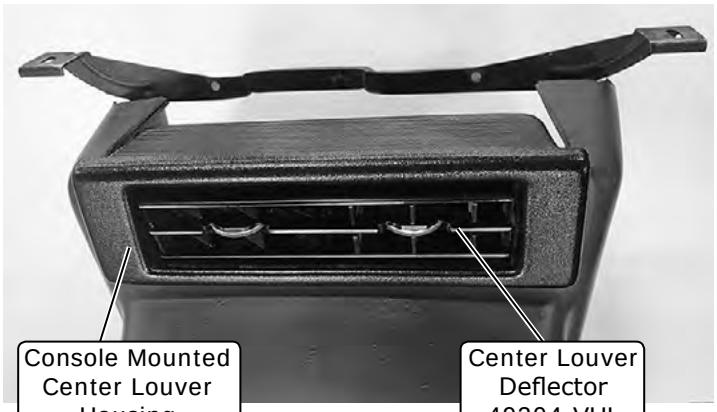


Photo 28

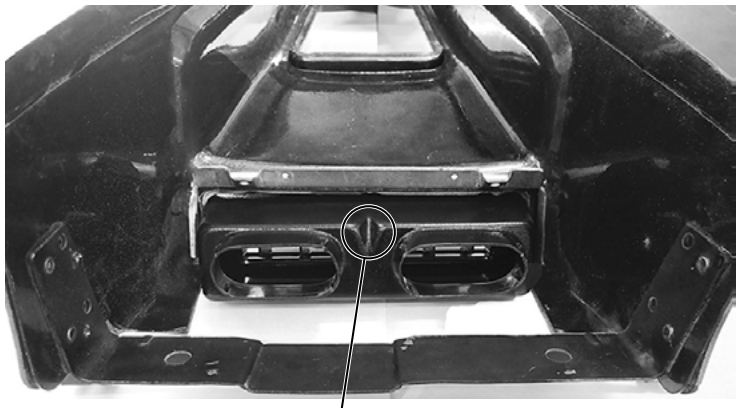


Photo 29

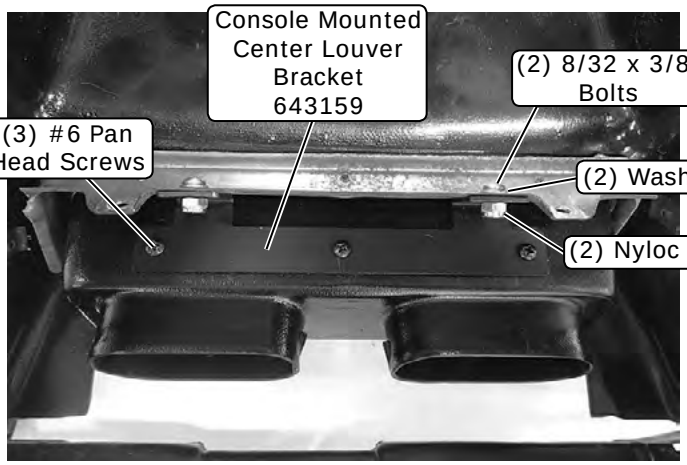


Photo 30

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Under Dash Center Louver Installation (without OEM Console)

1. Locate the center louver deflector and the under dash center louver housing. Install the louver deflector into the housing (See Photo 31, below).
2. Locate the under dash center louver bracket and insert (3) S-clips into the notches (See Photos 31 & 33, below). **NOTE: The shorter side of the S-clip installs onto the center bracket, and the longer side installs onto the dash brace.**
3. Place the center louver bracket on top of the center louver assembly as shown in Photo 31, below. Using the bracket as a guide, match drill (3) 5/64" holes into the center louver assembly, and install (3) #6 pan head screws (See Photos 31, 32 & 33 below). **NOTE: The top side is the side with (2) holes.**
4. Install the center louver assembly onto the OEM under dash support brace located behind the ash tray bracket (See Photos 34 & 35, below). **NOTE: Be sure to center the louver assembly before installing it.**
5. Secure (2) 10" lengths of 2 ½" duct hose on the back side of the center louver assembly.

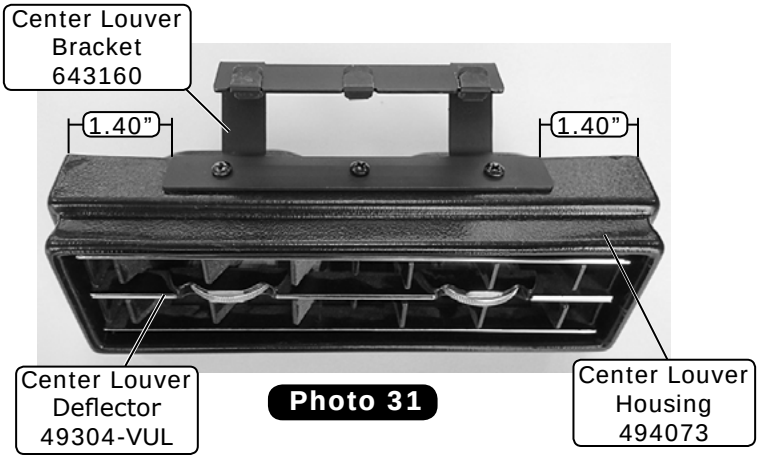


Photo 31

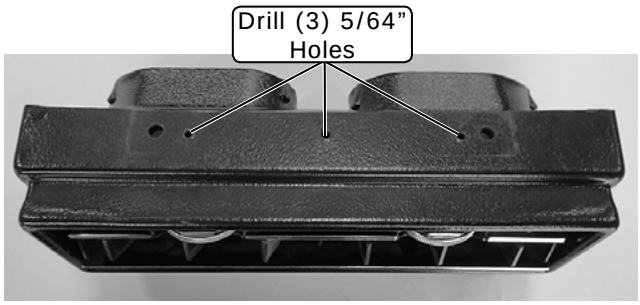


Photo 32

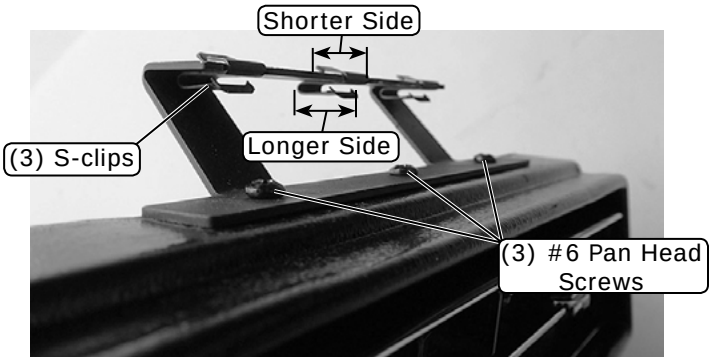


Photo 33

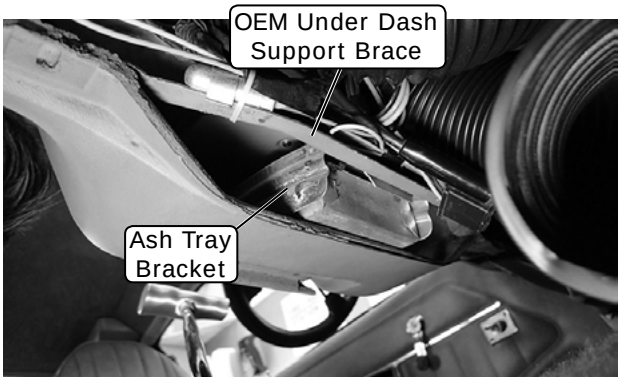


Photo 34

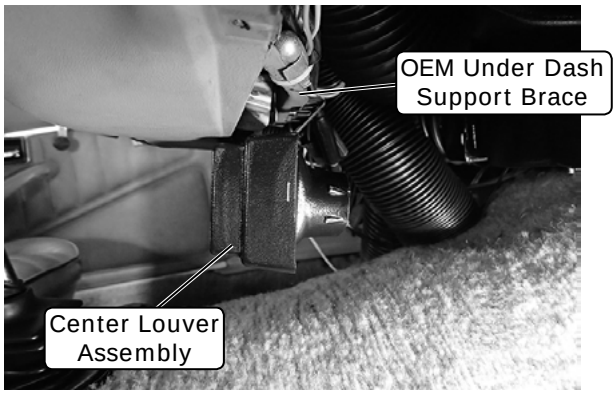


Photo 35

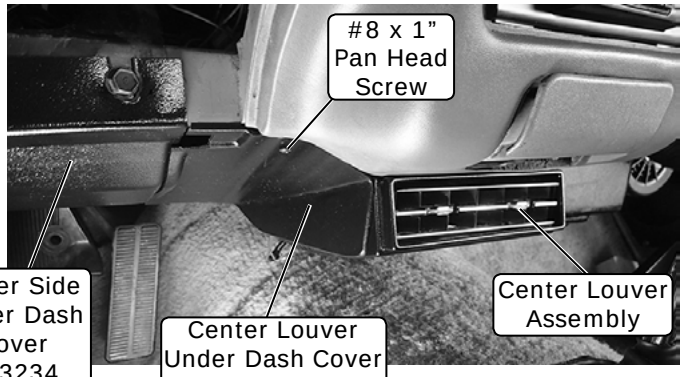


Photo 36

Glove Box Installation

1. Install the new glove box provided with the kit, and secure using OEM screws as shown in Photo 37, below.
2. Reinstall the glove box door.

Photo 37

Driver Side Under Dash Cover Installation

1. Loosen (2) bolts on the dash support brace under the steering column (See Photo 38, below).
2. Install the driver side under dash cover and tighten the screws (See Photo 38, below).
3. If using the under dash center louver, install the center louver under dash cover between the driver side under dash cover and the center louver assembly using a #8 x 1" pan head screw (See Photo 36, Page 25).
NOTE: Skip this step for all other center louver options.
4. Reinstall the OEM plastic steering column cover.

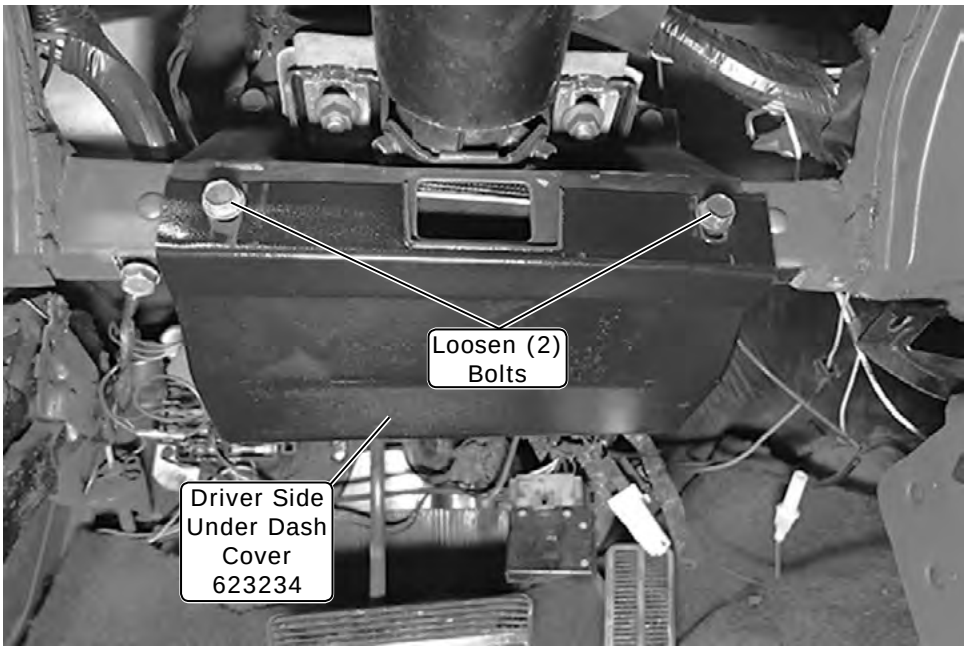


Photo 38

Control Panel & Duct Hose Routing

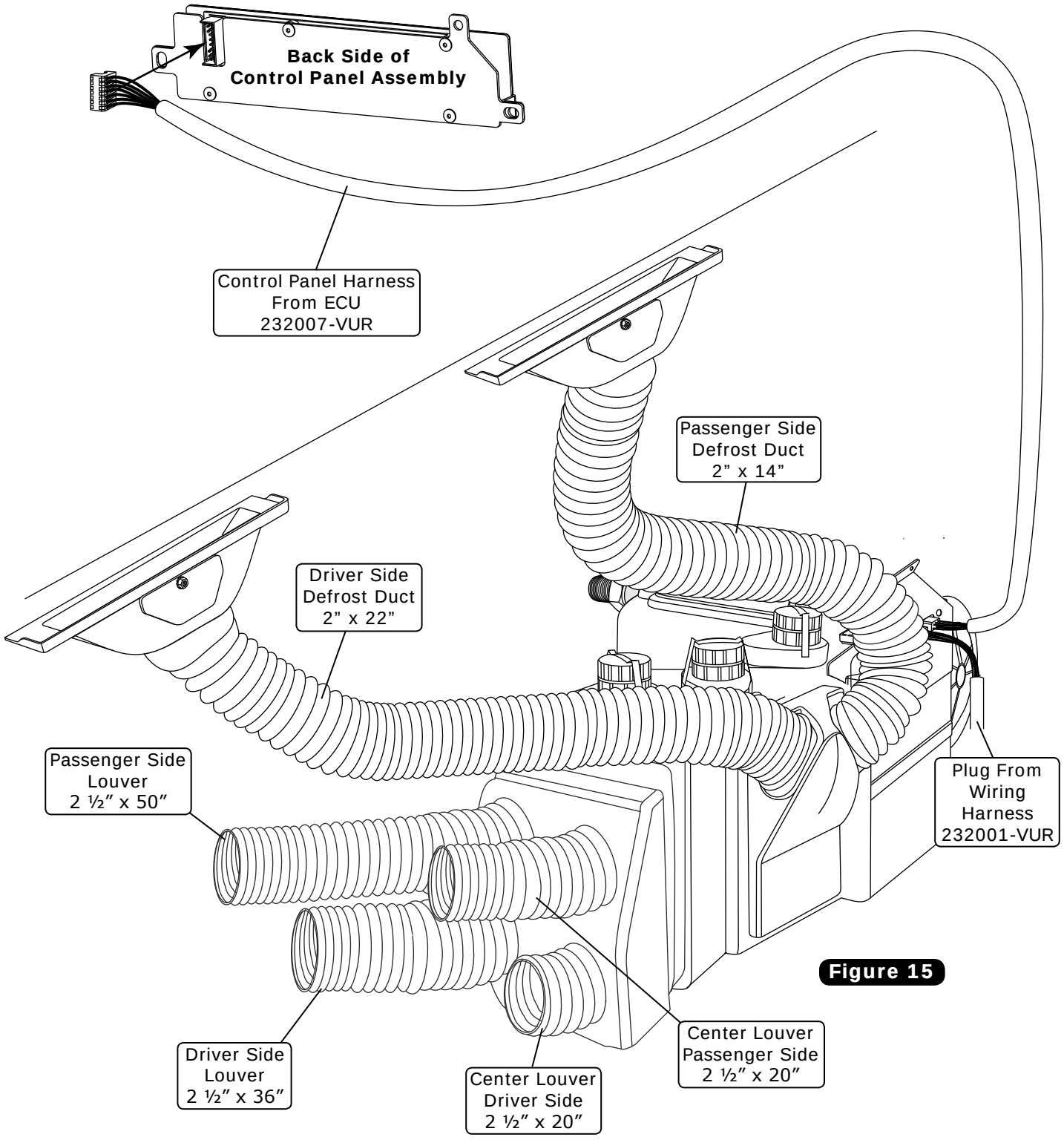
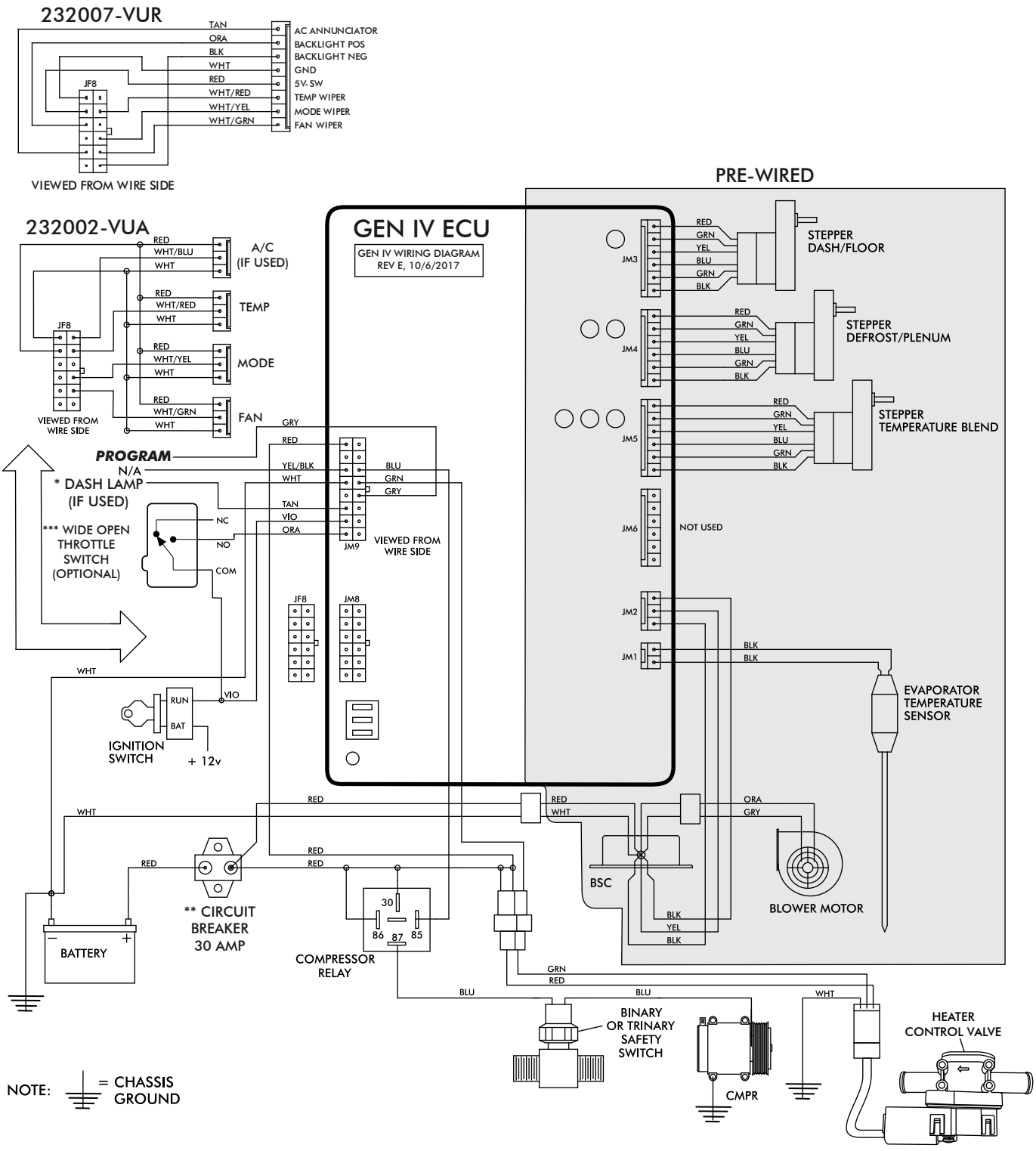


Figure 15

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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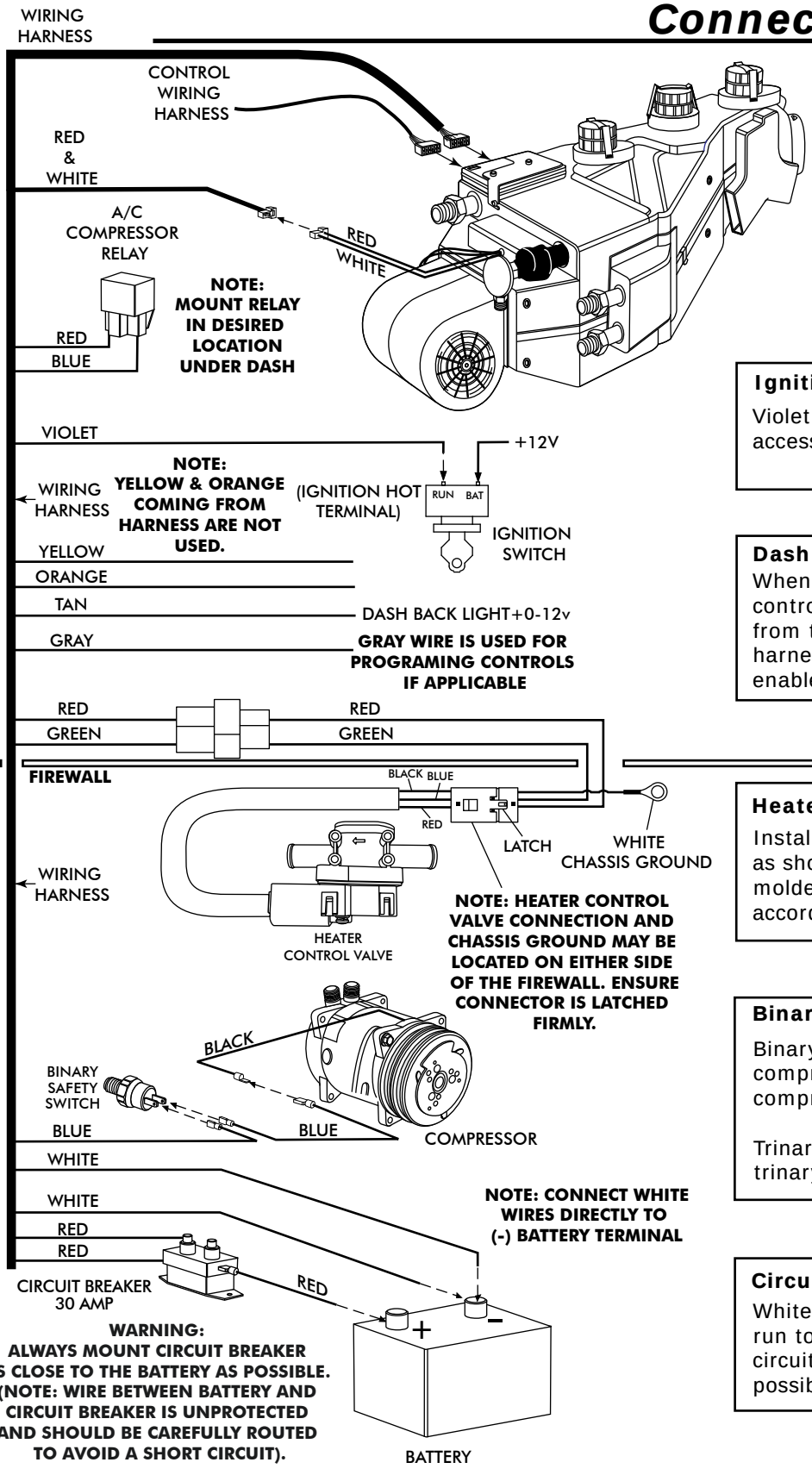
Gen IV Wiring Connection Instruction



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.

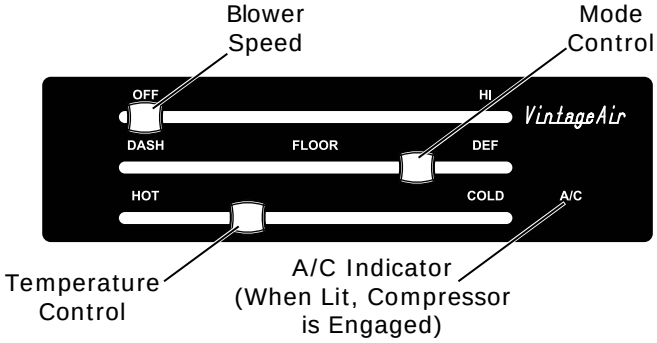
Operation of Controls

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

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.

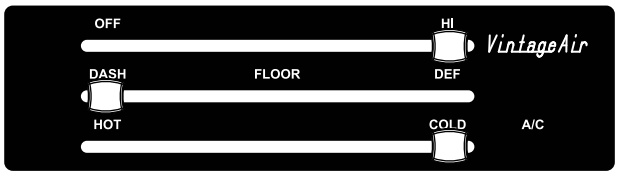


A/C Operation

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).

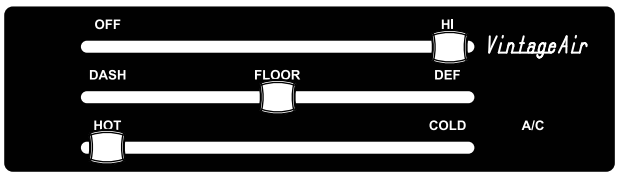


Heat Operation

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).

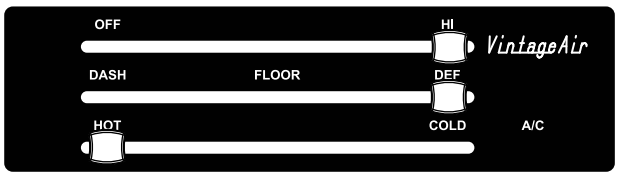


Defrost/De-fog Operation

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).



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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.	

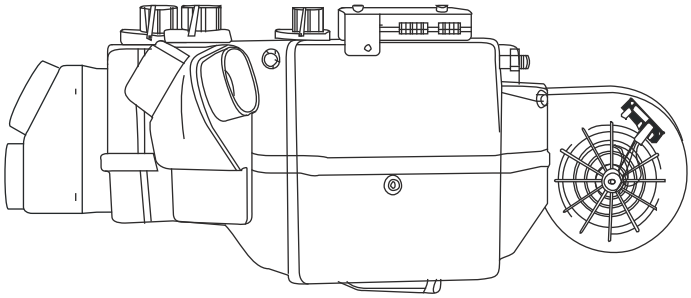
Packing List: Evaporator Kit (561150)

No.	Qty.	Part No.	Description	
1.	1	744004-VUE	Gen IV 4-Vent Evaporator Sub Case w/ 204 ECU	_____
2.	1	781182	Accessory Kit	_____

Checked By: _____
Packed By: _____
Date: _____

1

Gen IV 4-Vent Evaporator Sub Case w/ 204 ECU 744004-VUE



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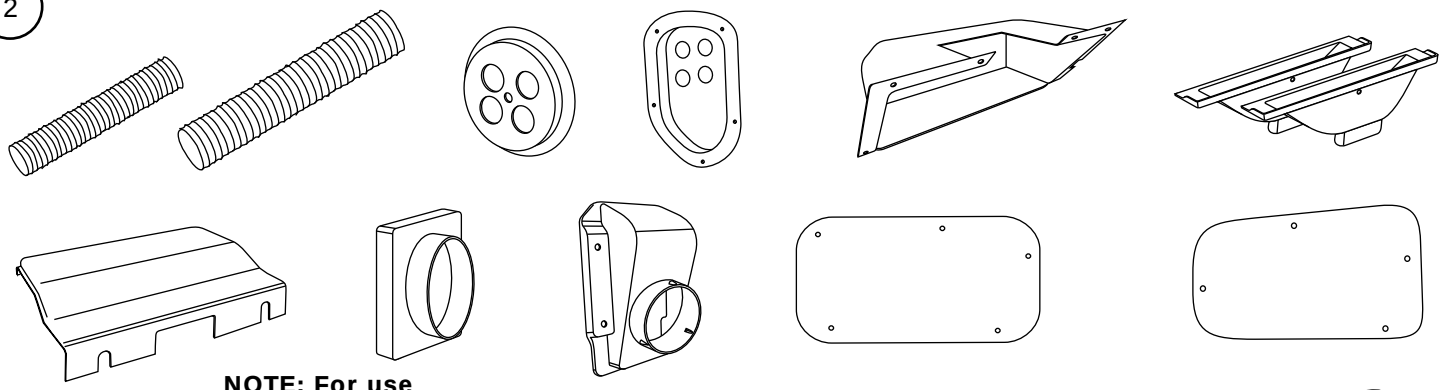
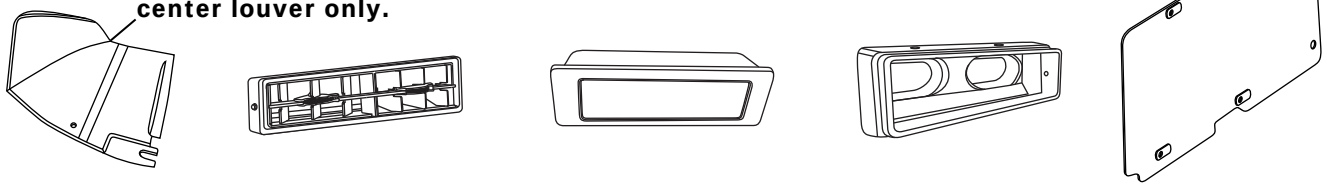
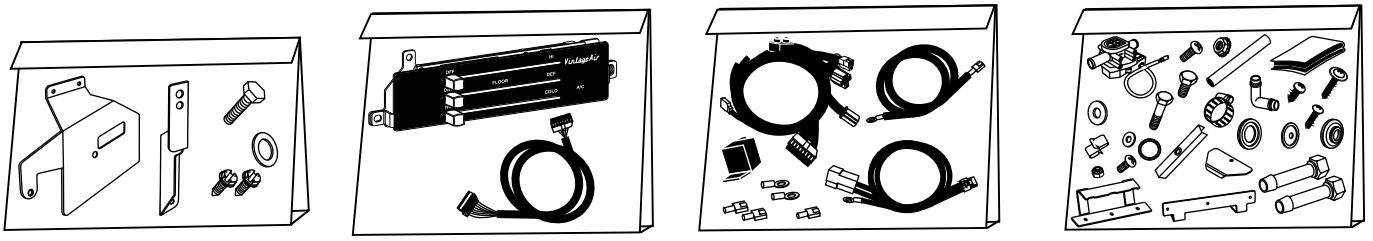


NOTE: For use with under dash center louver only.





Accessory Kit 781182

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