



# 1987-95 Jeep YJ

Gen 5 Evaporator Kit  
(755693)



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## Packing List: Evaporator Kit (755693)

No.	Qty.	Part No.	Description
1.	1	765200	Gen 5 Magnum Max Module with 404 ECU
2.	1	795693	Accessory Kit

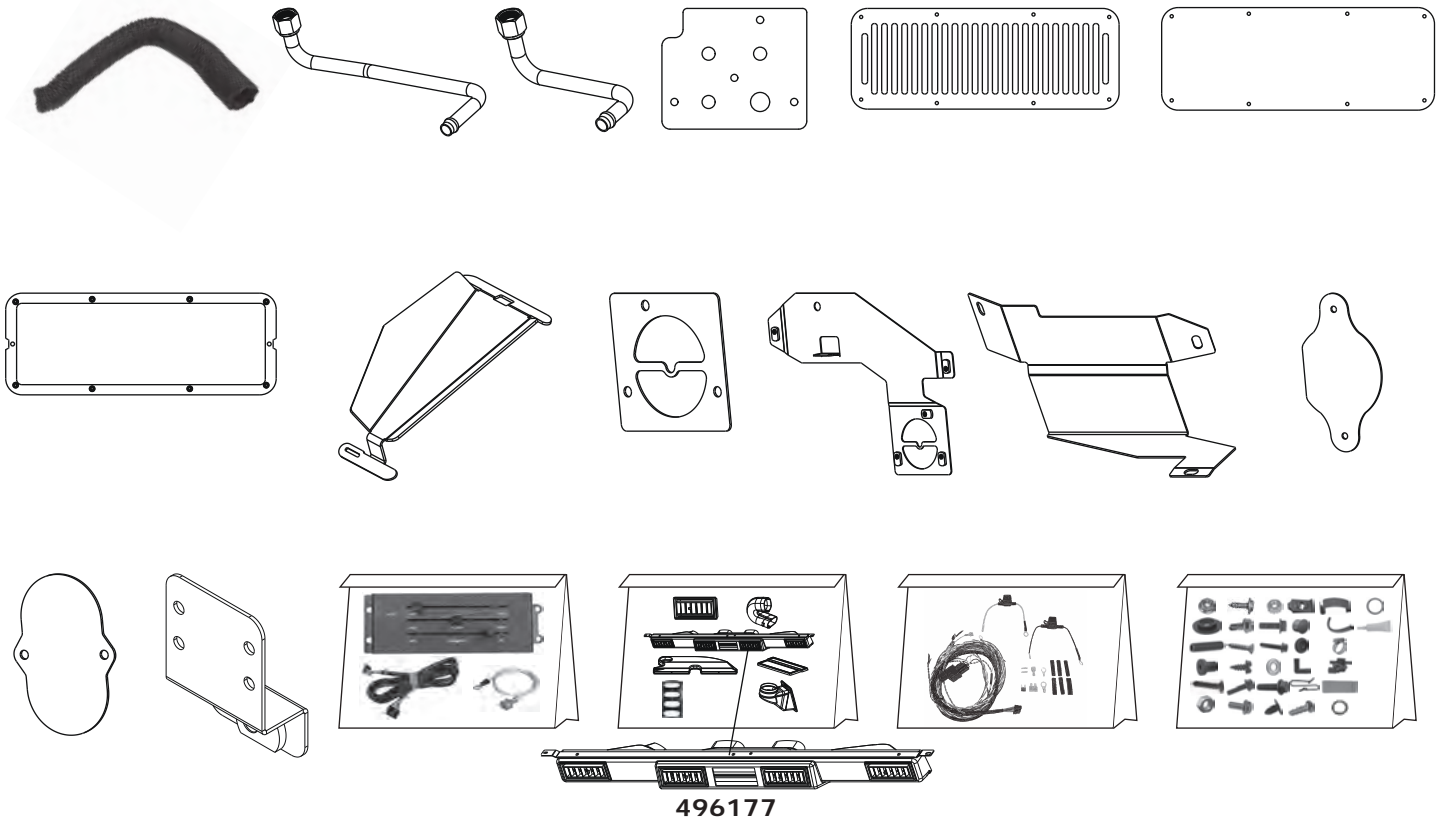
**\*\* Before beginning installation, open all packages and check contents of shipment.  
Please report any shortages directly to Vintage Air within 15 days. After 15 days,  
Vintage Air will not be responsible for missing or damaged items.**

1



Gen 5 Magnum Max  
Module with 404 ECU  
765200

2



496177

Accessory Kit  
795693

**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 5 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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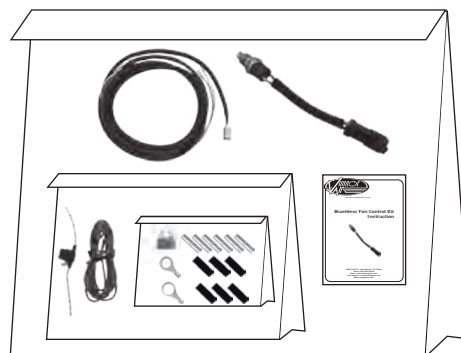
## Additional Components

To ensure the air conditioning system operates at its best, Vintage Air recommends upgrading to a brushless electric cooling fan. The additional heat introduced by the A/C system—especially at idle and low vehicle speeds—benefits from improved airflow through the radiator and condenser. A brushless electric fan delivers more consistent and efficient airflow than traditional mechanical or brushed fans, helping stabilize engine temperatures and improve A/C performance. This fan includes four flaps that optimize airflow, closing at low speeds for better cooling and opening at higher speeds to reduce restriction. This upgrade supports long-term reliability, protects the performance of the A/C system, and reduces the likelihood of overheating in traffic or warm conditions. This recommendation aligns with Vintage Air's guidelines for achieving optimal cooling performance and system longevity.

- This kit was developed using the OEM Radiator. If using an aftermarket radiator, **modifications to the shroud may be necessary. Before purchasing the fan and shroud assembly, verify shroud and mounting hole dimensions shown in Brushless Fan instructions.**
- A trinary switch (11086-VUS) must be used when installing an electric fan in an A/C equipped vehicle.
- This kit requires the purchase of a fan controller rated for the engine thermostat setting. The controller is not included in this kit due to engine swaps or upgraded settings on OEM.
- The OEM thermostast for the 1987-95 Jeep YJ is 195°, therefore the 500 watt 195° controller kit is recommended (Vintage Air Part # 113014).
- **Vintage Air also offers 500 watt 165° thermostast controller kit (113016) and 500 watt 180° thermostast controller kit (113015) (As written above).**



1987-95 Jeep YJ  
16" LoPro 500-Watt  
Brushless Fan/Shroud Kit  
**372035**  
(SOLD SEPARATELY)



195° Thermostat  
500-Watt Brushless Fan  
Controller Kit  
**113014**  
(SOLD SEPARATELY)





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## Engine Compartment Disassembly

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

**Perform the following:**

1. Disconnect and remove the battery (See Photo 1, below).
2. Unbolt the battery tray from the firewall and inner fender (See Photos 2 and 3, below). **NOTE: Let the tray hang to the side, away from the firewall.**
3. Remove the push pins attached to the battery tray, and disconnect the grounds attached to the firewall (See Photo 4, below).
4. Drain the radiator.
5. Remove the OEM heater hoses from the engine and firewall fittings (See Photo 5, below). **NOTE: The OEM heater fitting may be plugged to avoid spillage in the passenger compartment during the removal process.**

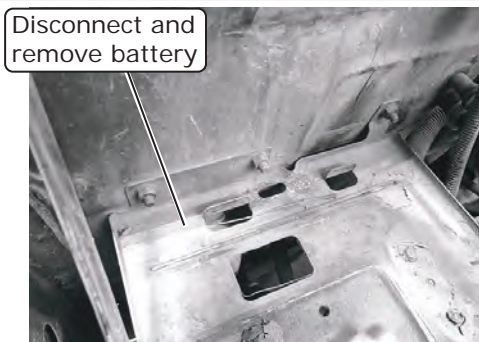


Photo 1

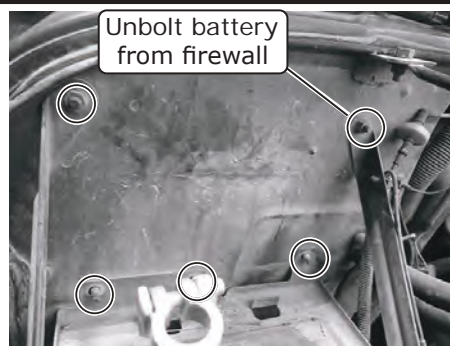


Photo 2

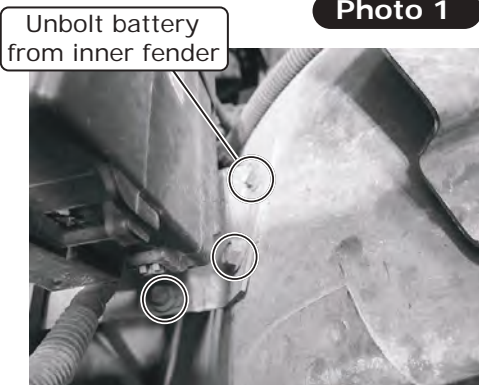


Photo 3

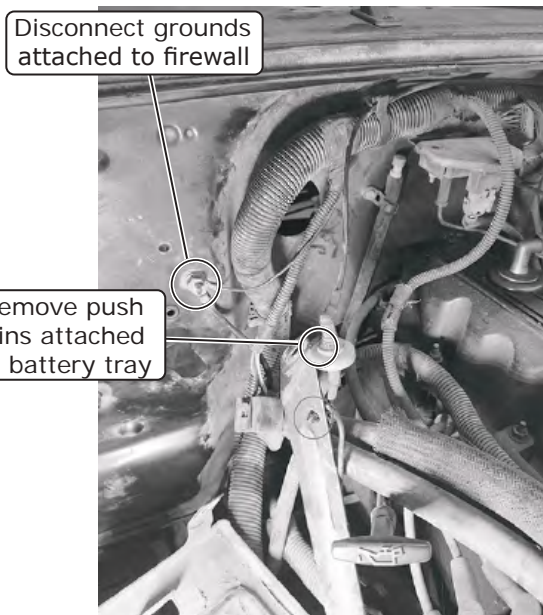


Photo 4

Remove OEM heater hoses from engine and firewall fittings

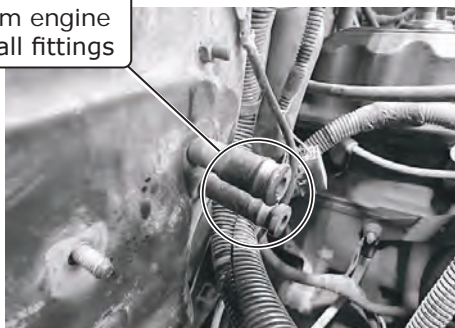


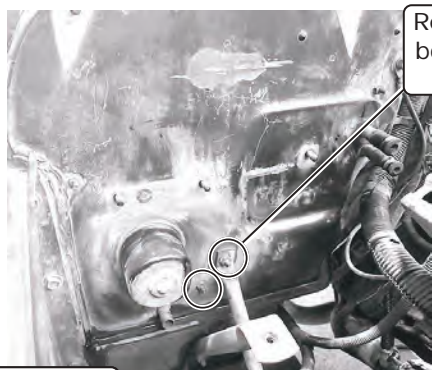
Photo 5



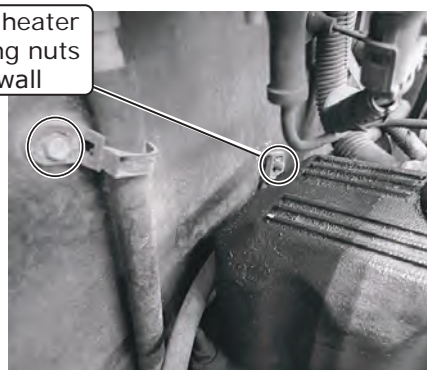
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## Engine Compartment Disassembly (Cont.)

6. Remove the (4) heater box mounting nuts from the firewall (See Photos 6 and 7, below).
7. Remove the fresh air grille from the cowl by removing the (8) mounting screws (See Photo 8, below).
8. Remove the (2) heater box plenum mounting screws from the cowl (See Photo 9, below).

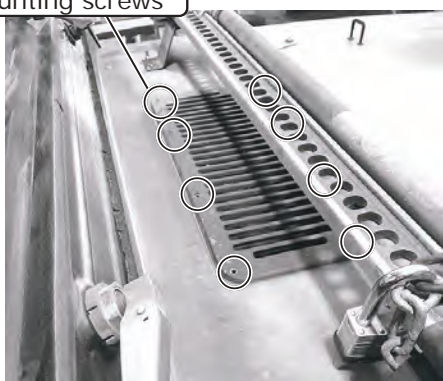


**Photo 6**



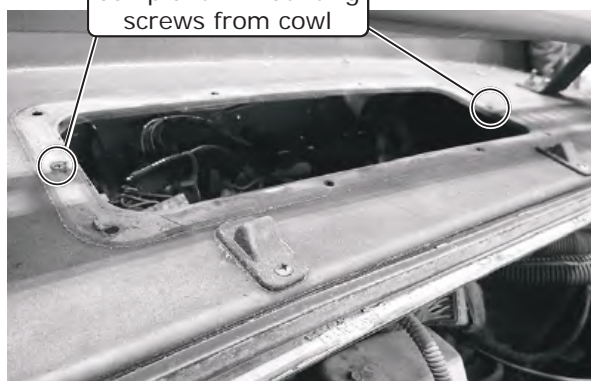
**Photo 7**

Remove fresh air grille from cowl by removing (8) mounting screws



**Photo 8**

Remove (2) heater box plenum mounting screws from cowl



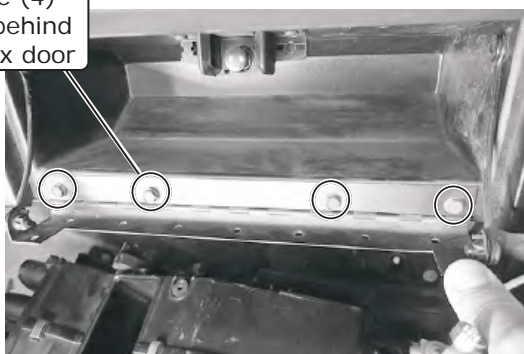
**Photo 9**

## Passenger Compartment Disassembly

### Perform the following:

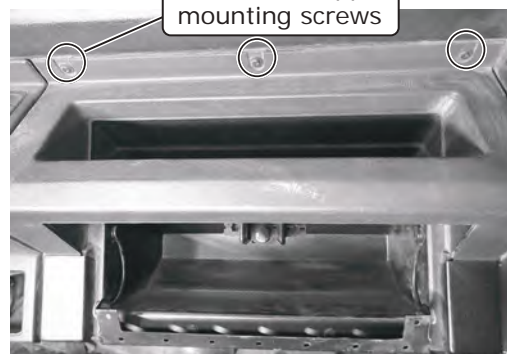
1. Remove the (4) screws behind the glove box door (See Photo 1, below), (3) upper mounting screws (See Photo 2, below), and (4) rear mounting screws behind the dashboard (See Photos 3 and 4, Page 9), then remove the glove box.

Remove (4) screws behind glove box door



**Photo 1**

Remove (3) upper mounting screws



**Photo 2**

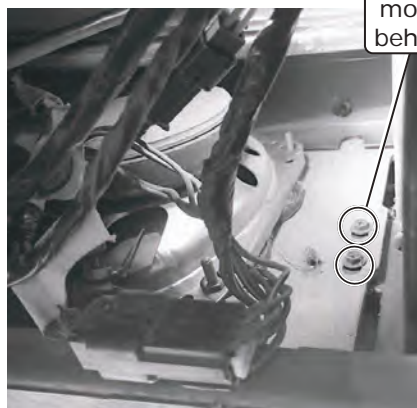




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## Passenger Compartment Disassembly (Cont.)

2. Remove the radio.
3. Remove the center trim panel by removing (6) mounting screws (See Photos 5 and 6, below).
4. Remove the driver-side gauge bezel by removing (4) upper mounting screws and (2) lower mounting screws (See Photos 7, 8 and 9, below).

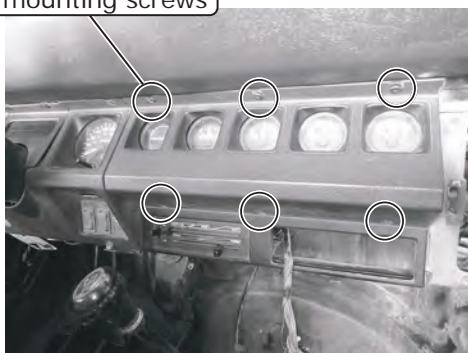


**Photo 3**



**Photo 4**

Remove center trim panel by removing (6) mounting screws



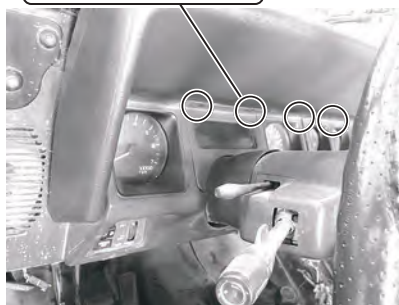
**Photo 5**



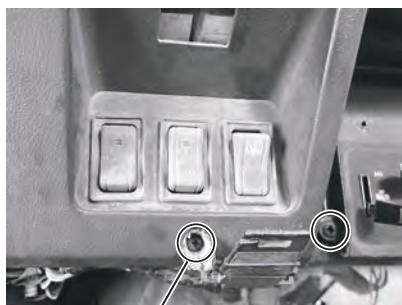
**Center Trim Panel  
Removed**

**Photo 6**

Remove (4) upper mounting screws



**Photo 7**



Remove (2) lower mounting screws

**Photo 8**



**Driver-Side Gauge  
Bezel Removed**

**Photo 9**



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## Passenger Compartment Disassembly (Cont.)

5. Remove the (4) center gauge cluster mounting screws, then disconnect the harness and remove the gauges (See Photos 10 and 11, below).
6. Remove the control cable from the linkages (See Photos 12 and 13, below). **NOTE: Once the case is lowered there is one more cable and retainer to be disconnected.**
7. Remove the cable retaining clips from the heater box (See Photo 14, below). **NOTE: There may be differences in the heater boxes from different years that may require the removal of the floor plenum to release the floor/defrost door cable retainer.**
8. Release the duct hose clamp from the top of the heater box, and disconnect the duct hose (See Photo 15, below).

Remove (4) center gauge  
cluster mounting screws

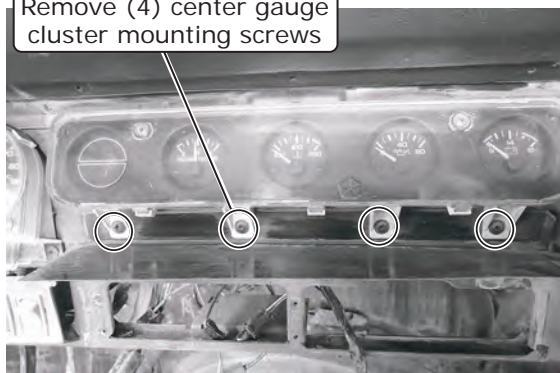


Photo 10

Disconnect harness  
and remove gauges



Photo 11

Remove control cable  
from linkages

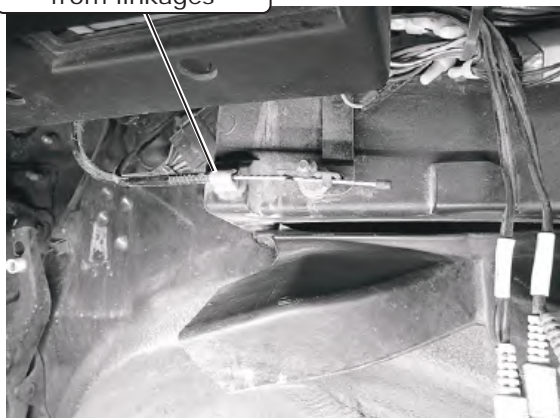


Photo 12

Remove control cable  
from linkages

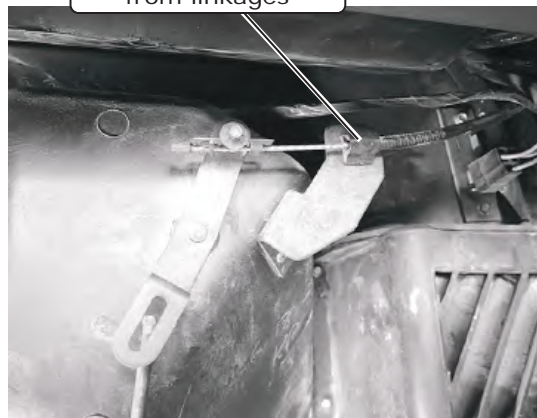


Photo 13

Remove cable  
retaining clips  
from heater box



Photo 14

Remove duct  
hose clamp  
from top of  
heater box



Photo 15





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## Passenger Compartment Disassembly (Cont.)

9. Lower the heater box onto the passenger-side floorboard, then disconnect the blower motor plug, cable and the cable retainer at the far-right side of the heater box (See Photos 16 and 17, below).
10. Remove the heater box and plenum.
11. Remove the (4) control panel mounting screws, then pull the panel through the dash. Disconnect the lights, vacuum and electrical connections (See Photos 18 and 19, below). Remove the panel at this time.
12. Remove the (2) push pins in the firewall to allow the harness in the engine compartment to be moved away from the firewall (See Photo 20, below).



Disconnect blower motor plug, cable and cable retainer

Photo 16

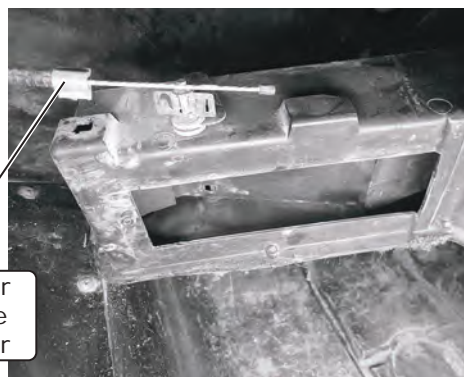


Photo 17

Remove (4) control panel mounting screws

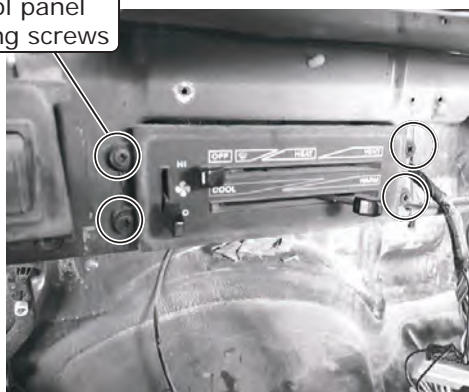


Photo 18

Pull panel through dash, then disconnect lights, vacuum and electrical connections

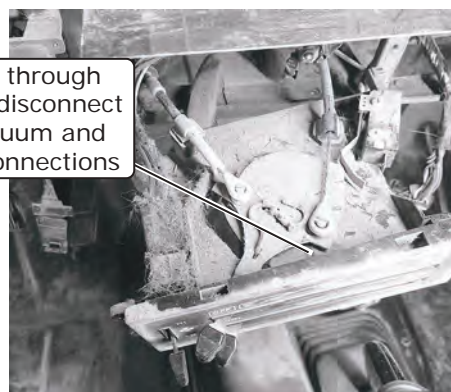


Photo 19

Remove (2) push pins in firewall to allow harness in engine compartment to be moved away from firewall

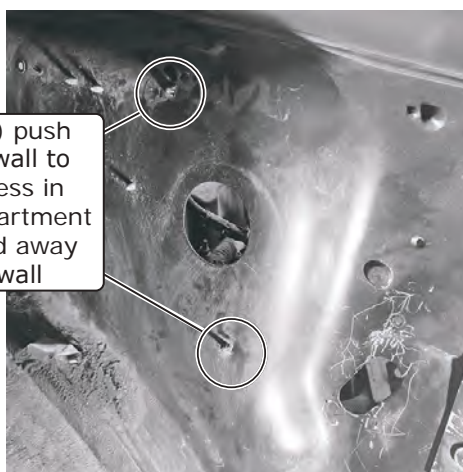


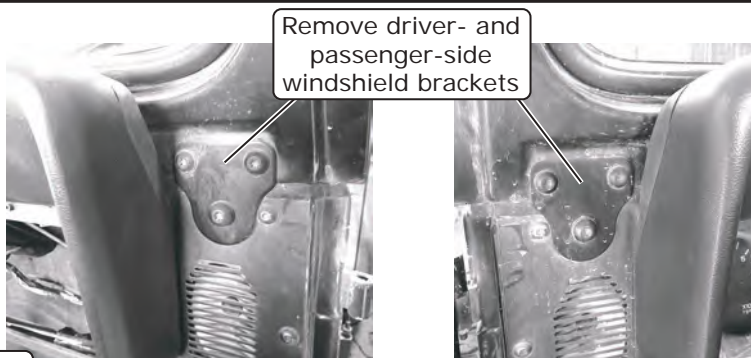
Photo 20



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## Passenger Compartment Disassembly (Cont.)

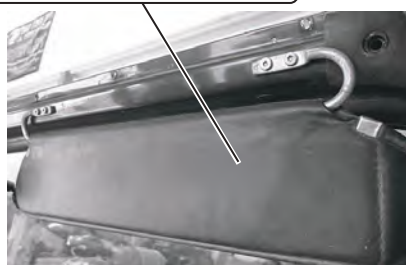
13. Remove the driver- and passenger-side windshield brackets (See Photos 21 and 22, below).
14. Remove the driver- and passenger-side sun visors (See Photo 23, below).
15. Remove the roll bar windshield mounting bolts (See Photos 24 and 25, below).
16. Carefully lean the windshield forward until it reaches its stopping point.
17. Remove the dash pad mounting screws (See Photos 26 and 27, below), then remove the dash pad (See Photo 28, below).



**Photo 21**

**Photo 22**

Remove driver- and passenger-side sun visors



**Photo 23**

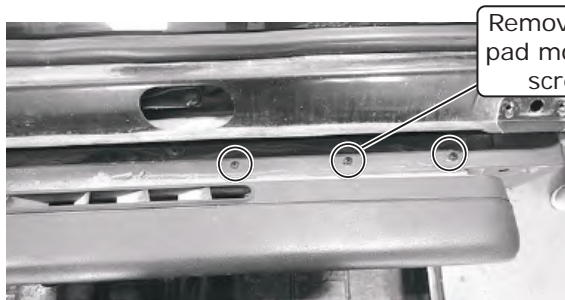


**Photo 24**

Remove roll bar windshield mounting bolts

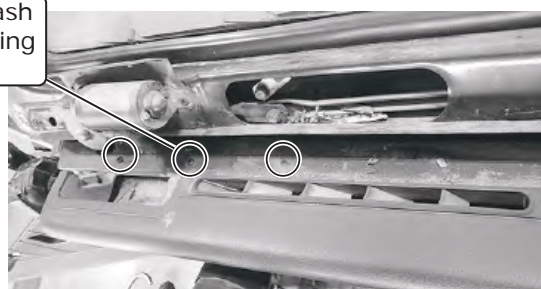


**Photo 25**

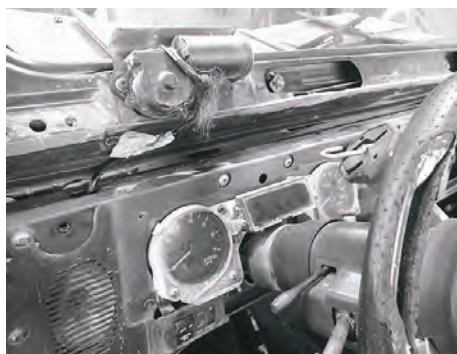


**Photo 26**

Remove dash pad mounting screws



**Photo 27**



**Dash Pad Removed**

**Photo 28**

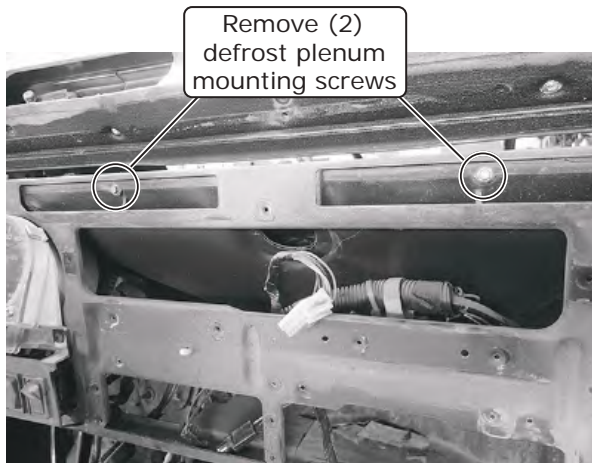




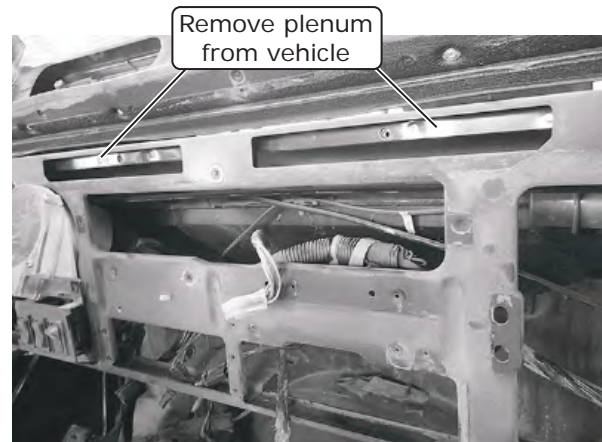
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## ***Passenger Compartment Disassembly (Final)***

- 18.** Remove the (2) defrost plenum mounting screws and remove the plenum from the vehicle (See Photos 29 and 30, below).



**Photo 29**



**Photo 30**

## ***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***

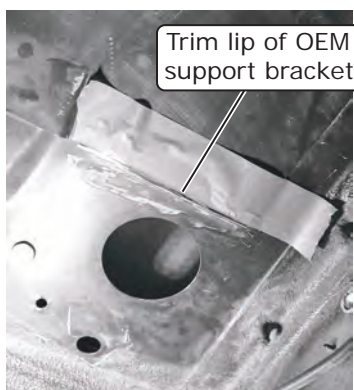
1. Refer to separate instructions included with the bracket kit to install the compressor bracket.



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## Firewall Modification

1. Trim the lip of the OEM support bracket by following the pre-existing edge as shown in Photos 1 and 2, below.
2. Install the .562" O.D. x .260" I.D. nylon sleeve washers into the locations marked (See Photos 3, 4 and 5, below).
3. Install (2) 1/4-20 full-threaded studs into the left and right tabs of the evaporator firewall bracket (See Photos 6 and 7, below). Secure the bracket from the passenger compartment utilizing the hole center bushings (See Photo 8, below), and the supplied 1/4-20 hex nuts and 9/32" flat washers (See Photo 9, below).

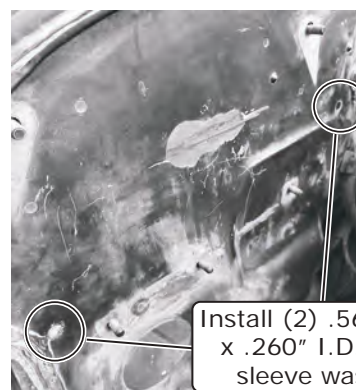


**Photo 1**



**OEM Support  
Bracket Trimmed**

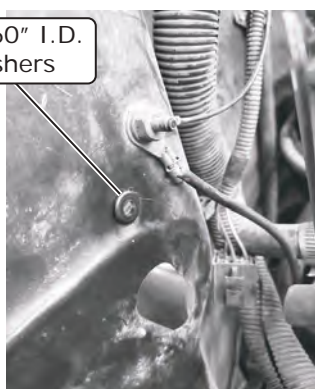
**Photo 2**



**Photo 3**



**Photo 4**



**Photo 5**



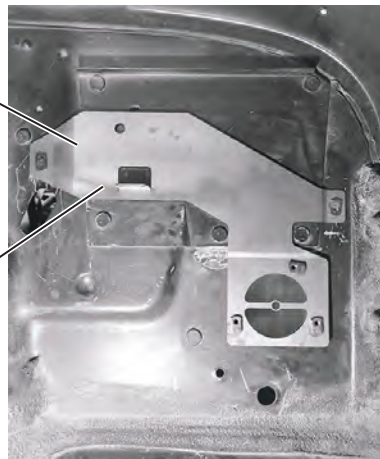
**Photo 6**



**Photo 7**

Evaporator  
Firewall Bracket  
643289

Secure bracket  
from passenger  
compartment



**Photo 8**



**Photo 9**



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## Firewall Modification (Cont.)

4. Mark the (4) holes shown in Photo 10, below. Punch and drill the holes starting at 1/8" and stepping up to 5/16" (See Photos 11 and 12, below).
5. Measure 2 1/2" from the protrusion on the firewall toward the passenger-side door (See Photo 13, below). Mark and drill a 1/8" hole, then step it up to 5/8" for the drain hose (See Photos 14 and 15, below).

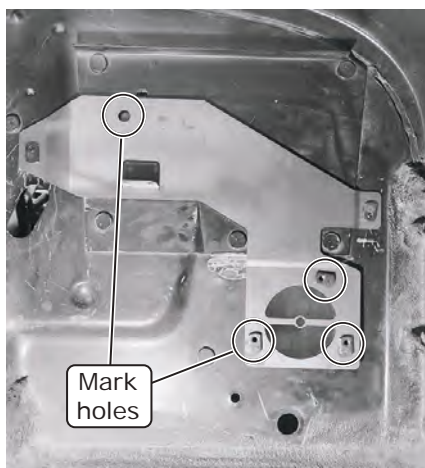


Photo 10

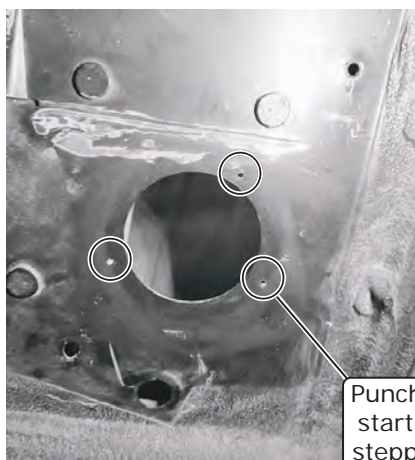


Photo 11

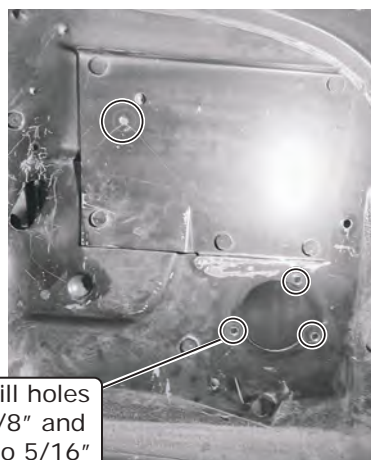


Photo 12

Measure 2 1/2" from protrusion on firewall toward passenger-side door

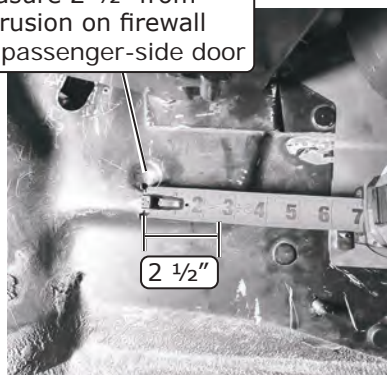


Photo 13



Photo 14

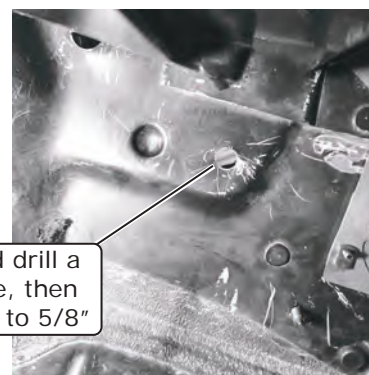


Photo 15

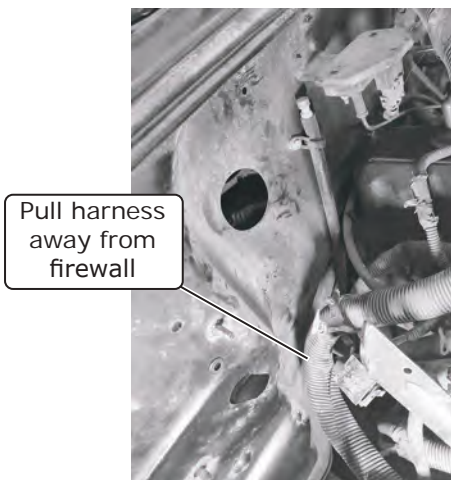




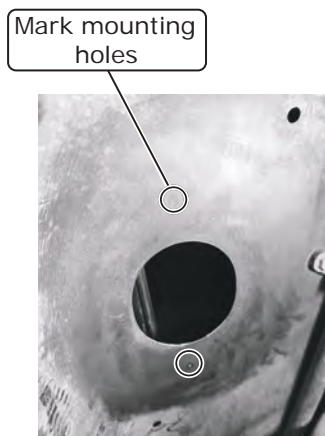
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## Firewall Cover Installation

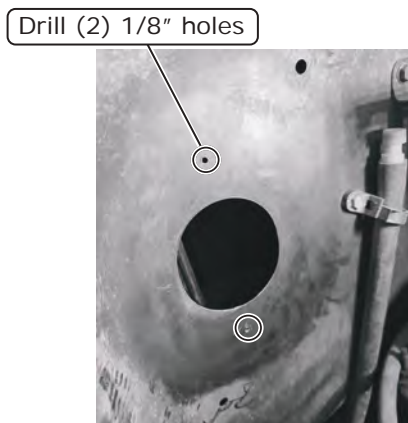
1. Pull the harness away from the firewall to allow space for the firewall cover installation (See Photo 1, below).
2. Place the Jeep firewall block-off center plate over the firewall opening. Mark the mounting holes, then remove the plate and drill (2) 1/8" holes (See Photos 2 and 3, below).
3. Apply silicone to the mating surface of the plate (See Figure 1, below), then install it onto the firewall using (2) #10 x 1/2" sheet metal screws (See Photo 4, below).
4. Place the Jeep YJ Firewall Block-Off Center Plate 643292 over the firewall opening (See Photo 5, below). Mark the mounting holes, then remove the plate and drill (2) 1/8" holes (See Photo 6, below).



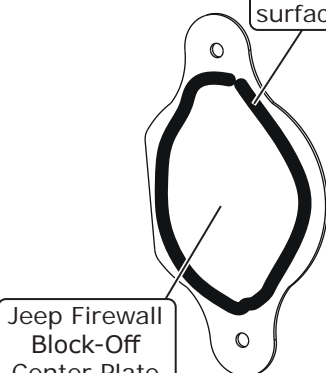
**Photo 1**



**Photo 2**



**Photo 3**



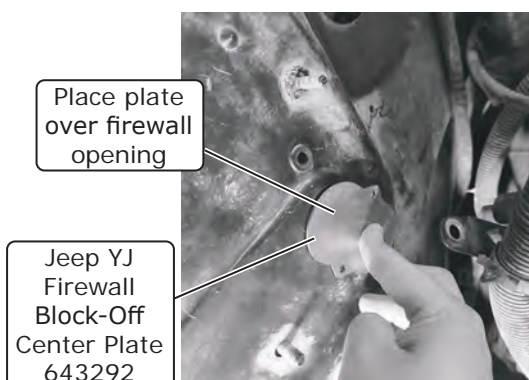
**Figure 1**

Apply silicone to mating surface of plate

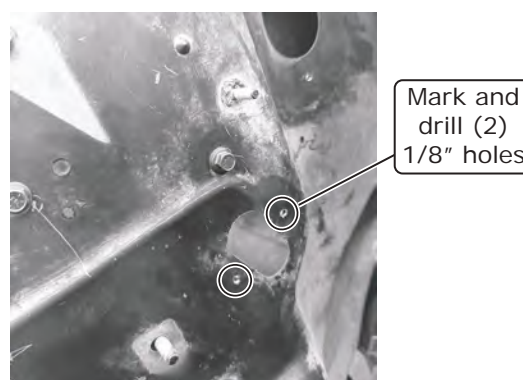
(2) #10 x 1/2" Sheet Metal Screws



**Photo 4**



**Photo 5**



**Photo 6**





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## Firewall Cover Installation (Cont.)

5. Apply silicone to the mating surface of the plate (See Figure 2, below), then secure it onto the firewall using (2) #10 x 1/2" sheet metal screws (See Photo 7, below).
6. Install a 7/8" plastic plug into the hole directly under the A/C and heater line pass-through on the firewall (See Photos 8 and 9, below).
7. Install a 7/16" panel retainer into the smaller hole to the right of the newly installed 7/8" plastic plug (See Photos 8 and 10, below).

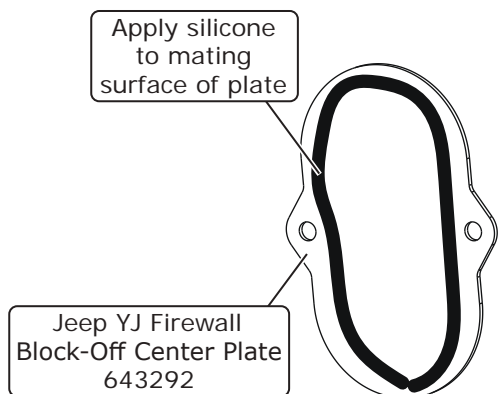


Figure 2

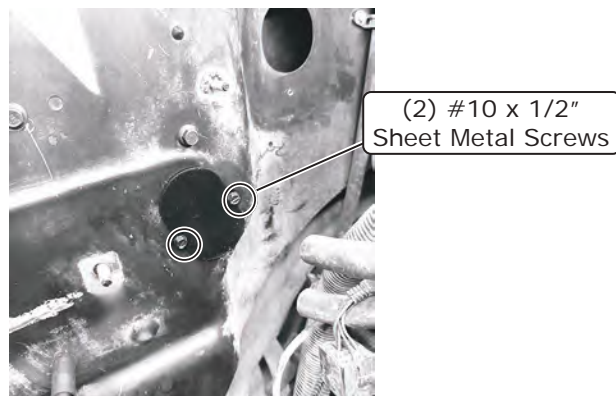


Photo 7

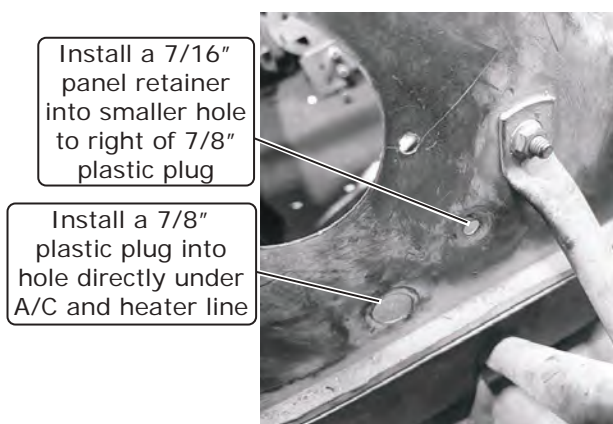


Photo 8

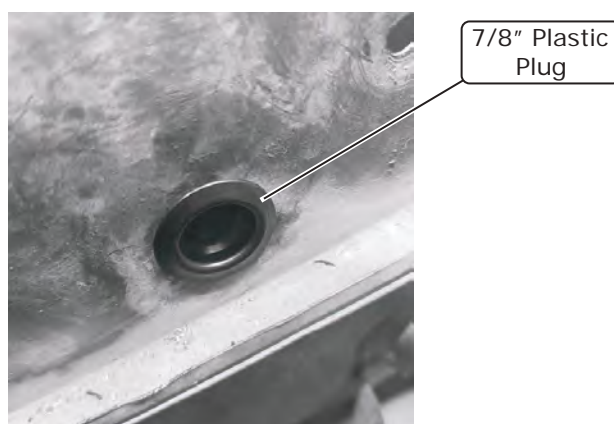


Photo 9

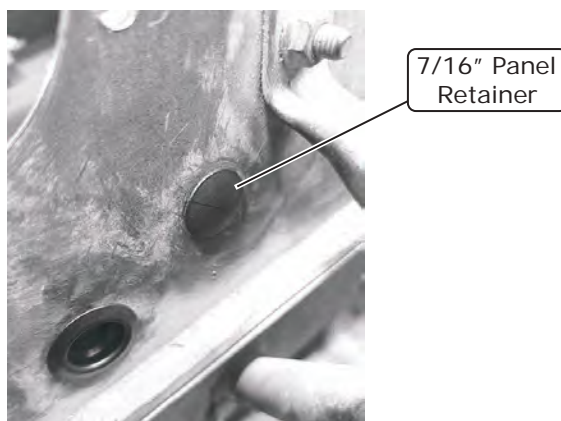


Photo 10

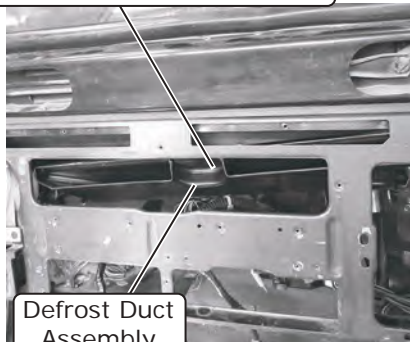


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## Defrost Duct Installation

1. Starting behind the dash from the driver-side floorboard, feed the defrost duct assembly over the center console brackets (See Photo 1, below).
2. Push the defrost duct assembly up into place aligning the holes with the holes in the dash (See Photo 2, below).
3. Secure the defrost duct assembly using (2) #8 x 1" pan head screws (See Photo 3, below).

Feed defrost duct assembly over center console brackets



Defrost Duct Assembly  
496180

Photo 1

Push defrost vent up into place aligning holes with holes in dash

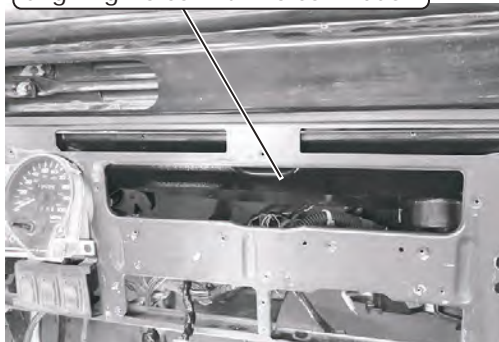


Photo 2

(2) #8 x 1" Pan Head Screws

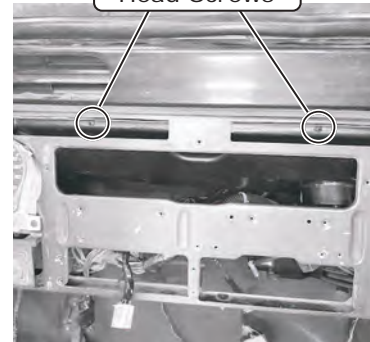
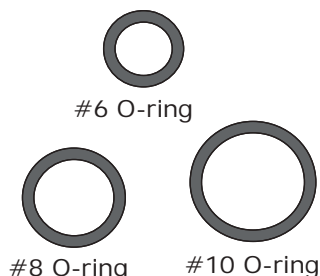
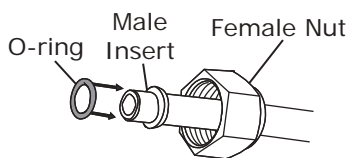


Photo 3

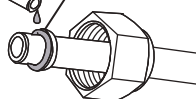
## Lubricating O-rings & Fitting Torque Specs



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

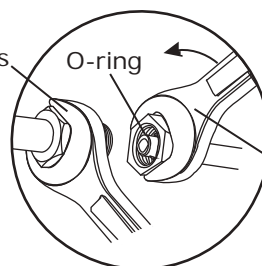


Refrigerant Oil for O-rings



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

Hold with this wrench



Twist with this wrench

**The use of a backup wrench is recommended to reduce the chance of damaging the fittings/hardline.**

## Properly Seated O-ring Land

When installing a hardline or A/C hose fitting onto the evaporator module, ensure the O-ring land is seated properly (See Photo 1, below). An improperly seated O-ring land (See Photo 2, below) can cause a leak. To properly install the fitting, slide the hardline or A/C hose nut back to expose the O-ring land and seat it onto the evaporator module fitting. Then, slide the hardline or A/C hose nut forward and thread it onto the evaporator module fitting, ensuring the O-ring land does not move or lift.

Properly Seated O-ring Land



Photo 1

Improperly Seated O-ring Land

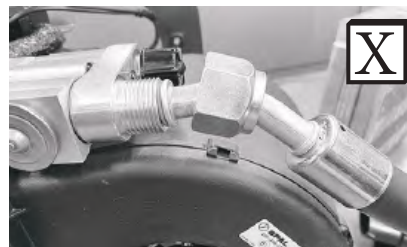


Photo 2

**NOTE: Photos shown are for reference only. Fittings may vary depending on kit received.**



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## Evaporator Preparation

Perform the following on a workbench:

1. Remove the plastic caps and rubber inserts from the heater fittings on the evaporator module (See Photo 1, below).
2. Install the upper and lower heater lines onto the evaporator module using properly lubricated #10 O-rings (See Lubricating O-rings & Fitting Torque Specs, Page 18, and Photo 2, below). **NOTE: The use of a backup wrench is recommended to reduce the chance of damaging the fittings/hardline.**
3. Confirm the heater hardlines are at a 90° angle to the evaporator module when installed.
4. Insert a 1/4-20 well nut into the mounting location shown in Photos 3 and 4, below.

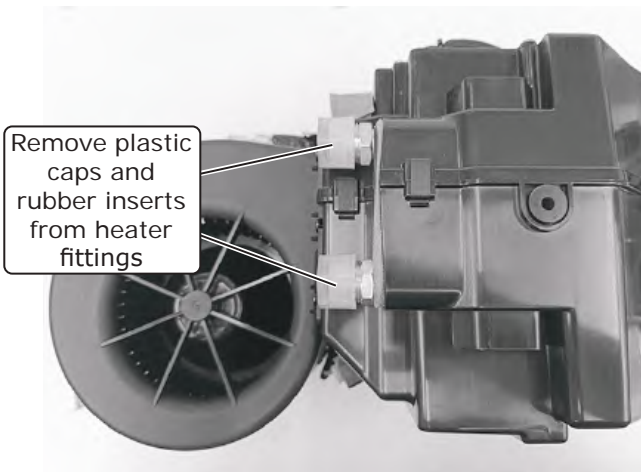


Photo 1

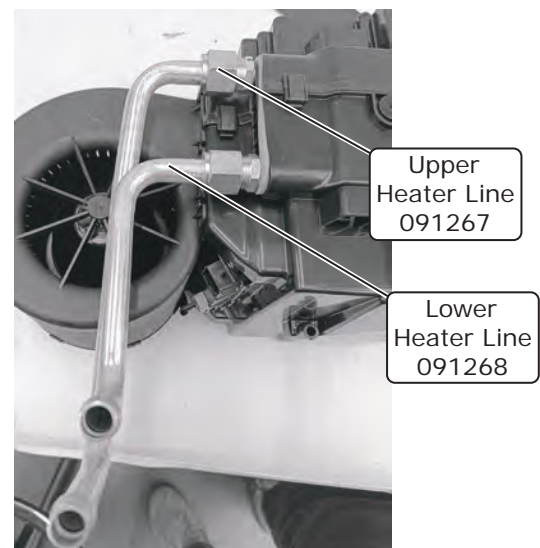


Photo 2

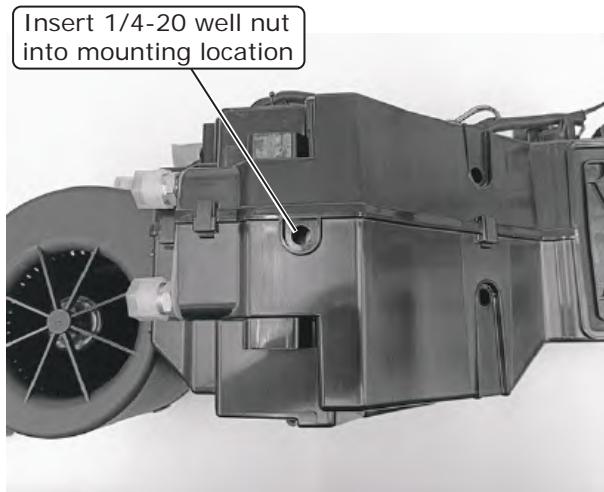


Photo 3

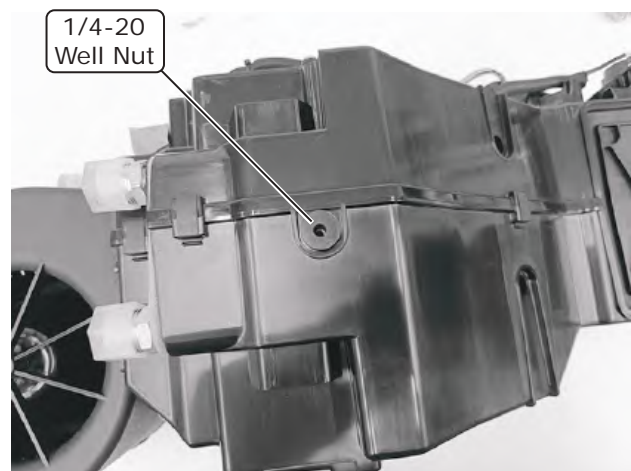


Photo 4

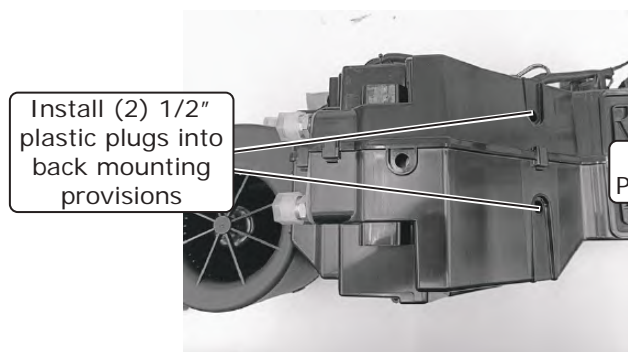




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## Evaporator Preparation (Cont.)

5. Install (2) 1/2" plastic plugs into the back mounting provisions as shown in Photos 5 and 6, below. **NOTE: These mounting locations will not be used for this application.**
6. Route the hardlines through the evaporator firewall bracket as shown in Photo 7 and Figure 1, below. Secure the bracket to the evaporator using the (2) #10 x 5/8" screws (See Figure 2, below).
7. Install (2) 1/4-20 full-threaded studs into the firewall bracket until it sits flush as shown in Photos 8 and 9, below.
8. Loosely install the firewall rubber boot onto the hardlines as shown in Figure 1 and Photo 8, below.

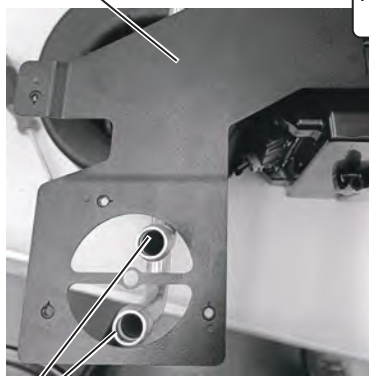


**Photo 5**



**Photo 6**

Evaporator  
Firewall Bracket  
643289



**Photo 7**

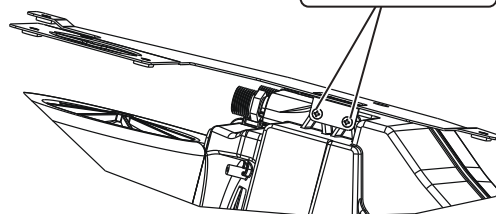
Firewall  
Rubber Boot  
331983

Loosely install  
firewall rubber  
boot onto  
hardlines

Route hardlines  
through evaporator  
firewall bracket

**Figure 1**

(2) #10 x 5/8"  
Screws

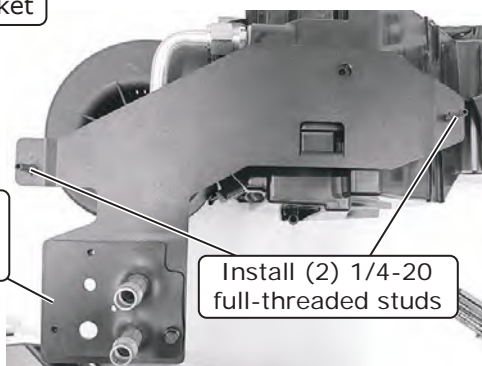


**Figure 2**

Route hardlines  
through  
evaporator  
firewall bracket

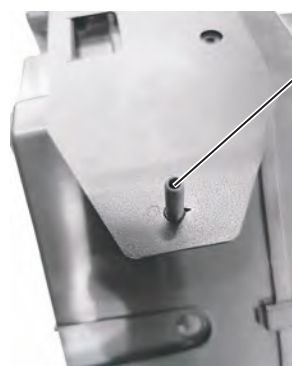
Firewall  
Rubber Boot  
331983

Install (2) 1/4-20  
full-threaded studs



**Photo 8**

Install (2) 1/4-20  
full-threaded studs  
into firewall bracket  
until it sits flush



**Photo 9**





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## Evaporator Preparation (Final)

9. Using (4) spring clips ((2) per side), install the dash plenum onto the evaporator module (See Photos 10, 11 and 12, below).
10. Using (2) spring clips, install the floor plenum onto the evaporator module (See Photos 13, 14 and 15, below).

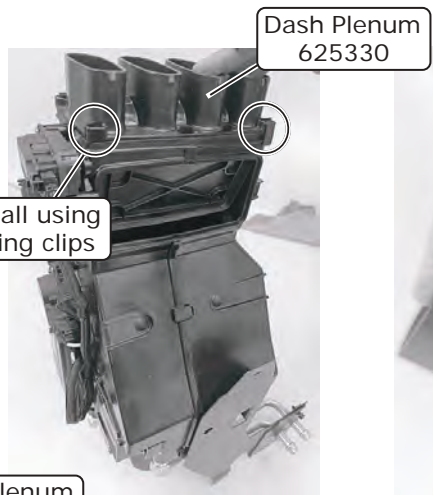


Photo 10

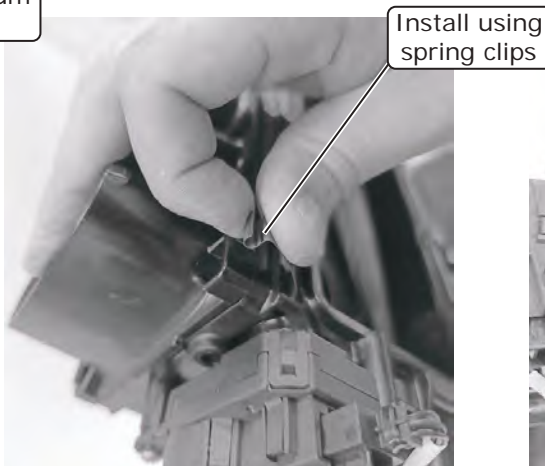


Photo 11

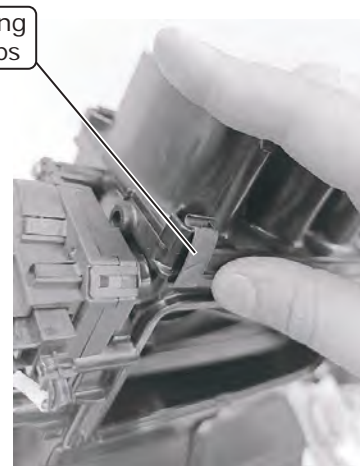


Photo 12



Photo 13

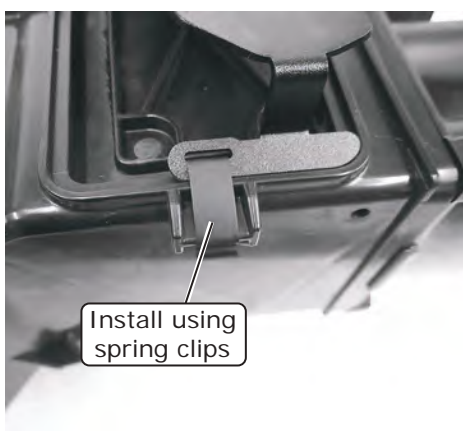


Photo 14



Photo 15

## Firewall Insulation

**NOTE:** For proper system operation, Vintage Air recommends using heat-blocking insulation in the area around the evaporator unit (firewall, inner cowl and kick panel). Due to the tight clearance for the evaporator unit between the firewall and dash, Vintage Air recommends an insulation thickness of no more than 1/8". Spray on insulation is recommended for Jeeps where dirt or water may be present.

1. For all the areas that will receive insulation, clean thoroughly to ensure proper adhesion of the insulation. Spray adhesive is recommended.



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## Wiring Installation

1. Select a mounting location for the main relay and the ground eyelet, then secure them using the supplied (2) #12 x 1/2" self-tapping screws (See Photo 1, below).
2. Route the heater control valve connector (purple, yellow and white wires) through the top hole of the evaporator firewall bracket and the center hole of the firewall rubber boot (See Photo 2, below). The wires will then go through the factory hole on the firewall, then the top hole of the firewall block-off center plate.
3. Route the red, white and blue wires through the top hole of the evaporator firewall bracket and the center hole of the firewall rubber boot (See Photo 3, below). The wires will then go through the factory hole on the firewall, then the top hole of the firewall block-off center plate.
4. Route the heater control power and ground wires (heavy gauge orange & white wires) through the top hole of the evaporator firewall bracket and the center hole of the firewall rubber boot (See Photo 4, below). The wires will then go through the factory hole on the firewall, then the top hole of the firewall block-off center plate.
5. Plug the main wiring harness into the ECU module on the sub case (See Photo 5, below).

Select a mounting location for main relay and ground eyelet, then secure them using (2) #12 x 1/2" self-tapping screws



Photo 1

Route heater control valve connector (purple, yellow and white wires) through top hole of evaporator firewall bracket and center hole of rubber boot

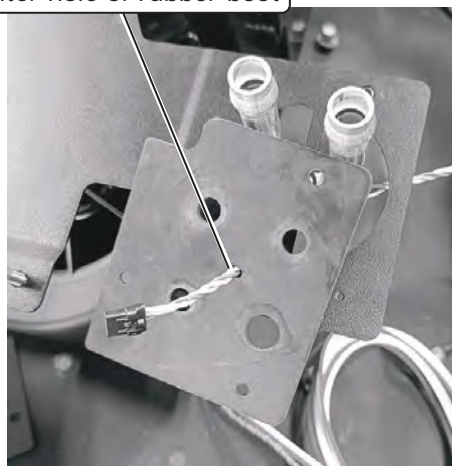


Photo 2

Route red, white and blue wires through top hole of evaporator firewall bracket and center hole of rubber boot

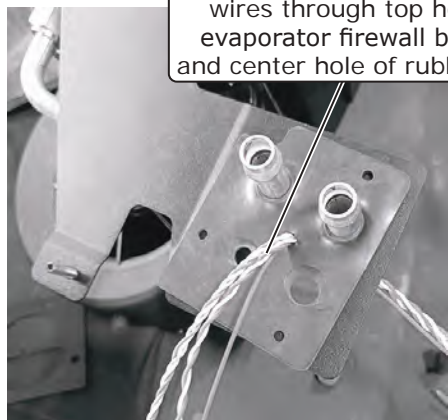
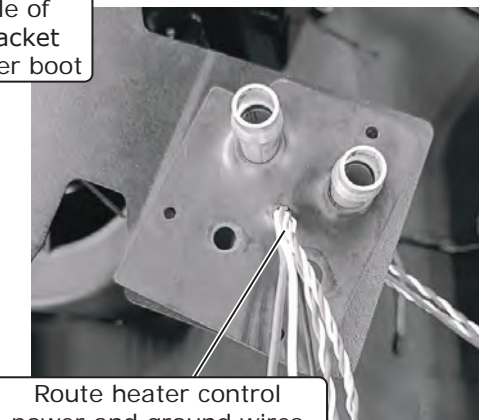
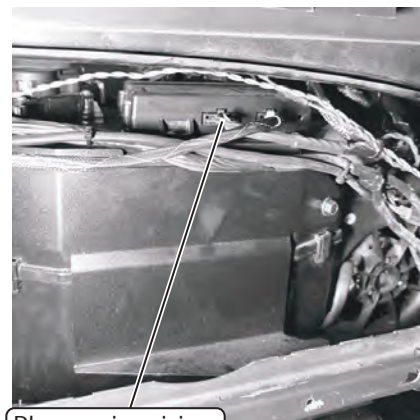


Photo 3



Route heater control power and ground wires (heavy gauge orange & white wires) through top hole of evaporator firewall bracket and center hole of rubber boot

Photo 4



Plug main wiring harness into ECU module

Photo 5



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## A/C Hose Installation

1. With a properly lubricated #8 O-ring (See Lubricating O-rings & Fitting Torque Specs & Fitting Torque Specs, Page 18), connect the #8 90° fitting (without service port) to the #8 condenser hardline.
2. With a properly lubricated #8 O-ring (See Lubricating O-rings & Fitting Torque Specs & Fitting Torque Specs, Page 18), connect the #8 45° fitting with the service port to the discharge port of the compressor.
3. In the engine compartment side, route the 45° fitting of the #6 drier/evaporator A/C hose through the top port on the heater/A/C line plate (See Figure 1, below).
4. In the engine compartment side, route the 45° fitting on the #10 compressor/evaporator A/C hose through the bottom port on the heater/A/C line plate (See Figure 1, below).
5. Route the #6 and #10 A/C hose 45° fittings through the hole in the firewall, and into the passenger compartment.
6. In the passenger compartment, route the 45° of the #6 A/C hose through the hole on the top-left of the firewall rubber boot (See Figures 2 and 3, below). Then, through the top hole on the evaporator firewall bracket.
7. In the passenger compartment, route the 45° of the #10 A/C hose through the hole on the bottom-left of the firewall rubber boot (See Figures 2 and 3, below). Then, through the bottom hole on the evaporator firewall bracket.
8. With a properly lubricated #6 O-ring (See Lubricating O-rings & Fitting Torque Specs, Page 18), loosely install the #6 A/C hose 45° fitting onto the block valve of the module (See Photo 1, below).
9. With a properly lubricated #10 O-ring (See Lubricating O-rings & Fitting Torque Specs, Page 18), loosely install the #10 A/C hose 45° fitting onto the block valve of the module.
10. Tighten the hose fittings on the block valve at this time.
11. Wrap the #10 A/C hose 45° fitting with press tape (See Photo 2, below). **NOTE: The engine compartment side fittings of the #6 (straight) and #10 (90° with service port) A/C hoses will be connected once the evaporator is mounted against the firewall.**

Route 45° fitting of #6 drier/evaporator A/C hose through top port on firewall cover

Heater/A/C  
Line Plate  
643287

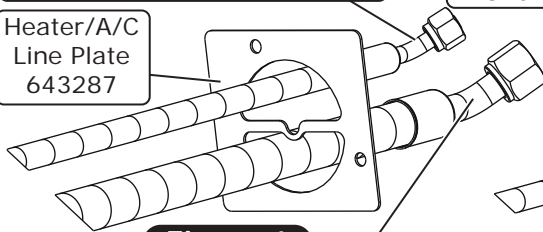


Figure 1

Route #6 A/C hose 45° fitting through hole on top left of firewall rubber boot

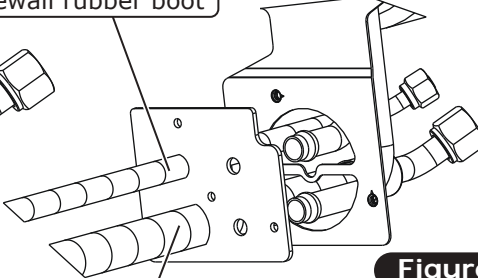


Figure 2

Route #6 A/C hose 45° fitting through top hole on evaporator firewall bracket

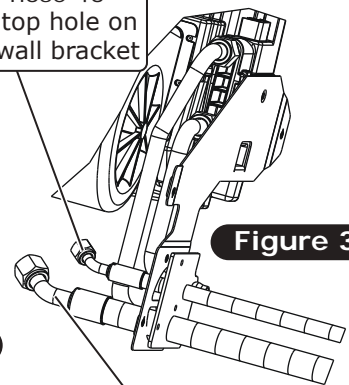


Figure 3

Route 45° fitting of #10 compressor/evaporator A/C hose through bottom port on firewall cover

Route #10 A/C hose 45° fitting through bottom port on firewall cover

Route #10 A/C hose 45° fitting through bottom hole on evaporator firewall bracket

Loosely install #6 A/C hose 45° fitting onto block valve of module

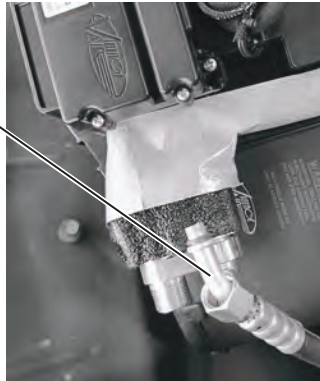


Photo 1

Wrap #10 A/C hose 45° fitting in press tape



Photo 2





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## Evaporator Installation

1. Install (2) .562" O.D. x .260" I.D. nylon sleeve washers into the holes on the firewall as shown in Photos 1, 2 and 3, below.
2. Using the full-threaded studs to locate the mounting holes in the firewall, lift and support the module into place (See Photo 4, below).
3. Thread (2) 1/4-20 hex nuts with (2) 9/32" flat washers onto the studs (See Photo 5, below). **NOTE: Only snug these hand tight to keep the evaporator in its desired location.**
4. Slide the engine compartment side heater/A/C line plate over the heater hardline barbs, then against the firewall (See Photo 6, below).
5. Install the (3) 1/4-20 x 3/4" serrated flange black bolts through the heater/A/C line plate, the drilled firewall holes, firewall rubber boot, and into the evaporator firewall bracket (See Photo 7, below).

Install (2) .562" O.D.  
x .260" I.D. nylon  
sleeve washers



Photo 1

.562" O.D. x  
.260" I.D. Nylon  
Sleeve Washer

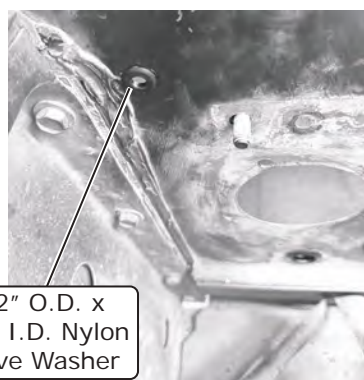


Photo 2

.562" O.D. x  
.260" I.D. Nylon  
Sleeve Washer



Photo 3

Using full-threaded studs  
to locate mounting holes  
in firewall, lift and support  
module into place

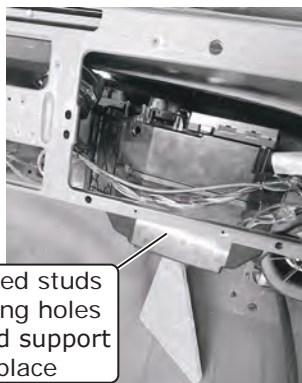


Photo 4

Thread (2) 1/4-20  
hex nuts with (2)  
9/32" flat washers  
onto studs

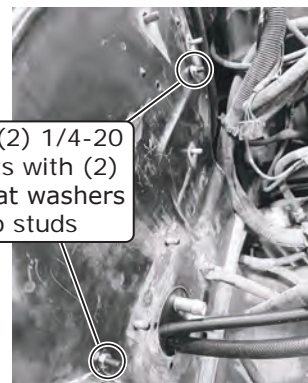


Photo 5

Slide engine  
compartment side  
heater/A/C line  
plate over heater  
hardline barbs, then  
against firewall

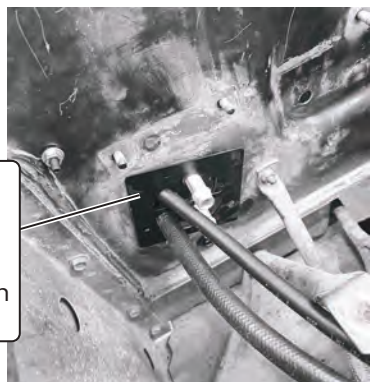


Photo 6

(3) 1/4-20 x 3/4"  
Serrated Flange  
Black Bolts



Photo 7





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## Evaporator Installation (Cont.)

6. Install a 1/4-20 x 1 1/2" flange head black bolt from the engine compartment into the previously drilled hole on the firewall as shown in Photos 8 and 9, below.
7. Replace the full-threaded studs, 1/4-20 hex nuts and 9/32" flat washers for (2) 1/4-20 x 3/4" serrated flange black bolts (See Photos 9, 10, 11 and 12, below). Tighten all hardware on the engine side of the firewall.  
**NOTE: Save the full-threaded studs for a later installation process.**
8. With the evaporator still supported, attach the evaporator dash bracket to the evaporator using the 1/4-20 well nuts and (2) 1/4-20 x 1" serrated flange black bolts as shown in Photo 13, below.
9. Clamp the bracket to the dash (See Photo 14, below), then mark a center point in the slotted hole that will be used to secure it to the dash (See Photo 15, below).

Install a 1/4-20 x 1 1/2" flange head black bolt from engine compartment into previously drilled hole



Photo 8

1/4-20 x 1 1/2"  
Flange Head  
Black Bolt

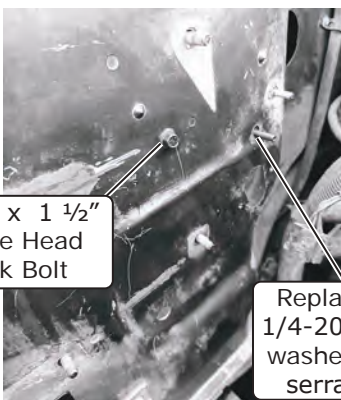


Photo 9

Replace full-threaded studs,  
1/4-20 hex nuts and 9/32" flat  
washers for (2) 1/4-20 x 3/4"  
serrated flange black bolts

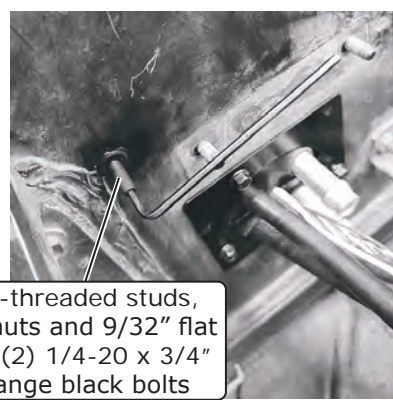


Photo 10

1/4-20 x 3/4"  
Serrated Flange  
Black Bolt

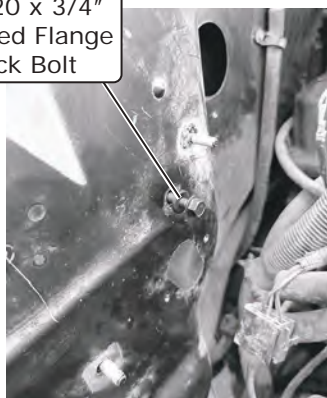


Photo 11

Tighten all  
hardware

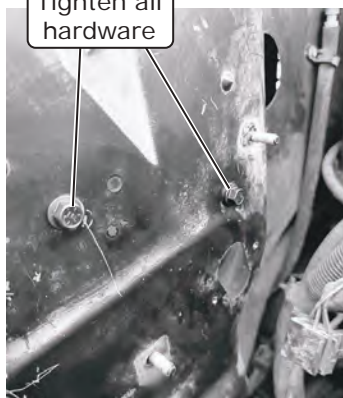
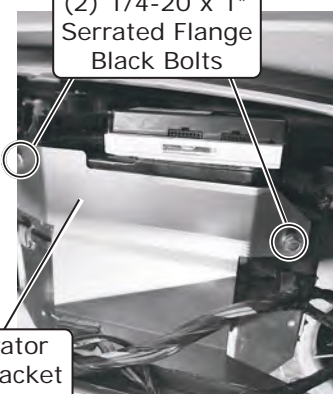


Photo 12

(2) 1/4-20 x 1"  
Serrated Flange  
Black Bolts



Evaporator  
Dash Bracket  
643290

Photo 13

Clamp bracket  
to dash

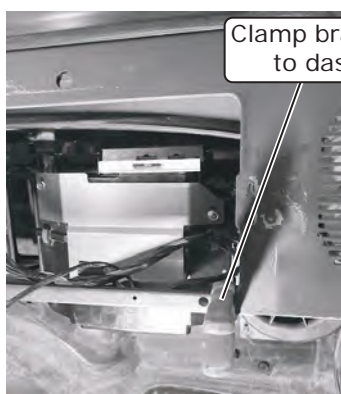


Photo 14

Mark a center point  
in slotted hole



Photo 15



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## Evaporator Installation (Cont.)

10. Remove the evaporator dash bracket from the evaporator, and drill a 5/16" hole in the marked location (See Photo 16, below).
11. Reinstall the evaporator dash bracket onto the evaporator, and secure it to the dash using a 1/4-20 x 3/4" serrated flange black bolt and 1/4-20 serrated flange nut as shown in Photo 17, below.
12. Level the module fore and aft, left to right, then tighten all remaining mounting hardware (See Photo 18, below).
13. With a properly lubricated #6 O-ring (See Lubricating O-rings & Fitting Torque Specs, Page 18), connect the #6 A/C hose straight fitting to the drier connection (See Photo 19, below). **NOTE: All hardware needs to be tightened in this step to ensure a level installation. The nut and bolt securing the dash to the dash bracket will be used in a later step for the Under Dash Louver Assembly Installation.**
14. With a properly lubricated #10 O-ring (See Lubricating O-rings & Fitting Torque Specs, Page 18), connect the #10 A/C hose 90° fitting with the service port to the suction port of the compressor (See Photo 20, below).

Remove bracket from evaporator and drill a 5/16" hole in marked location

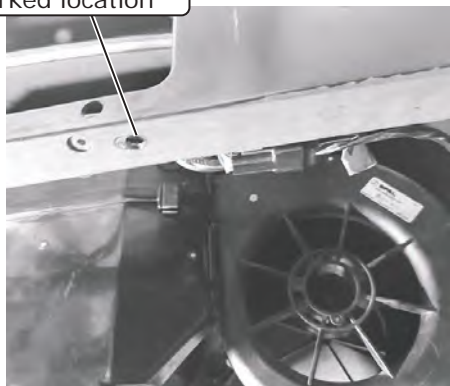


Photo 16

Reinstall bracket onto evaporator and secure it to dash using a 1/4-20 x 3/4" serrated flange black bolt and 1/4-20 serrated flange nut



Photo 17

Level module fore and aft, left to right



Photo 18

Connect #6 A/C hose straight fitting to drier connection



Photo 19

Connect #10 A/C hose 90° fitting with service port to suction port of compressor



Photo 20





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## Evaporator Installation (Final)

15. Install the 5/8" drain hose to the evaporator, and run it through the firewall (See Photos 21 and 22, below). An inch after the firewall, cut the line and install the supplied 1/2" drain elbow. Use the cut piece of hose to extend the other side of the elbow (See Photo 23, below).

Install 5/8" drain hose to evaporator, and run it through firewall

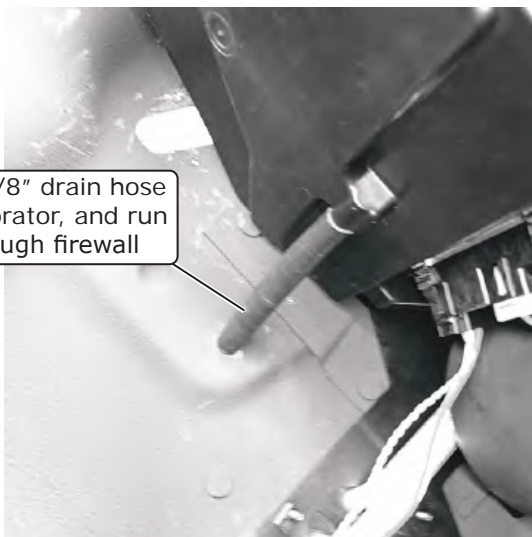


Photo 21

Install 5/8" drain hose to evaporator, and run it through firewall

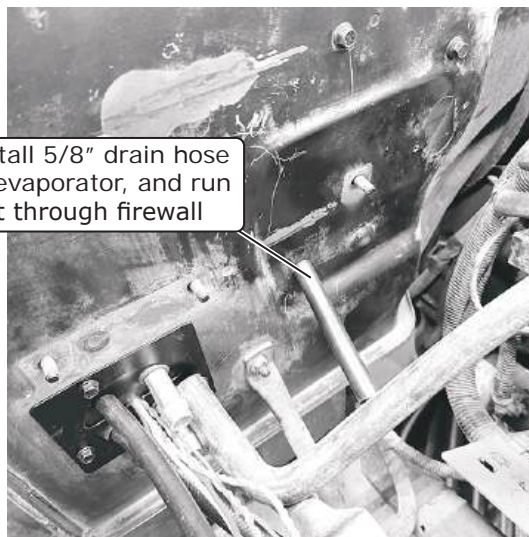


Photo 22

Cut hose an inch from firewall

Install 1/2" supplied drain elbow

Use cut piece of hose to extend other side of elbow

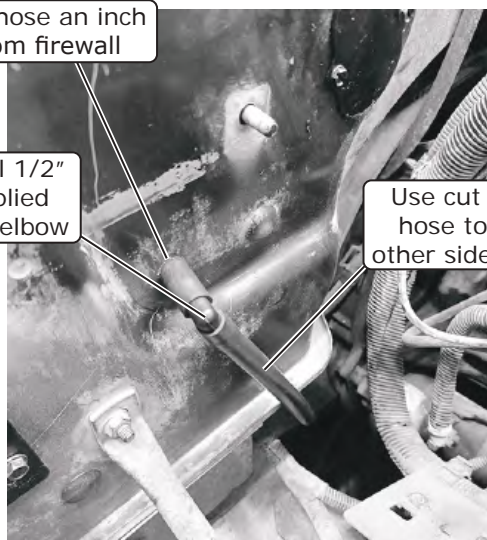


Photo 23

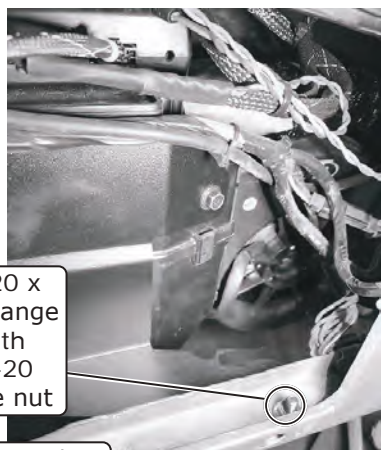




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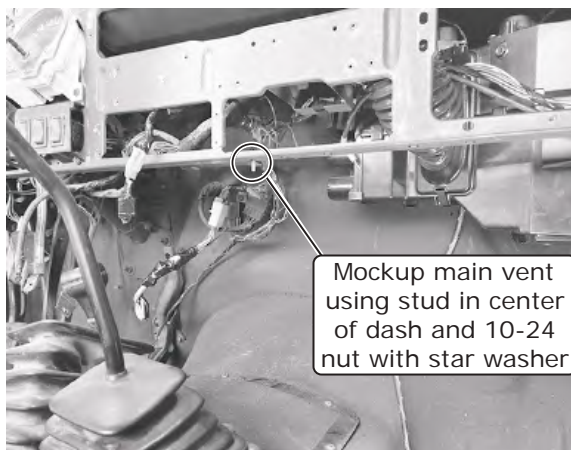
## Under Dash Louver Assembly Installation

1. Remove the 1/4-20 x 3/4" serrated flange black bolt with the supplied 1/4-20 serrated flange nut securing the evaporator dash bracket to the dash (See Photo 1, below). **NOTE: This will cause the bracket to sag slightly under the dash.**
2. Install the under dash louver assembly onto the dash using the stud in the center of the dash (See Photo 2, below). Secure it using the supplied 10-24 nut with star washer.
3. Then, using the OEM screw under the driver-side of the dash, loosely thread the screw through the bracket using the same hole originally used (See Photo 3, below).
4. With the nut secure and the OEM screw in place, the passenger-side mounting hole should line up with the hole previously made for the evaporator dash bracket (See Photo 17, Page 26).
5. Sandwich the under dash louver assembly bracket between the evaporator dash bracket and the dash, then secure it using the hardware removed in Step 1 (See Photo 4, below).
6. Tighten all hardware at this time.
7. Install louver into the under dash assembly as shown in Figure 1, below.



Remove 1/4-20 x 3/4" serrated flange black bolt with supplied 1/4-20 serrated flange nut

Photo 1



Mockup main vent using stud in center of dash and 10-24 nut with star washer

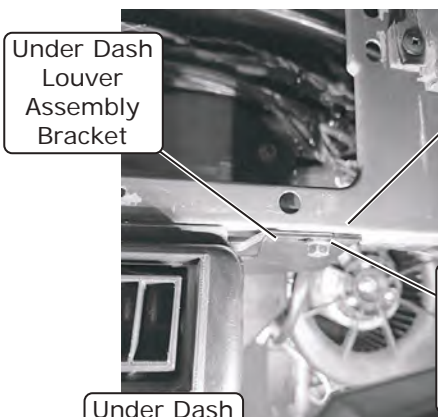
Photo 2

Using OEM screw under driver side of dash, loosely start screw through bracket using same hole screw was originally threaded into



Install louver into under dash assembly

Photo 3



Under Dash Louver Assembly Bracket

Sandwich main duct bracket between evaporator bracket and dash

Secure using 1/4-20 x 3/4" serrated flange black bolt with supplied 1/4-20 serrated flange nut

Under Dash Louver Assembly 496177

Photo 4

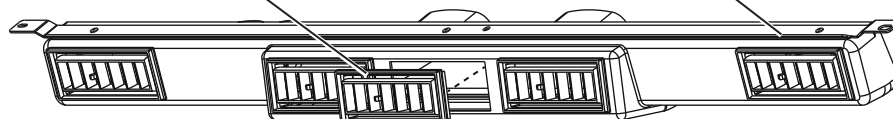


Figure 1



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## Control Panel Installation

1. Refer to control panel instruction for installation procedures.

## Heater Hose & Heater Control Valve Installation

**NOTE:** Due to the variety of engine applications for this platform, heater hoses are not included with this kit. 90° elbow 5/8" heater hose mentioned is available on the Vintage Air website as (099000). Pick up additional straight & 90° 5/8" heater hose from an auto parts store near you.

1. Connect 90° 5/8" hose to lower heater port coming out of the firewall (See Photo 1, below). Install the other side of the hose into the port facing the passenger compartment (See Photo 2, below).



Photo 1

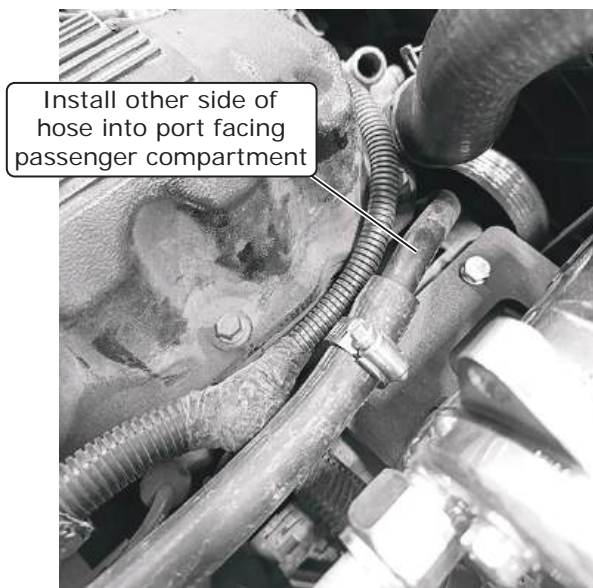


Photo 2



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## Heater Hose & Heater Control Valve Installation (Cont.)

2. Cut the 90° elbow hose on the shorter side by 3/4" (See Photo 3, below), then connect it to the top heater line barb using a hose clamp (See Photo 4, below).
3. Install the heater valve support bracket for the heater control valve using the included (2) #10 x 5/8" screws (See Photo 5, below). Then, install the heater control valve into the 90° elbow hose using a hose clamp (See Photo 5, below). **NOTE: The arrow on the heater control valve should point towards the evaporator.**
4. Using a hose clamp, install an additional 5/8" hose roughly 40" long to the other end of the heater control valve (See Photo 6, below). Using a hose clamp, connect the other end of the heater hose to the front port, pointing up, near the thermostat housing (See Photo 7, below).
5. Connect the heater control wiring to the wires coming out of the firewall (purple, white, and yellow wire connector) (See Photo 8, below).
6. Mark and drill a 1/4" hole in the battery tray for the heater control valve bracket. **NOTE: To help find the location to mount the heater control valve, thread the previously used full-threaded stud with a little grease in the mounting hole on the bracket. Install the battery tray, then push up the bracket until the grease touches. Remove the battery tray, and drill a 1/4" hole where the grease touched.**
7. Once the battery tray is installed, secure the heater control valve bracket to the battery tray (See Photo 9, below).

Cut 90° elbow hose on shorter side by 3/4"

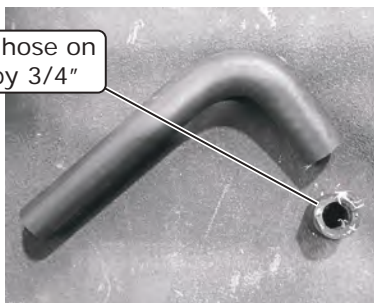


Photo 3

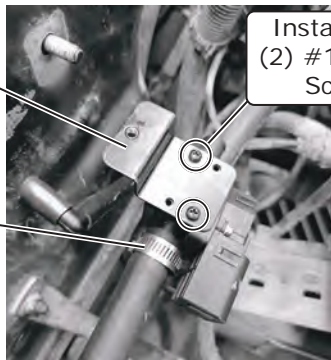


Connect hose to top heater line barb using a hose clamp

Photo 4

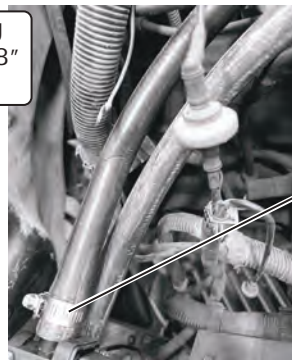
Heater Valve Support Bracket 648284

Install heater control valve into 90° elbow hose using a hose clamp



Install using (2) #10 x 5/8" Screws

Photo 5



Using a hose clamp, install an additional 5/8" hose

Photo 6

Using a hose clamp, connect other end of heater hose to front port, pointing up

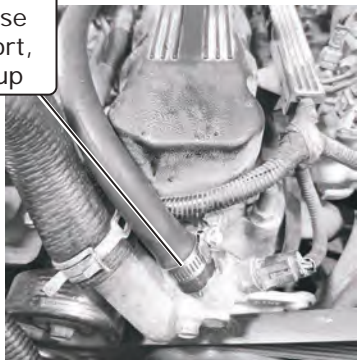


Photo 7

Connect heater control wiring to wires coming out of firewall (purple, white, and yellow wire connector)

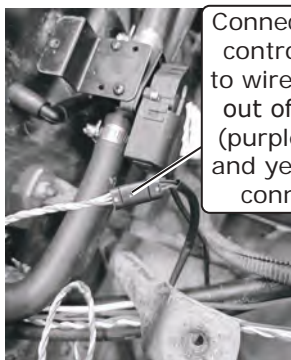


Photo 8



Once battery tray is installed, bolt heater control valve bracket to battery tray

Photo 9



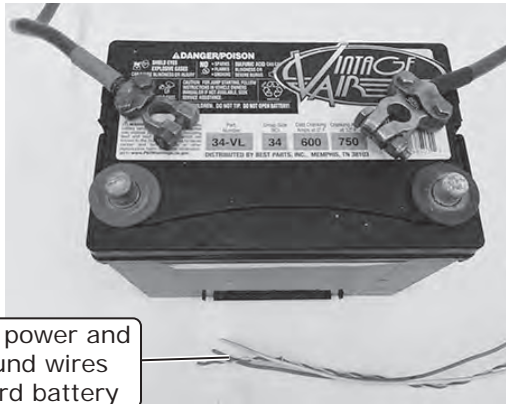


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## Engine Compartment Wiring

**NOTE:** The following connections are critical to the performance of the system. Before making connections, refer to the Quality Crimp Guidelines, Page 42.

1. Route power and ground wires toward the battery (See Photo 1, below).
2. Install the supplied heat shrink over the 12 AWG orange standard fuse holder assembly wire and crimp it to the 12 AWG orange wire from the main wiring harness (See Photo 2, below). Slide the heat shrink over the crimp, then apply heat.
3. Install the supplied heat shrink over the 16 AWG black mini fuse holder assembly wire and crimp it to the 16 AWG red wire from the main wiring harness (See Photo 3, below). Slide the heat shrink over the crimp, then apply heat.
4. Install the fuses into the holders (See Photos 4 and 5, below).
5. Install the supplied heat shrink over the white ground wires, then crimp on the supplied ring terminals (See Photo 6, below). Slide the heat shrink over the crimps, then apply heat. **NOTE: Both white wires can be crimped to the larger ring terminal. Install the heat shrink, then strip the wires, twist them together and trim to length. Crimp on the ring terminal, then slide the heat shrink over and apply heat (See Photos 7 and 8, below).**



Route power and ground wires toward battery

**Photo 1**

Crimp 12 AWG orange fuse holder wire to 12 AWG orange wire from main wiring harness



**Photo 2**

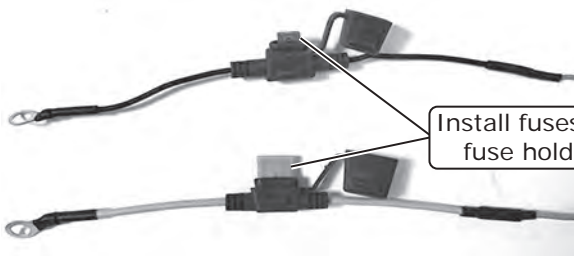
Install heat shrink over 12 AWG orange standard fuse holder assembly wire

Crimp 16 AWG black fuse holder wire to 16 AWG red wire from main wiring harness



**Photo 3**

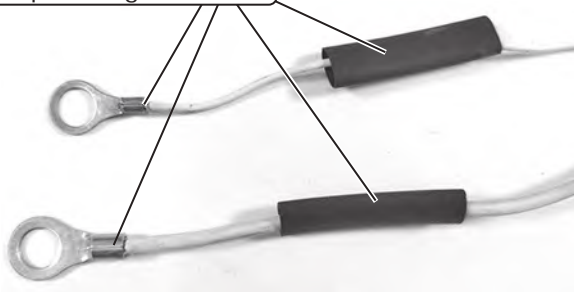
Install heat shrink over 16 AWG black standard fuse holder assembly wire



Install fuses into fuse holders

**Photo 4**

Install heat shrink over white ground wires, then crimp on ring terminals



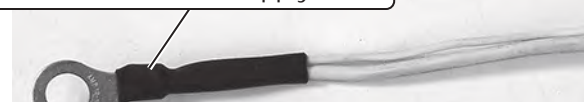
**Photo 6**

Both white ground wires can be crimped together. Install heat shrink, then strip wires, twist together and trim to length.



**Photo 5**

Crimp on ring terminal, then slide heat shrink over and apply heat



**Photo 7**

**Photo 8**



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## Engine Compartment Wiring (Cont.)

6. Connect the ground wire ring terminals to the negative battery terminal connector (See Photos 9 and 10, below).
7. Connect the positive wire ring terminals to the positive battery terminal connector (See Photos 11 and 12, below). **NOTE: Do not connect power until the installation is completed.**
8. Wiring completed (See Photo 13, below).

Connect ground wire ring terminals to negative battery terminal  
**NOTE: Either connection application can be used.**

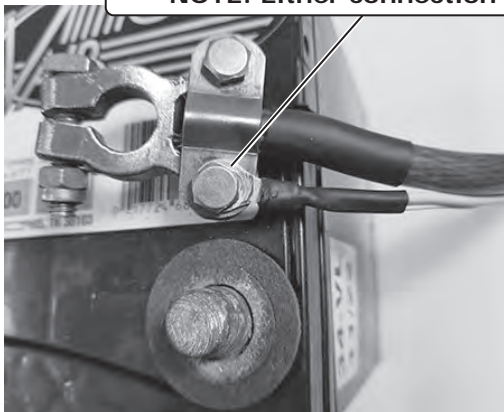


Photo 9

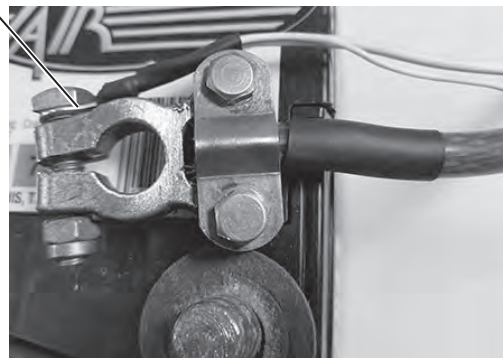


Photo 10

Connect power wire ring terminals to positive battery terminal  
**NOTE: Either connection application can be used.**

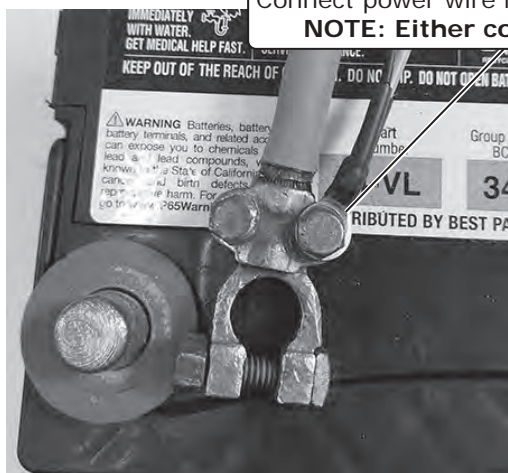


Photo 11

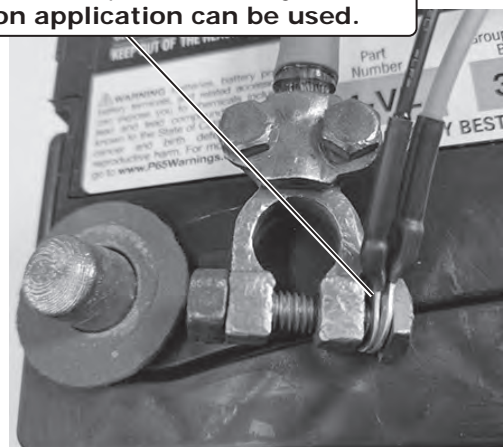


Photo 12

**NOTE: Do not connect power until installation is completed.**



Completed Installation  
Shown

Photo 13

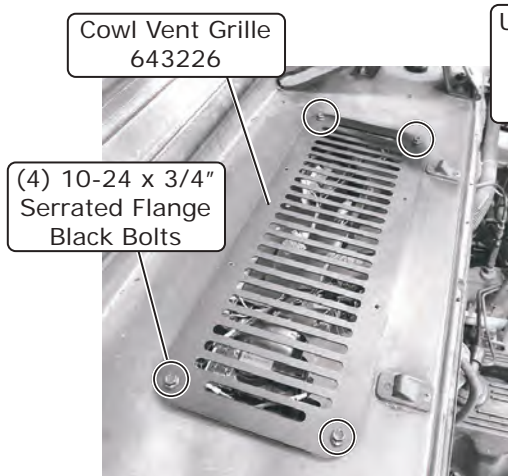




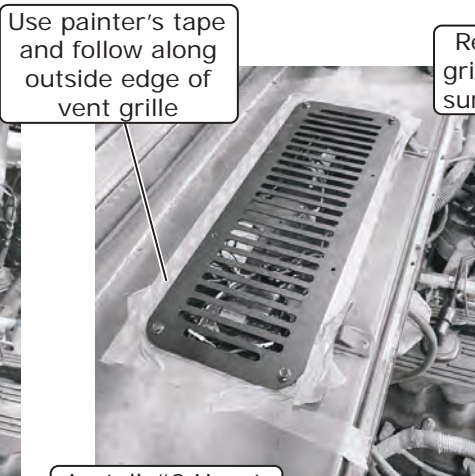
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## Cowl Vent Grille Installation

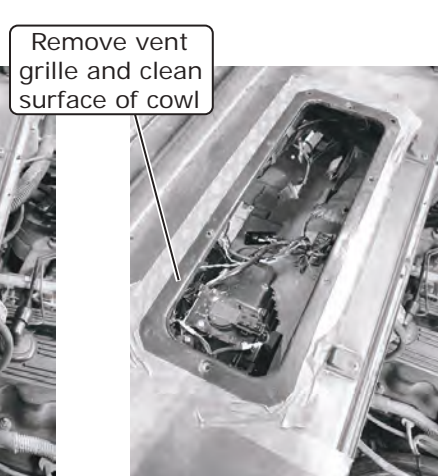
1. Install the cowl vent grille using (4) 10-24 x 3/4" serrated flange black bolts (See Photo 1, below).
2. Using painter's tape, follow along the outside edge of the new vent grille (See Photo 2, below).
3. Leaving the tape outlining the position of the vent, remove the vent grille. Clean the surface of the cowl where the grille will be mounted to (See Photo 3, below).
4. Install the #8 U-nuts onto the cowl vent ring assembly (See Photos 4 and 5, below).
5. Route the cowl vent ring assembly under the dash, through the vent hole, and secure it using (2) #8 x 3/4" oval head screws into the #8 U-nuts (See Photos 6 and 7, below).
6. Apply a layer of silicone to the cowl/vent mating surface (See Photo 8, below).



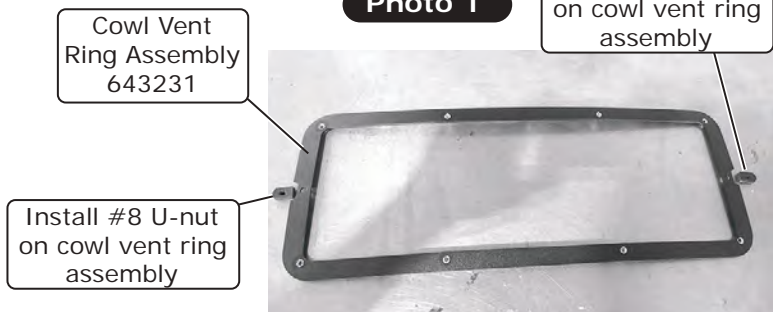
**Photo 1**



**Photo 2**



**Photo 3**

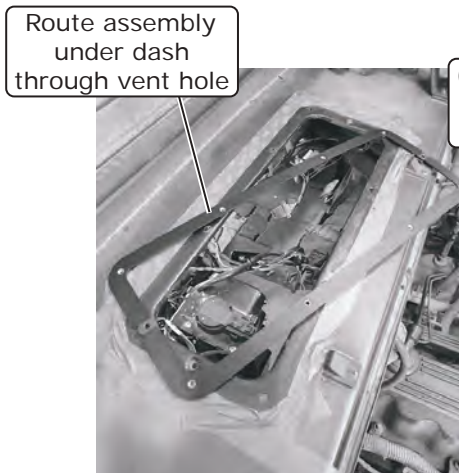


**Photo 4**

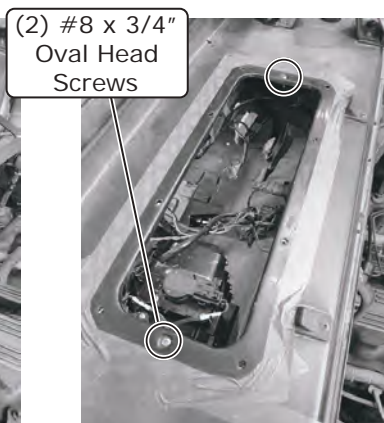


**Photo 5**

Apply layer of silicone to cowl/vent mating surface



**Photo 6**



**Photo 7**



**Photo 8**





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## Cowl Vent Grille Installation (Cont.)

7. Once the silicone is applied, align the cowl vent base with the bolt holes. Then, place the cowl vent grille over the cowl vent base, and secure using (8) 10-24 x 3/4" serrated flange bolts (See Figure 1, below).
8. Ensure the cowl vent ring is sitting flush on the underside of the cowl (See Photo 9, below).
9. Remove the tape on the outside to remove any excess silicone (See Photo 10, below).

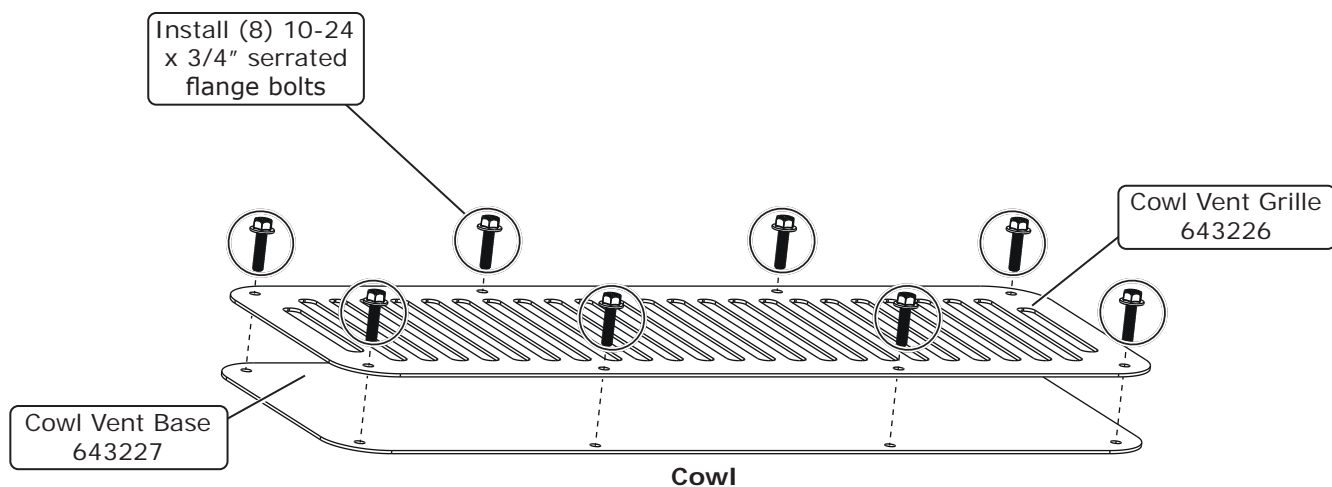


Figure 1

Ensure cowl vent ring is sitting flush on underside of cowl



Photo 9

Remove tape on outside to remove any excess silicone



Photo 10



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## Duct Hose Installation

**NOTE:** Refer to Duct Hose Routing, Page 41, for duct hose lengths.

1. Start routing the duct hose off the dash plenum on the 4-port side of the evaporator case. These will use the 2 1/2" diameter hose.
2. Route duct hose to the top port of the dash plenum on the evaporator to the far-left port on the under dash louver assembly, closest to steering column (See Photos 1 and 2, below).
3. The second top port will then go to the left side center port of the under dash louver assembly (See Photos 3 and 4, below).
4. The third from top port will go to the right side center port on the under dash louver assembly (See Photos 5 and 6, below).

Route duct hose to top port of plenum on evaporator to far-left port on under dash louver assembly



Photo 1

Route duct hose to top port of plenum on evaporator to far-left port on under dash louver assembly

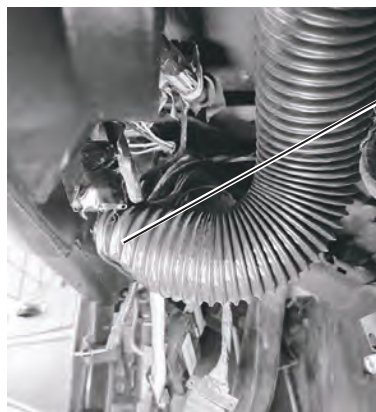


Photo 2

Second top port will then go to left side center port of under dash louver assembly



Photo 3

Second top port will then go to left side center port of under dash louver assembly



Photo 4

Third from top port will go to right side center port on under dash louver assembly

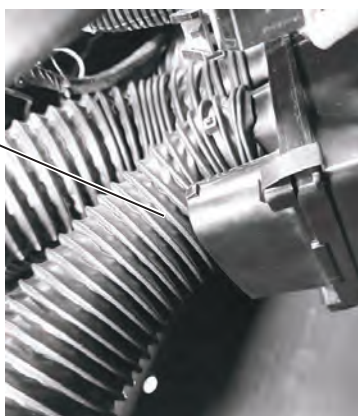


Photo 5

Third from top port will go to right side center port on under dash louver assembly



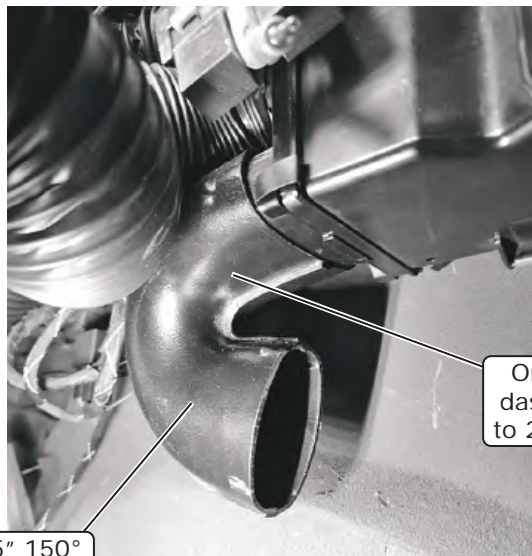
Photo 6



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## Duct Hose Installation (Cont.)

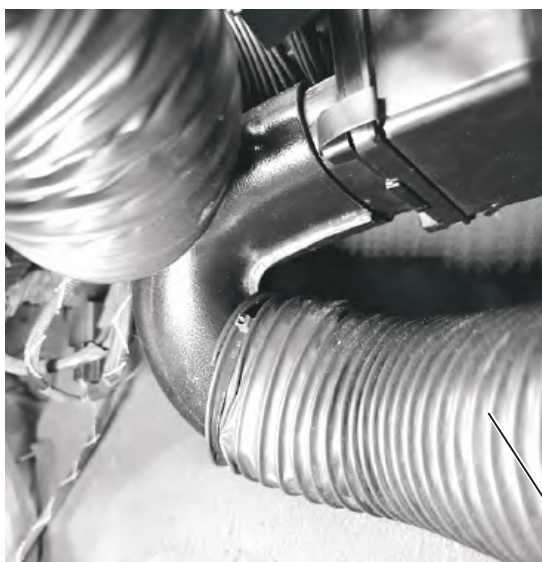
5. On the very bottom port of the dash plenum coming off the evaporator, install the 2.5" to 2.5" 150° hose adapter (See Photo 7, below).
6. Connect the final duct hose from the 2.5" to 2.5" 150° hose adapter to the far-right vent on the under dash louver assembly, closest to the passenger door (See Photos 8 and 9, below).



On very bottom port of dash plenum, install 2.5" to 2.5" 150° hose adapter

2.5" to 2.5" 150°  
Hose Adapter  
625310

**Photo 7**



**Photo 8**



**Photo 9**

Connect final duct hose from the 2.5" to 2.5" 150° hose adapter to far-right vent on under dash louver assembly, closest to passenger door





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## Defrost Plenum Installation

1. Insert the defrost plenum into the base of the defrost duct plenum, then install it onto the evaporator using (2) spring clips as shown in Photos 1 and 2, below.

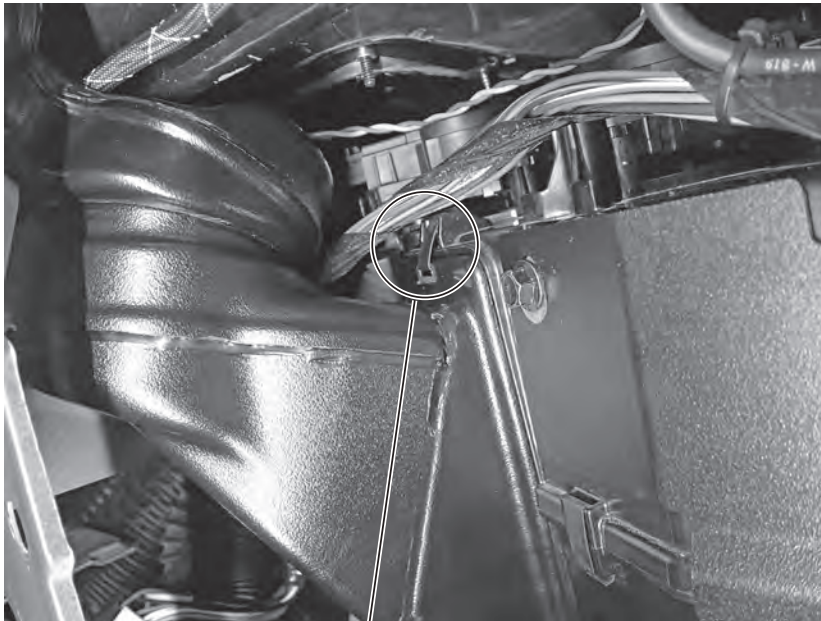


Photo 1

Insert the defrost plenum into the base of the defrost duct plenum, then install it onto the evaporator using (2) spring clips



Defrost Plenum  
496187

Photo 2



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## Glove Box Modification

1. Measure 3  $\frac{1}{8}$ " from the door mounting tab, and mark (See Photo 1, below). Repeat the step on the other side of the glove box.
2. Mark a line all the way around the glove box (See Photos 2 and 3, below).
3. Remove the marked area from the glove box (See Photo 4, below).
4. Clean the glove box, leaving no burrs from the cut (See Photo 5, below).
5. Install (4) S-clips onto the glove box (See Photo 6, below).
6. Install the glove box cover onto the modified glove box (See Photos 7 and 8, below).
7. Reinstall the glove box.



**Photo 1**



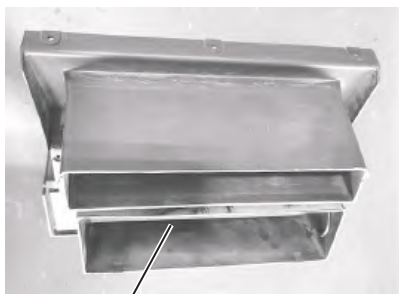
Mark a line all way around glove box

**Photo 2**



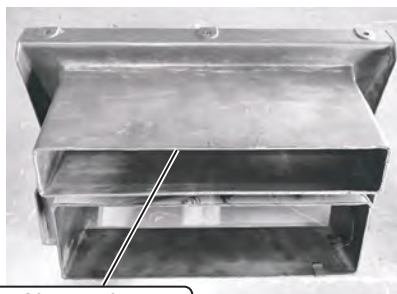
Mark a line all way around glove box

**Photo 3**



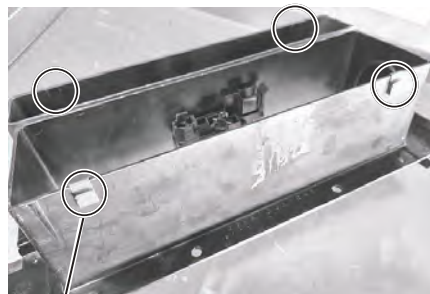
Remove marked area

**Photo 4**



Clean glove box, leaving no burrs from cut

**Photo 5**



Install (4) S-clips onto glove box

**Photo 6**

Glove Box Cover 496182



**Photo 7**

Install cover onto modified glove box



**Photo 8**



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## Final Steps: Installation Check

Installation Check	
ITEM TO CHECK	Procedure
<input type="checkbox"/>	ECU If no blinking is observed after 1 minute of turning the ignition on, go to the next check. If repetitive blinking is observed, go to the <b>Advanced Diagnostics</b> Section to diagnose.
<input type="checkbox"/>	Blower speed control Set the blower speed control to <b>OFF</b> , <u>confirm that the blower is off</u> . Position the blower speed control to <b>LOW</b> then <b>MEDIUM</b> and then <b>HIGH</b> . <u>At each setting confirm that the blower speed increases</u> , do this by feeling for the amount of air coming from the unit and hearing the blower speed increase.
<input type="checkbox"/>	Mode control Set the <b>MODE</b> control to the <b>DASH</b> position. <u>Confirm that air is being blown at the dash vents</u> . Set the <b>MODE</b> control to the <b>FLOOR</b> position. <u>Confirm that air is being blown at the floor vents</u> . Set the <b>MODE</b> control to the <b>DEFROST</b> position. <u>Confirm that all air is being blown from the defrost vents</u>
<input type="checkbox"/>	Temperature control <b>If heater lines are installed:</b> Set the <b>MODE</b> control to the <b>DASH</b> position. Set the <b>TEMP</b> control to the <b>MAX HEAT</b> position. <u>Confirm that HOT air is coming from the dash vents</u> . <b>If system is charged:</b> Set the <b>TEMP</b> control to the <b>MAX COOL</b> position. <u>Confirm that COLD air is coming from the dash vents</u> . Also <u>confirm that the compressor "clicks" on</u> when adjusting the <b>TEMP</b> control from the <b>MAX HEAT</b> position to the <b>MAX COOL</b> position.
<input type="checkbox"/>	AC Indicator (If applicable) While the <b>MODE</b> control is set to the <b>DASH</b> position, and the <b>TEMP</b> control is set to the <b>MAX COOL/MIN HEAT</b> position, <u>confirm that the blue AC Indicator light is on</u> .
<input type="checkbox"/>	Backlight (If applicable) If your control panel has backlight capabilities and has been wired, turn the dash lamp on and <u>confirm that the AC panel's legend is lit</u> .
<input type="checkbox"/>	Fittings Verify AC and Heater fittings are all tight.





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## ***Final Steps: Completing the Install***

1. Reinstall all previously removed items.
2. 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.
3. Double check all fittings, brackets and belts for tightness.
4. Vintage Air recommends that all A/C systems be serviced by a licensed automotive A/C technician.
5. Evacuate the system for a minimum of 45 minutes prior to charging, and perform a leak check prior to servicing.
6. Charge the system to the capacities stated on Page 4 of this instruction manual.
7. See Operation of Controls procedures on Page 45.



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## Duct Hose Routing

**NOTE:** For the system to function optimally, the duct hoses must be routed as directly as possible, taking care to avoid kinks, sharp bends and unnecessary length. Vintage Air supplies duct hoses in continuous lengths that will need to be cut to size depending on application. Before cutting, familiarize yourself with the installation instructions and verify the routing will work with your application. For custom hose routing, additional hose may be needed and can be purchased from Vintage Air.

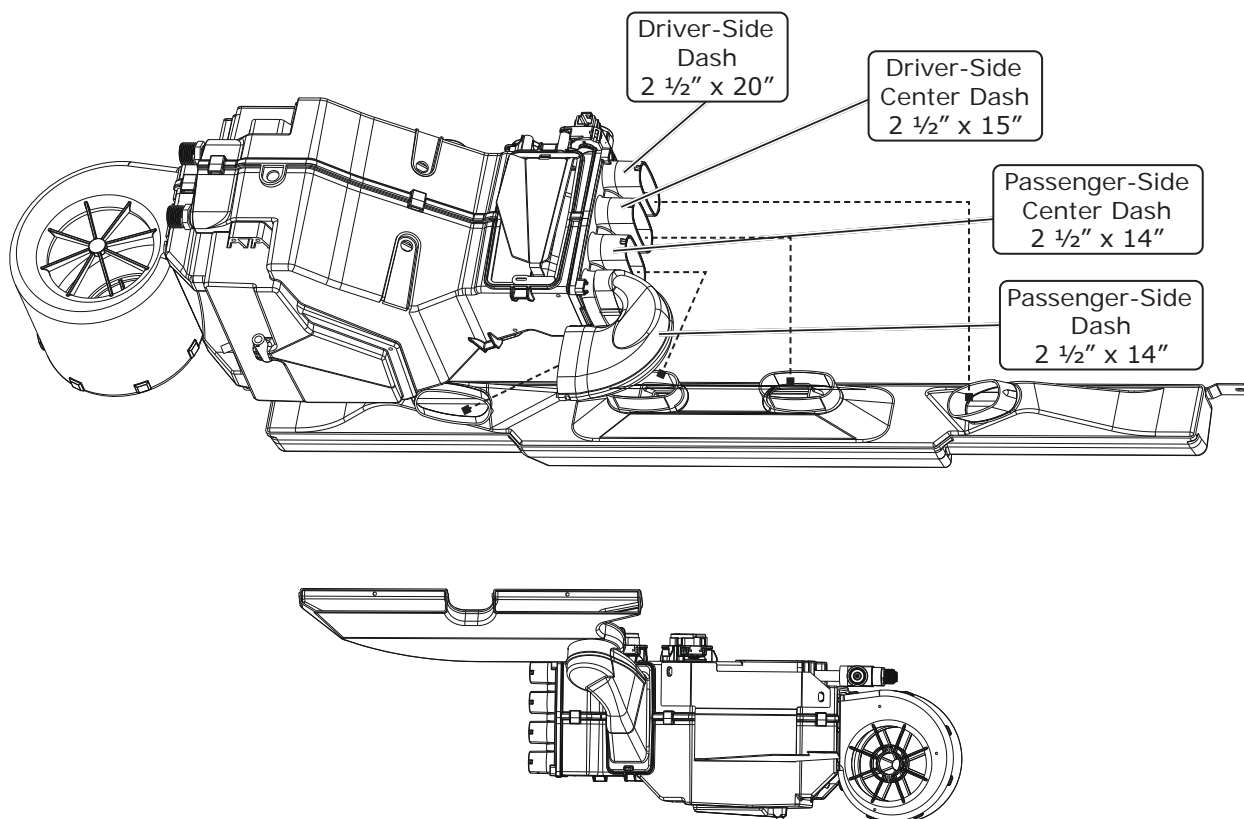
1. Stretch the duct hose until there is no slack, measure, mark and cut hose to size (See Photo 1, below).

Stretch, measure, mark and cut hose to size

**Disclaimer:** Before cutting duct hose to length, verify the routing will work for your application.



**Photo 1**



Position connectors towards bottom

**NOTE:** ECU must be placed away from water and humidity, and also be accessible for servicing. If relocating, connectors must be positioned towards the bottom.



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## Quality Crimp Guideline

Acceptable strip length  
(Some copper visible)

Crimped area is centered  
on each side of splice

Bad strip length  
(Too much copper visible)  
Visible copper should be  
just enough to ensure  
clearance between splice  
area and wire insulation

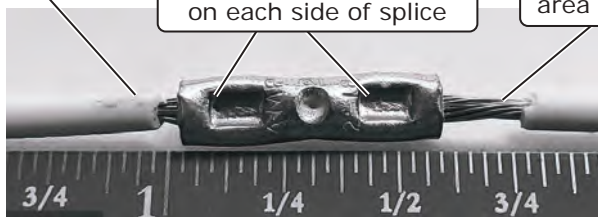


Photo 1

A good crimp requires  
seam of butt splice to be  
opposite of crimp die tooth

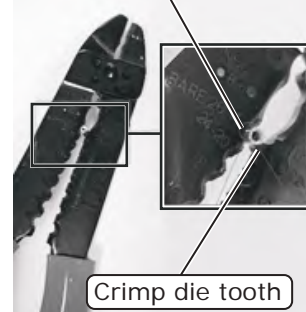


Photo 2

### Good Ring Terminal Crimp Bad Ring Terminal Crimp



Photo 3

Crimp  
area is  
centered  
on barrel

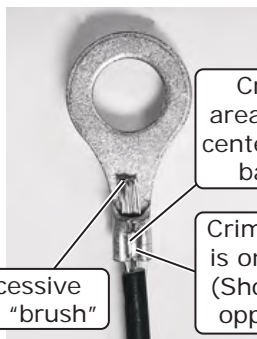


Photo 4

Excessive  
wire "brush"

Crimp  
area is not  
centered on  
barrel

Crimp area  
is on seam  
(Should be  
opposite)



Photo 5

Use a ratcheting crimp tool  
for insulated barrel terminals  
when crimping the provided  
female insulated terminal.  
Ensure terminal is inserted in  
appropriate position before  
crimping.



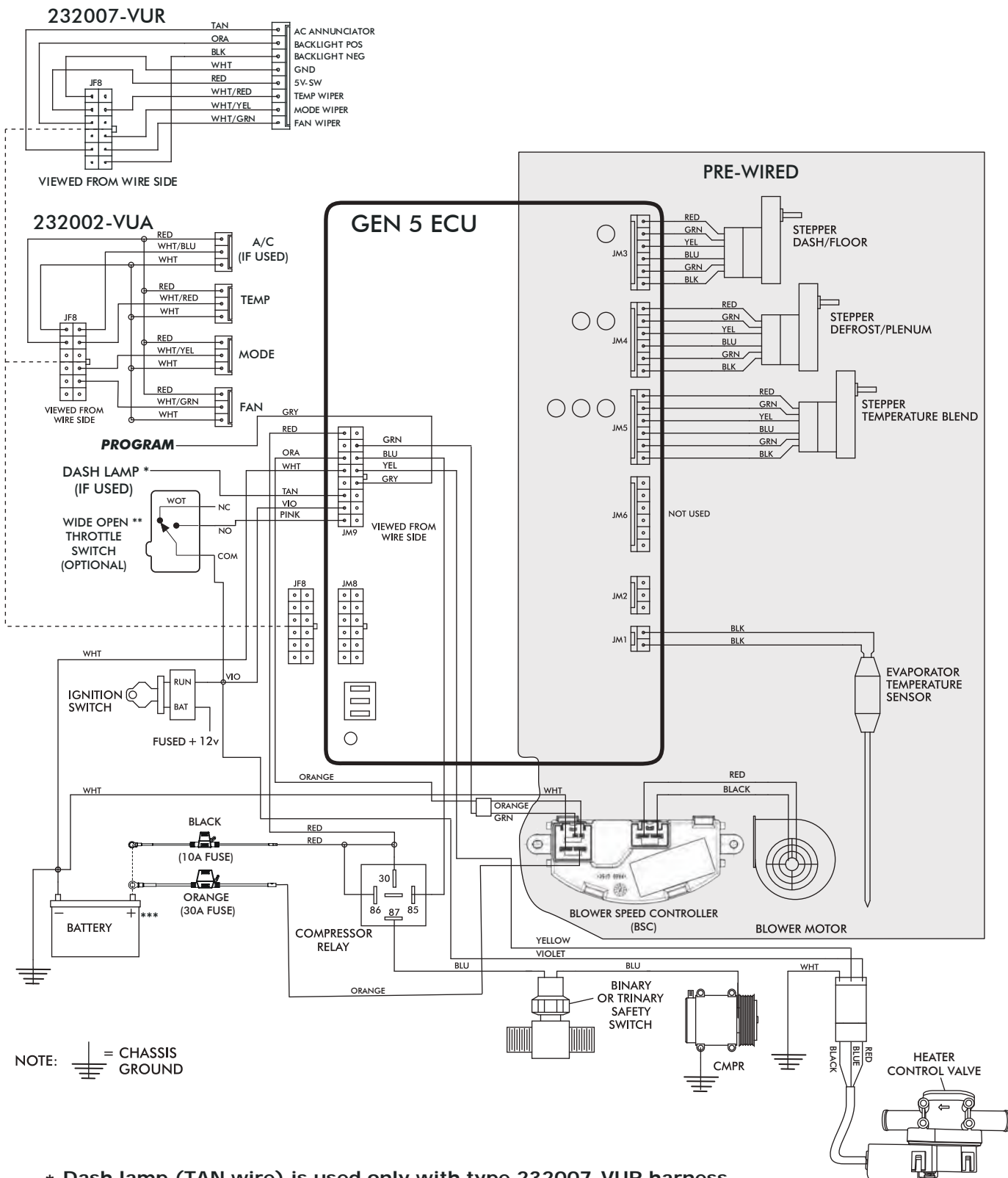
Photo 5a





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# Gen 5 Wiring Diagram



\* Dash lamp (TAN wire) is used only with type 232007-VUR harness.

\*\* Wide open throttle switch contacts close only at full throttle, which disables A/C compressor.

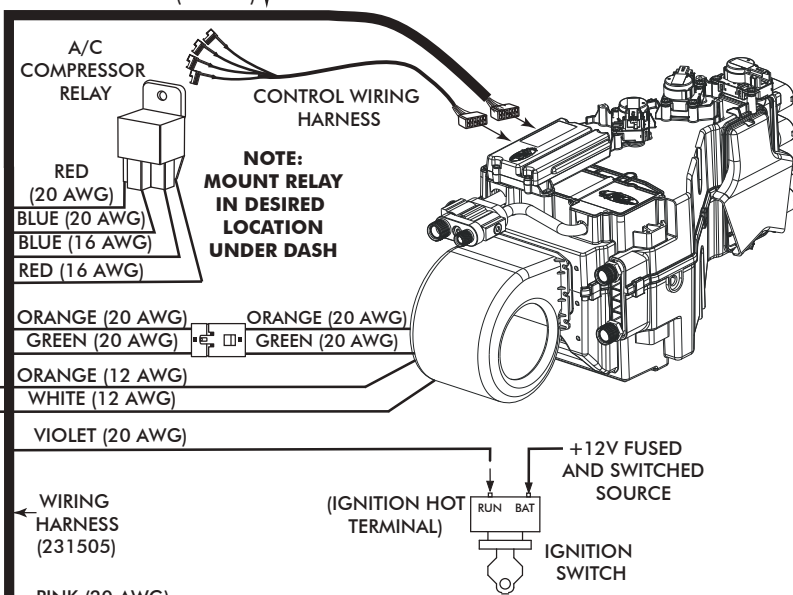
\*\*\* Install fuse assemblies at or as near to the battery as possible.



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## Gen 5 Wiring Instructions

WIRING HARNESS (231505) ↓



### Ignition Switch:

Using provided butt splice (PN 226004), connect the 20 AWG violet wire to a 5A fused and switched 12V source such as Key On.

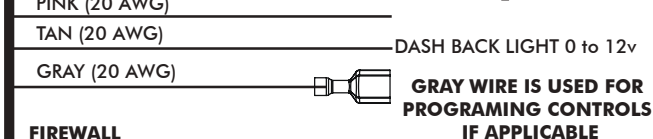
### Wide Open Throttle Switch (Optional):

If a wide open throttle switch is required, connect the 20 AWG pink wire to a normally open switch that, when closed, connects a fused and switched 12V source to the pink wire. See Gen 5 wiring diagram for an example.

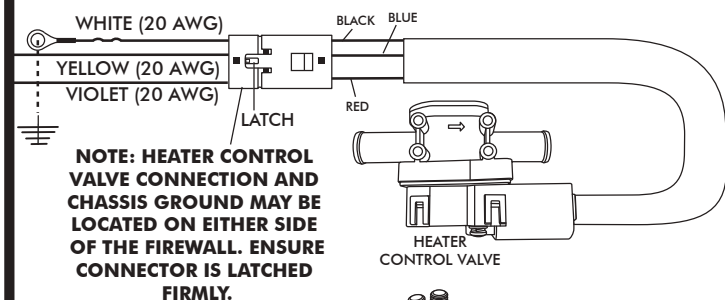
### Dash Light (Optional):

If using a Vintage Air control panel with back light, connect the 20 AWG tan wire to the vehicle's dash back light 0-12V using provided butt splice (PN 226004).

WIRING HARNESS (232020)



FIREWALL



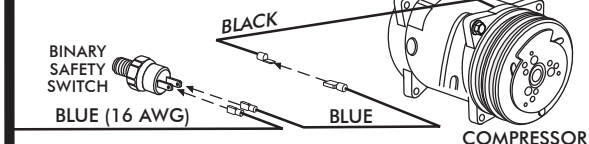
### Heater Control Valve:

Connect the Violet/Yellow/White twisted branch with 3 position connector into the heater control valve connector. Ensure that the mating latch is fully seated.

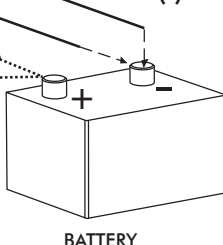
### Binary/Trinary & Compressor:

**Binary Switch:** Terminate provided insulated female terminal (PN 23172-VUW) to the blue 16 AWG wire. Connect as shown.

**Trinary Switch:** Connect according to trinary switch wiring diagram.



**NOTE: CONNECT WHITE WIRES DIRECTLY TO (-) BATTERY TERMINAL**



### Battery Connections:

**ECU Ground:** Terminate provided ring terminal (PN 226110) to 20 AWG white wire from the 231505 wire assembly and install at battery.

**ECU PWR:** Terminate provided fuse assembly with black leads (PN 233012) to the 16 AWG red wire from the 231505 wire assembly. Install provided 10A Red Mini Fuse (PN 226118). Install at battery.

**Blower Speed Controller (BSC) Ground:** Terminate provided ring terminal (PN 226111) to 12 AWG white wire from the 232020 wire assembly and install at battery.

**Blower Speed Controller (BSC) PWR:** Terminate provided fuse assembly with orange leads (PN 233008) to the 12 AWG orange wire from the 232020 wire assembly. Install provided 30A Green ATO/ATC Fuse (PN 226125). Install at battery.



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## Operation of Controls

On Gen IV or Gen 5 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 in and out of heat and A/C operations, to indicate the change. **NOTE: For proper control panel function, refer to control panel instructions for calibration procedure.**

### **Blower Speed**

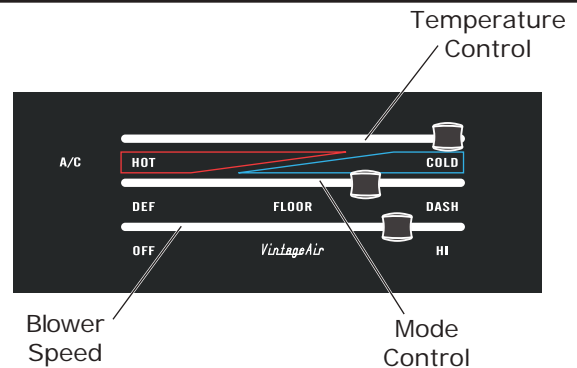
This lever/knob controls blower speed, from OFF to HI.

### **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**

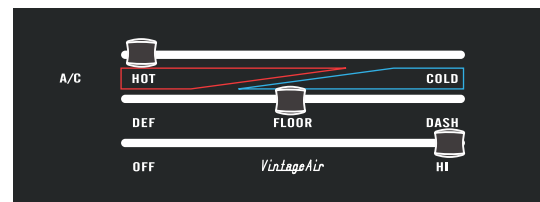
Adjust to desired speed.

### **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

This printed troubleshooting guide is our basic guide that covers common installation problems. To see our advanced diagnostics and troubleshooting guide, please refer to the following page for instructions on how to download the complete guide.

**WARNING: While troubleshooting the system, never probe connector terminals from the front mating side, only back probe.**

**WARNING: While troubleshooting the system, never use automotive check lights.**

Symptom	Condition	Checks	Actions	Notes
1. Blower stays on high speed with ignition on.	No other functions work. All other functions work.	Check for damaged pins or wires in the control panel wire assembly and mating header at ECU. Check for a bad ECU GND. Check for damaged pins or wires in the control panel wire assembly and mating header at ECU. Check if Blower power fuse is blown. Check for a bad ECU GND.	If found damaged, replace wire assembly or ECU. If found damaged, replace wire assembly or ECU. Replace fuse. Repair connection.	If fuse continues to blow, there is a serious problem in the wiring. Check all wiring and ensure the wire is not damaged and shorting out along its route.
2. Compressor will not turn on (All other functions work).	System is not charged. System is charged.	System must be charged for compressor to engage. Check for faulty A/C potentiometer or associated wiring (not applicable to 3-pot controls). Check for disconnected or faulty thermistor.	Charge system. Check continuity to ground on white control head wire. Check for 5V on red control head wire. Check 2-pin connector at ECU housing.	<b>Danger: Never bypass safety switch with engine running. Serious injury can result.</b> To check for proper pot function, check voltage at white/red wire. Voltage should be between 0V and 5V, and will vary with pot lever position. 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. Check for faulty A/C relay.	Repair or replace pot/control wiring. Replace relay.	Red wire at A/C pot should have approximately 5V with ignition on. White wire will have continuity to chassis ground. White/Red wire should vary between 0V and 5V when lever is moved up or down.



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## 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	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 power at ECU, and confirm ignition is being applied to ECU properly.	
		Verify battery voltage is greater than 10 volts and less than 16 while engine is running.	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.		System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
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.	
	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.	

## Advanced Diagnostics and Troubleshooting Guide

If after referencing the Troubleshooting Guide, the issue is not resolved, move to The Advanced Diagnostics and Troubleshooting Guide that covers the following:

- ECU Diagnostics Codes
  1. ECU Blink Sequence
  2. Firmware Version Number
  3. ECU Model Number
  4. ECU Start-Up Blink Sequence
  5. Diagnostic Codes
- Complete Advanced Troubleshooting Guidelines

Access the latest version of the Advanced Diagnostics and Troubleshooting Guide by scanning the following QR code on your mobile device:



You can also access the guide by typing the following address into your web browser:

[https://www.vintageair.com/instructions\\_pdf/905000.pdf](https://www.vintageair.com/instructions_pdf/905000.pdf)



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## Packing List: Evaporator Kit (755693)

No.	Qty.	Part No.	Description
1.	1	765200	Gen 5 Magnum Max Module with 404 ECU
2.	1	795693	Accessory Kit

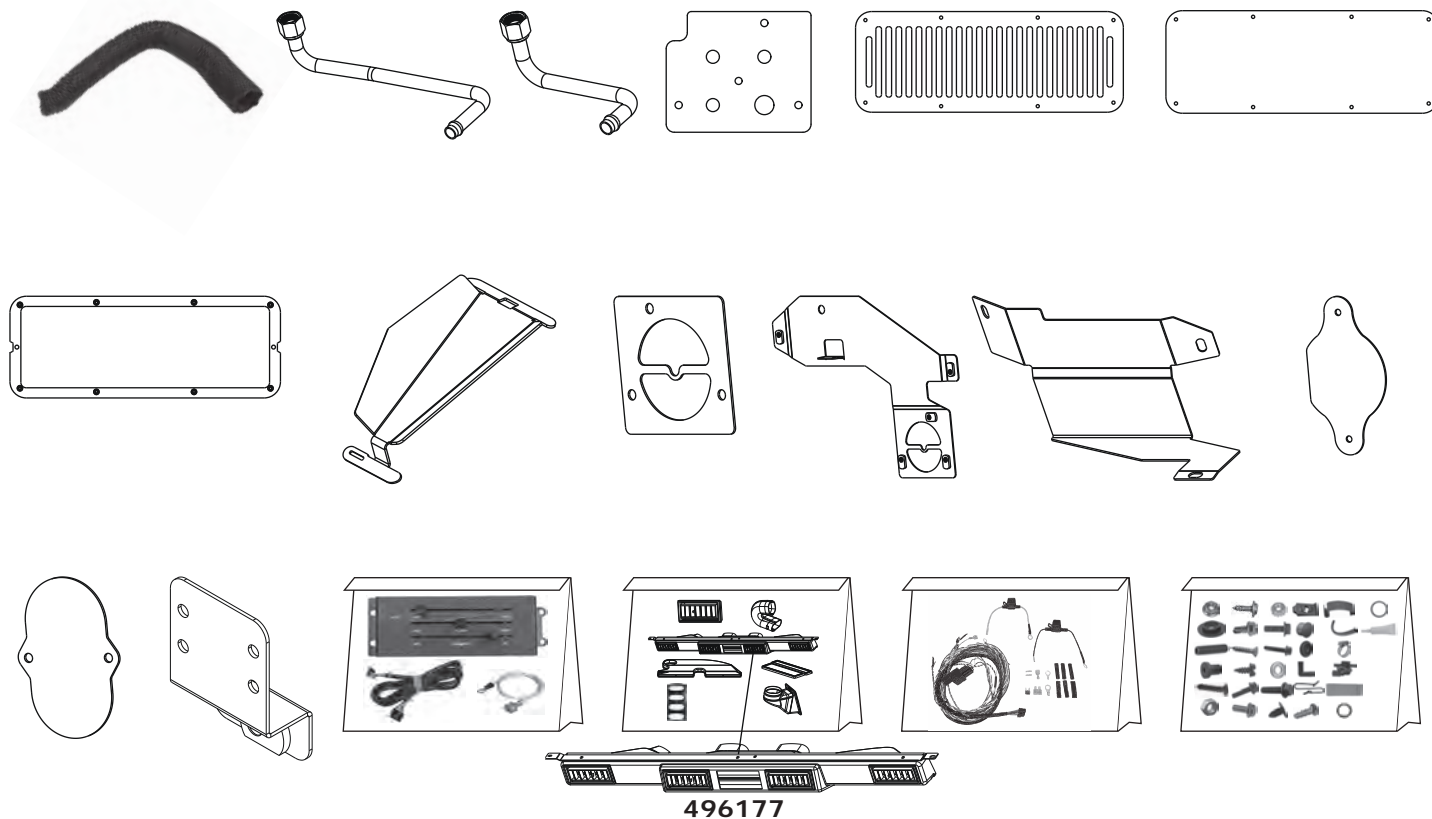
Checked By: \_\_\_\_\_  
Packed By: \_\_\_\_\_  
Date: \_\_\_\_\_

1



Gen 5 Magnum Max  
Module with 404 ECU  
765200

2



Accessory Kit  
795693

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