Installation Manual

1948-52 FORD PICKUP

DOCUMENT #1-1068

Congratulations...

You have just purchased the highest quality, best performing A/C system ever designed for your vehicle.

Congratulations! ! You have just purchased the highest quality, best performing A/C system ever designed for your Classic Car. To obtain the high level of performance and dependability our systems are known for, pay close attention to the following instructions.

Before beginning the installation check the box for the correct components.

Evaporator

Face Duct Assembly

Inlet Air Block Off Assembly

Firewall Block Off Assembly

Flex Hose 2”dia. x 3ft.

Flex Hose 2”dia. x 4ft x 2ea..

Flex Hose 2 ½”dia. x 2 ft.

Sack Kit Louver

Sack Kit Hardware

Sack Kit Control

Glove Box

Check List, Pre-Installation:

- ☐ Before beginning the installation check the shipping box for the correct components. YOUR BOXED UNIT INCLUDES A LIST OF MAJOR COMPONENTS AND A LIST OF BAGGED PARTS. We have a 5 stage check process to make sure you have everything you'll need.
- ☐ **If your vehicle has been or is being modified, some procedures will need to be adjusted to fit your particular application.**
- ☐ A basic cleaning of the engine compartment and interior before beginning will make things go more smoothly.
- ☐ Check condition of engine mounts. Excessive engine movement can damage hoses to A/C and/or heater.
- ☐ Before starting, check vehicle interior electrical functions (interior lights, radio, horn, etc). Make a note of anything that does not work as it's supposed to. During the installation you might find the opportunity to repair or upgrade non-working or out of date components. When you're ready to start the installation, **DISCONNECT THE BATTERY FIRST.**
- ☐ Drain the radiator. Retain the coolant and reuse, or dispose of properly.
- ☐ SAFETY FIRST: Wear eye protection while drilling/cutting, deburr sharp edges, and never get in a hurry or force a part.
- ☐ Tools: Your installation only requires the basic tools everyone has in their garage, nothing exotic or specific to A/C or Heat equipment.

Procedures, During Installation:

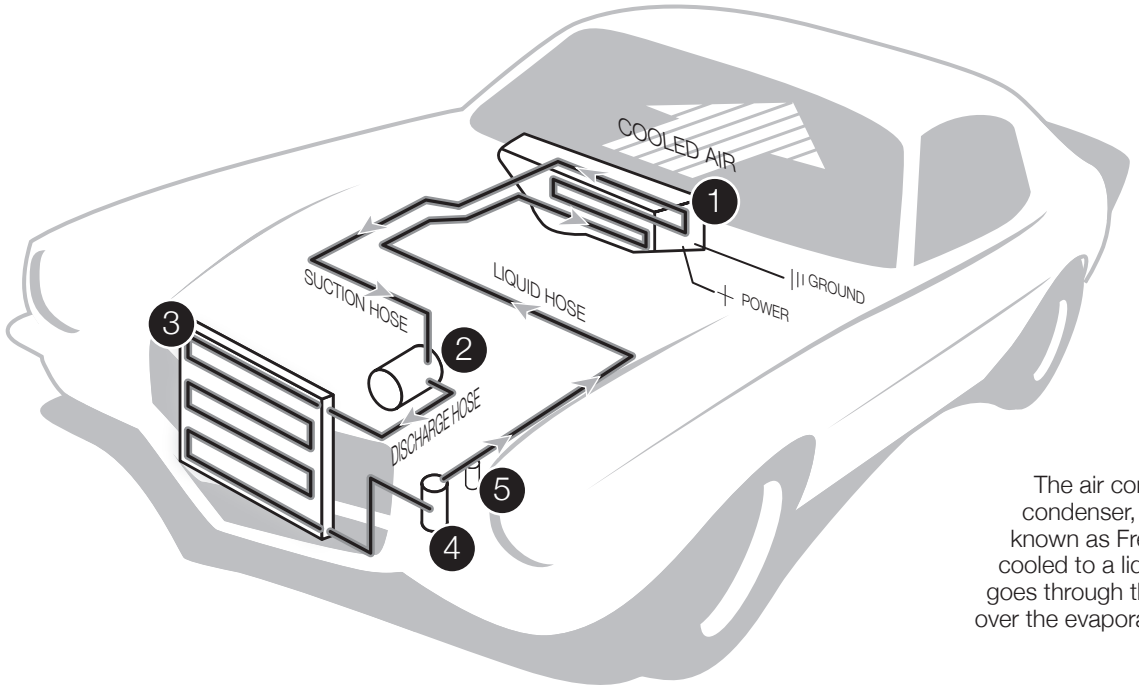
- ☐ Fittings: Use one or two drops of mineral oil (supplied with your kit) on ALL rubber o-rings, threads and where o-rings seat in fittings. Do not use thread tape or sealants.
- ☐ Measure twice (or more), cut once
- ☐ **Should you have any technical questions, or feel you have defective components (or missing items), call us immediately, we will be glad to assist you. Our toll-free number is listed on every page, we're here to help!**

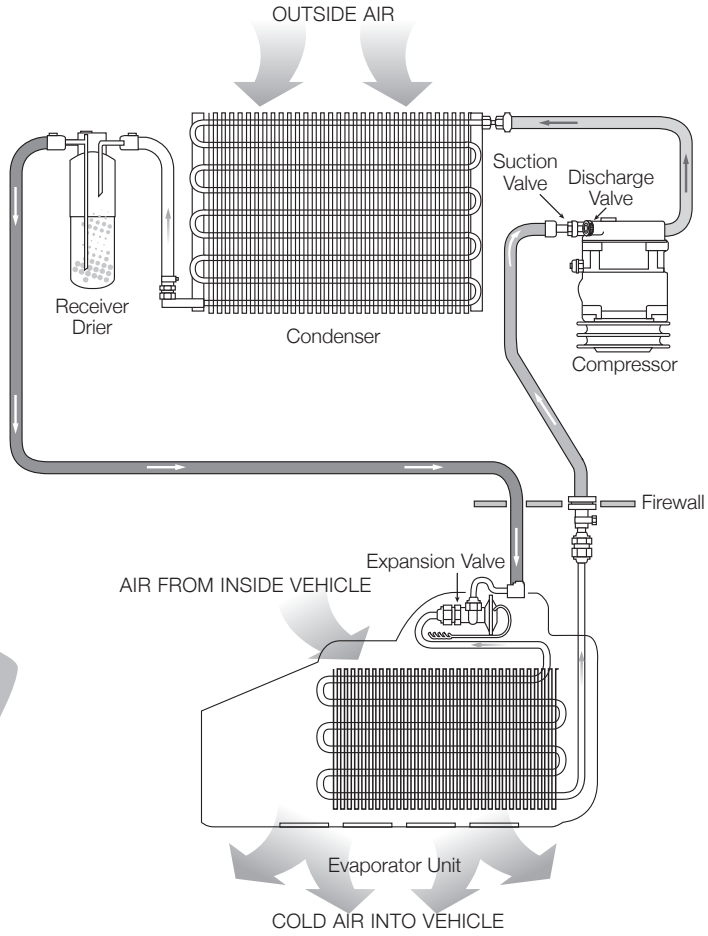
CAUTION: DISCONNECT BATTERY GROUND CABLE

YOU CAN NOW BEGIN THE INSTALLATION...

A Basic Overview of Automotive A/C....

1. **Evaporator with Blower Fan** In order to remove the heat from the air in the vehicle, the A/C evaporator allows the refrigerant to absorb the heat from the air passing over it. The blower fan moves cool air out into the car interior.
2. **Compressor** The compressor pumps and circulates the refrigerant through the system.
3. **Condenser** The condenser is a heat exchanger mounted at the front of the vehicle. Heat drawn out of the interior of the car is expelled here.
4. **Receiver/Drier** The drier not only dries refrigerant, it also filters the refrigerant and stores it under certain operating conditions.
5. **High Pressure Switch** A pressure switch is used to shut down the system if high or low pressure is detected, basically it acts as a safety switch.





The air conditioning system in your car is comprised of a compressor, condenser, expansion valve, receiver/drier, and evaporator. Refrigerant (also known as Freon) is compressed in the compressor. In the condenser, gas is cooled to a liquid state and travels to the expansion valve. As the liquid refrigerant goes through the expansion valve it rapidly cools in the evaporator. A fan blows over the evaporator and cools the air that blows out your vents

“PERFECT FIT SERIES”
IN-DASH
HEAT/ COOL/ DEFROST

CONTROL & OPERATING INSTRUCTIONS

The controls on your new “Perfect Fit” system. Offers complete comfort capabilities in virtually every driving condition. This includes Temperature control in all of the modes.

THE PICTURE YOU SEE SHOWS THE CONTROLS IN THE HEAT MODE. THIS MEANS THAT THE AIR WILL BE DISTRIBUTED THROUGH THE HEATER OUTLETS. THIS ALSO HAS THE TEMPERATURE LEVER IN THE COLDEST POSITION. WITH THE CONTROLS IN THIS POSITION YOU WILL GET THE AIR THROUGH THE HEATER OUTLETS AND THE OUTLET TEMPERATURE AT THE COLDEST POSSIBLE DEGREE.

CAUTION: ALL OF THE OUTSIDE VENTS MUST BE CLOSED WHEN THE SYSTEM IS IN THE A/C MODE. THIS WILL ALLOW THE A/C SYSTEM TO FUCTION AT ITS MAXIMUM PERFORMANCE LEVEL.

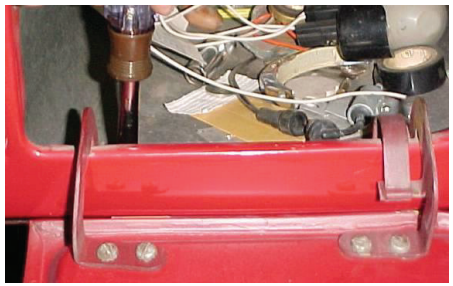
THE FOLLOWING SUMMARY WILL DESCRIBE EACH OF THE CONTROL LEVERS FUNCTION.

FAN SPEED SWITCH: There are 3 speeds plus Off. When the switch is in the off position it will disconnect the 12V power to the Blower Motor and the A/C Clutch. This will shut down the entire system. When the switch is moved to any of the blower speeds 1, 2 or 3 there is 12V supplied to the Micro-Switch that feeds power to the clutch.

TEMPERATURE CONTROL: The temperature Knob as shown is in the COLDEST temperature position. As the knob is pulled out the temperature of the discharged air will rise to the HOTTEST point.
Note: The temperature knob will function in any of the modes.

AIR CONDITIONING MODE: The picture shows the Heat Knob in the Face Mode
(Air-flow out the face outlets).
When the Mode control knob is in this position the Air Conditioning is activated the compressor clutch is on. When the compressor is activated the Temperature knob will control the air from maximum cold through maximum heat.

HEAT / DEFROST MODE: As the Heat Knob is pulled out the air will blend between the face louvers and the heat/ defrost louvers. When the knob is all the way out this is max defrost and the clutch is engaged to provide dehumidified defrost.



CAUTION: DISCONNECT BATTERY GROUND CABLE

Located under the hood.

Disconnect the battery, both cables and remove the battery, and battery box. Retain the battery, battery box and all original hardware.

Drain the radiator and disconnect the Heater hoses from heater connections on the firewall.

Remove the Glove box door, and remove glove box. Retain glove box door and all original hardware. Discard the glove box housing.

THE FOLLOWING IS FOR A DELUXE HEATER OPTION.
STANDARD HEATER OPTION IS SIMILAR JUST REMOVE AND DISCARD HEATER.

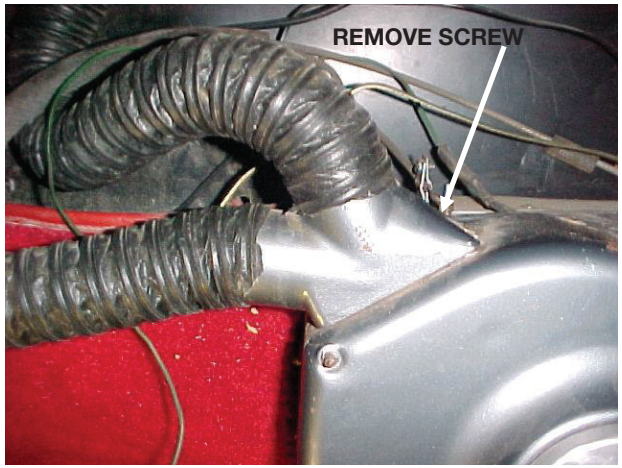
Located behind glove box are the defrost duct hoses. Remove and discard.

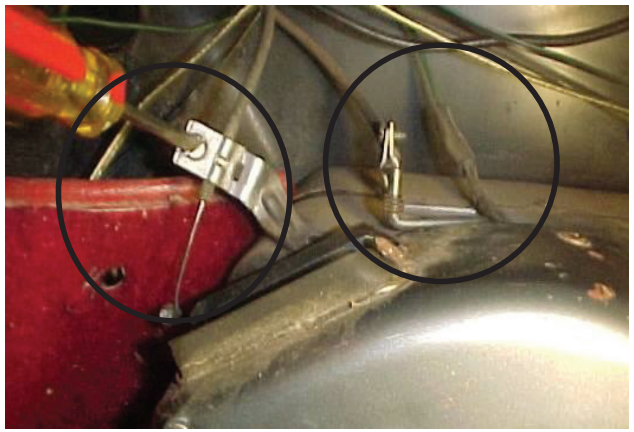
Also remove screw on the hose adaptor. Remove the adaptor and discard.

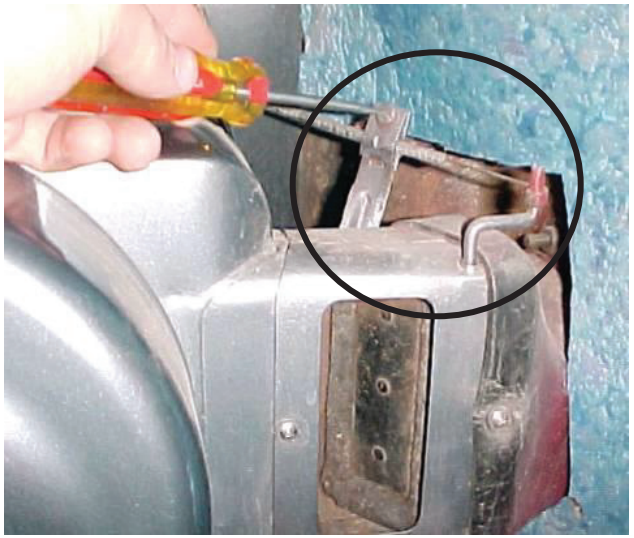
Locate on top of heater assembly the control cables. Disconnect (2) control cables and discard the hardware.

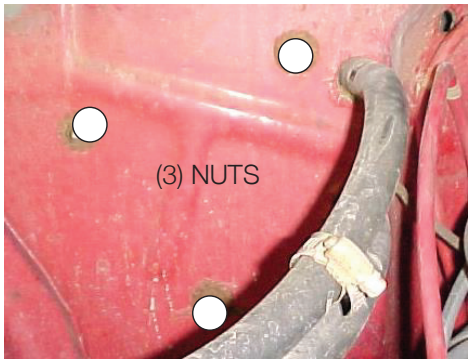
Located at kick panel remove control cable and discard the original hardware.

Remove the inlet flange from the body and discard.









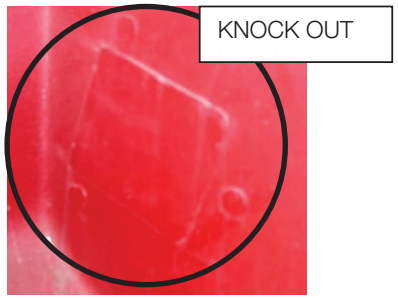
Locate on the firewall in engine compartment there are (3) nuts that hold original heater in place. Remove these nuts and discard.

Disconnect wires from the heater.

Remove and discard heater assembly.

Located under the instrument panel is the original heater blower controls. Remove and discard the completed assembly.

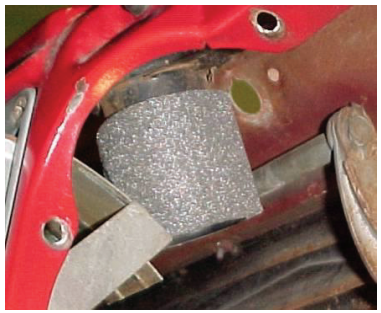
Located on back of the switch is the power wire to the blower switch. Disconnect from the switch and label this wire. This is the power wire for new heater / a/c unit.



STANDARD HEATER OPTION: KNOCK OUT INLET SECTION ON BODY.

Find the inlet cover plate (3) ¼-20 x 5/8” screws, and (3) ¼-20 flange nuts.

Locate over hole as shown and drill (3) holes using the inlet plate as a template. Install hardware provided.



Vehicles equipped with the defrost connector extensions.

Follow the directions in the next (2) paragraphs.

Locate in the hardware sack kit (2) pieces of ¼" x 2" x 5 ½" of foam seal.

Locate the original defrost outlets. Wrap the foam seal around the bottom as shown.

If the defrost diffusers are missing the extensions. Follow the next (4) steps.

Remove the diffuser from the truck and using a pair of pliers bend the tabs outward.

Locate (2) 2" hose adaptors from the hardware kit. Place them over the outlet as shown.

Drill a 5/64" diameter hole through the plastic and into the metal diffuser.

Locate (1) #6 screw and attach hose adaptor as shown.

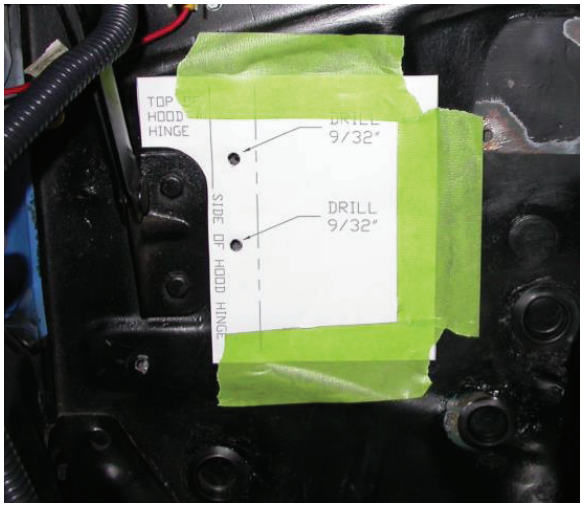
Locate the Evaporator carefully set on a bench. Remove the right heater dump as shown.

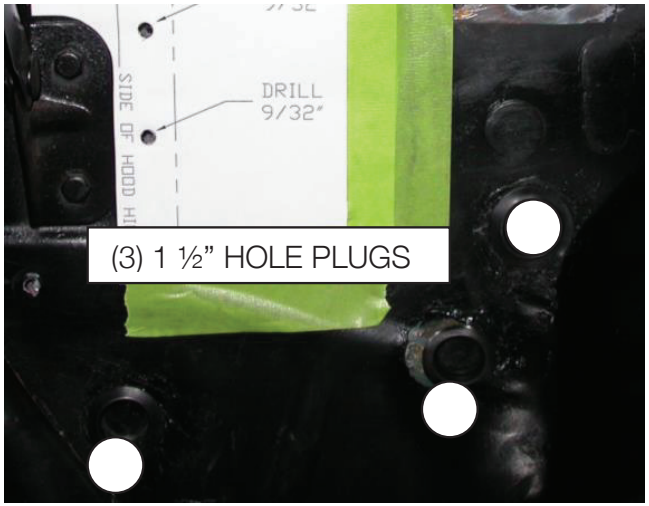
Locate the left, the right rear mounting brackets and (4) ¼”-20 x 5/8” mounting screws from the hardware sack kit. Attach the left as shown using (2) of the screws. Attach the right as shown using the remainder of the screws. Tight securely.

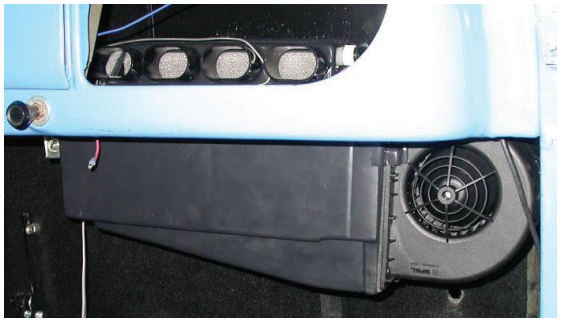
Locate on back of the Installation Instruction a Drill Template. Locate the template on the firewall.
Locate the template along the hood hinge as shown.

Drill (2) 5/16 dia. holes as indicated on template.

Locate (3) 1 ½” hole plugs and install over heater tube holes.







The modifications to the vehicle are complete. You can now begin installing your new Classic Auto Air “Perfect Fit Series” system.

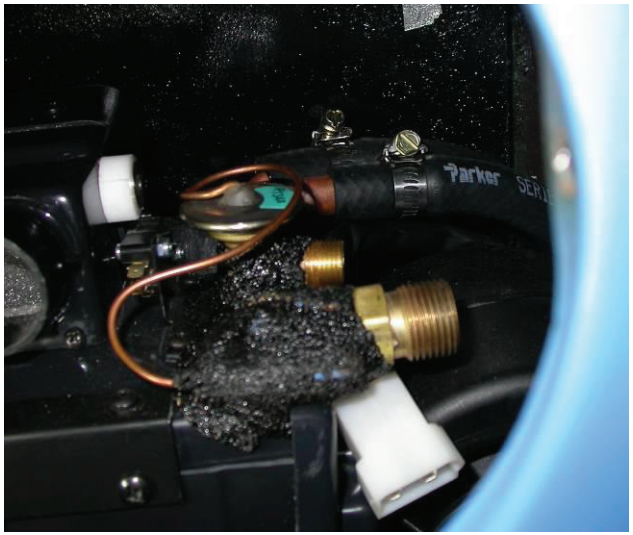
Place unit on passenger floor of vehicle.

Lift unit up behind the glove box as shown.

Locate (4) ¼”-20 x 1” screws, and ¼” flat washers.
Attach unit through firewall and into the j-clips on the back of the unit.

Locate under the left side of the evaporator the rear mounting bracket. Holding unit level with the bottom of the dash. Locate with a marker the hole on the firewall.

Drill (1) 9/32” dia. hole. Locate (1) ¼ -20” bolt and (1) flat washer. Insert bolt through hole and bracket attach (1) ¼ -20 flange nut.



Locate the support bracket, (1) #10 x ½" screw, (1) #10 ny-lock nut, and (1) #10 pan head screw.

Attach bracket to evaporator as shown. Using the #10 screw.

Drill (1) 3/16" dia. hole through the bracket and into
the bottom of the glove box opening.
Install the #10 screw and flange nut.

Locate (2) pieces of 5/8" heater hose.

Attach (1) 15" piece of heater hose to the closest heater connection to the firewall.

Attach (1) 13" piece of heater hose to the last connection on the evaporator.

Attach both of the heater lines to unit with (2) worm gear clamps.

Route the hose around the blower and let hinge.

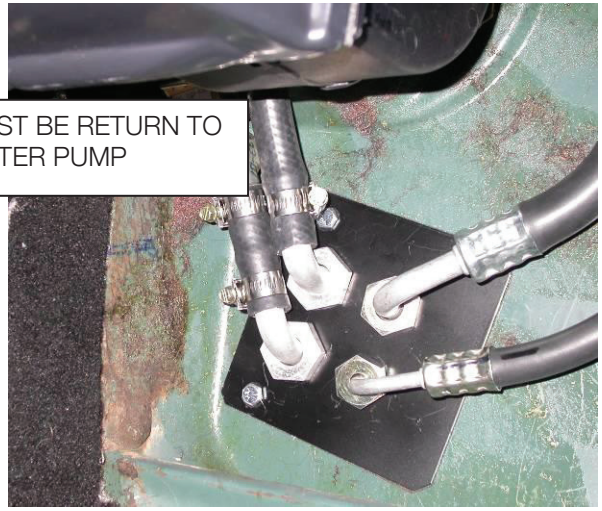
Locate the small diameter hose attach the 45 deg fitting to the expansion valve using (1) #6 o-ring and a few drops of mineral oil attach as shown.

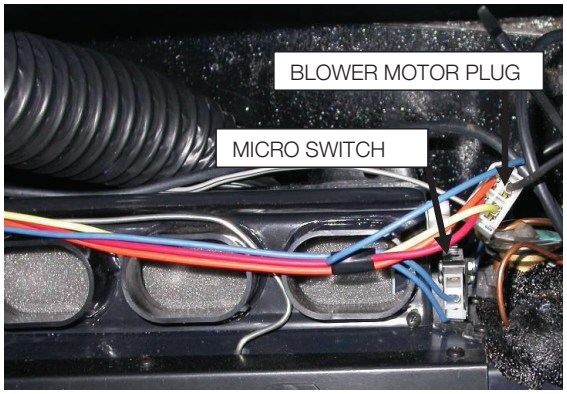
Locate the suction hose attach the 45 deg fitting to the #10 fitting on the evaporator using (1) #10 o ring and a few drops of mineral oil.

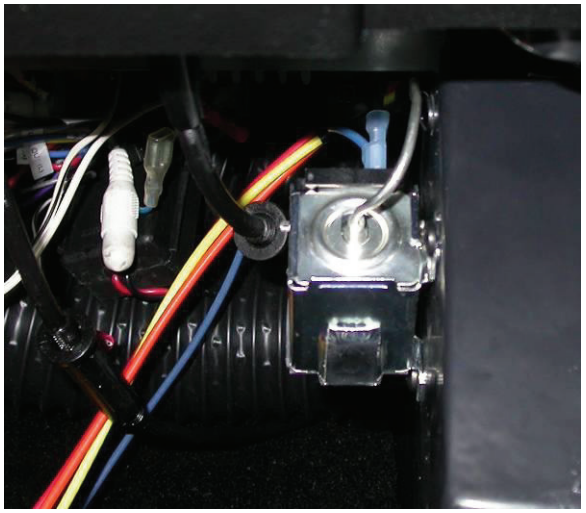
As shown in the picture, route the liquid hose through the hole where the dash and the kick panel meet. The suction hose should route beside blower motor and just barely miss the bottom of the dash.

Locate the 15” heater hose and attach it to a 90 degree bulkhead fitting at the bottom left. As shown. This will be mounted through the bottom left hole on plate. The second heater line will be done the same but put through top left hole on plate. Locating the suction hose and route it to the top hole on right side of plate. Route liquid line to bottom right side of plate as shown.

Locate the water valve attach it to the longest heater hose by cutting out a section of hose and attaching it as shown. Using (2) worm gear clamps.







Located in the control sack kit is the wire harness.

Attach harness to plug at blower motor and ground black wire.

Attach second plug to micro switch located next to the expansion valve.

Route wire harness across top of unit to the thermostat.

Locate the refrigeration tape from the hardware sack kit.

Wrap all of the metal surfaces on large fitting as shown.

On the left side of the unit there are two blue wires from the wire harness plug these in to thermostat.

Locate the face duct and (3) #10 x ¾" tek screws.

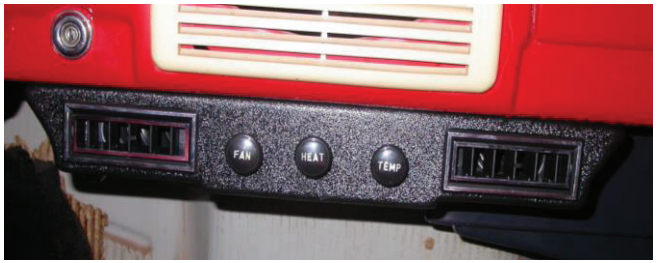
Locate the (2) louvers from the hardware sack kit and insert into the face bezel.

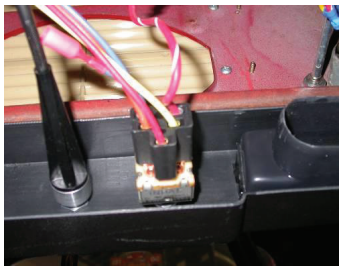
The wire harness will then plug into the rotary blower switch.

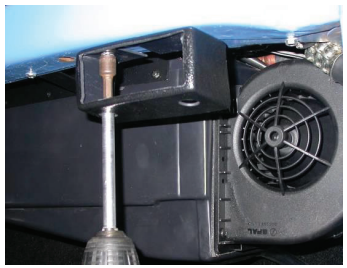
Locate (2) single under dash louver assemblies and (4)#10 x ¾" tek screws.

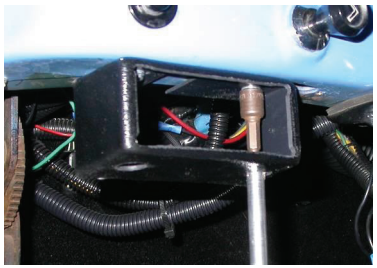
Attach housing to the passenger and drivers side of dash as shown.

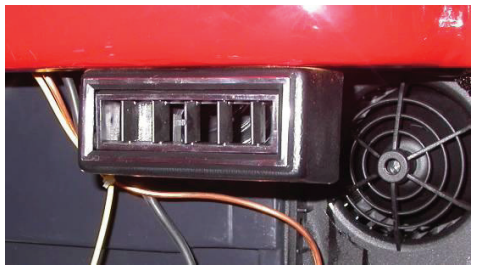
Insert louver assemblies as shown.









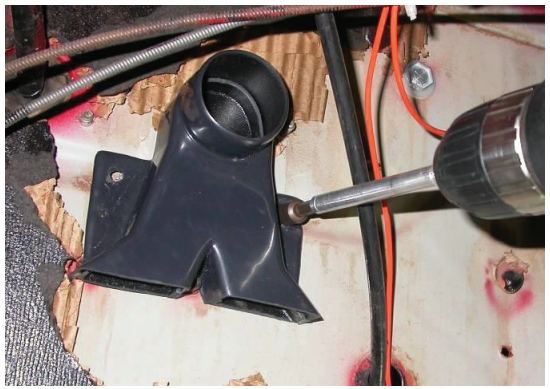


Locate the 2” diameter flex hose. Cut (1) piece 15” long. Attach to the right rear hose adaptor and then up to the passenger side defrost diffuser.

Locate in the hardware sack kit (1) remote heat dump and (2) #10 x ¾ tek screws.

Attach to the firewall to the right of the steering column as shown.

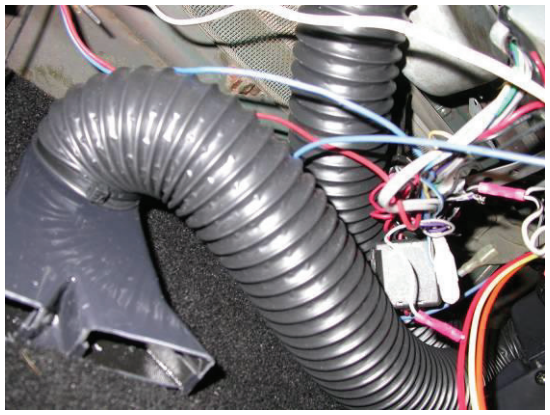
Locate the 2” flex hose. Cut (1) piece 25” long. Attach to the center rear hose adaptor and route over and up to the drivers defrost diffuser.

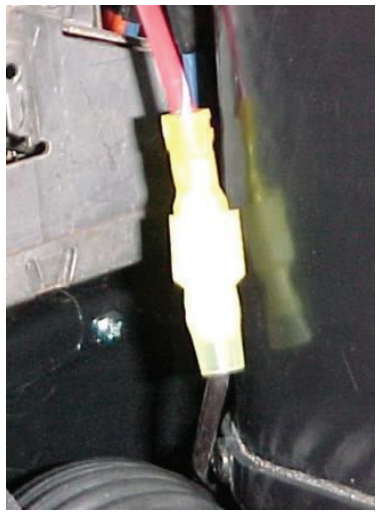


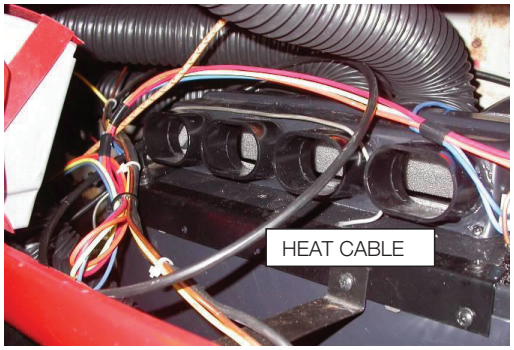
Attach both hoses to the diffusers using a ty-rape.

Locate the 2” flex hose. Cut (1) piece 26” long.
Attach to the left rear hose adaptor and over to the heat dump as shown.

Locate wire that was labeled on page 2 of the instructions. Attach a female ¼” yellow spade connector to this wire and plug it into the red/white stripe wire from the blower switch.







Located on the back of the control assembly is the cable labeled TEMP.

Route the cable behind the evaporator and down to the water valve and attach as shown.

Located on the back of the control assembly is the cable labeled HEAT.

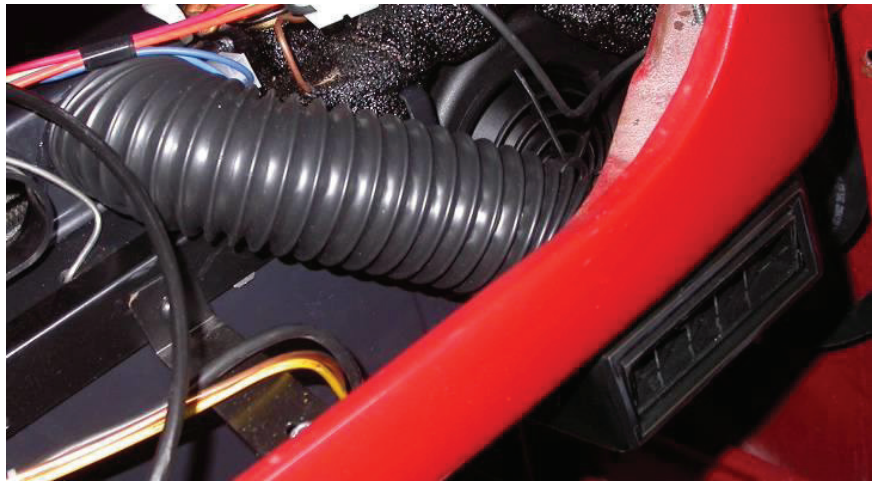
Route the cable around the backside of the unit up over the top and over to the side where the door crank arm is. (see picture to the left)
Attach end of cable to the top hole on the crank arm.

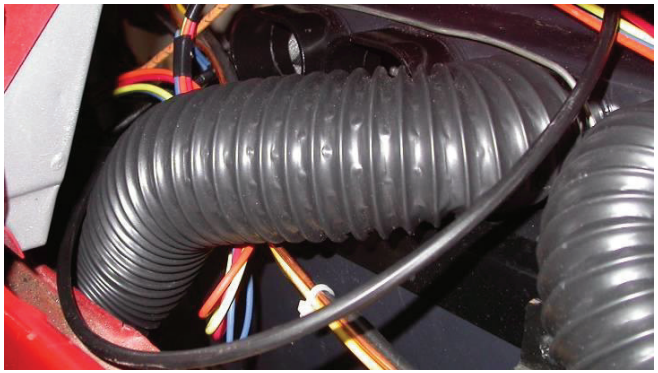
Attach to flag of cable using (1) #8 x 3/8 pan head screw.

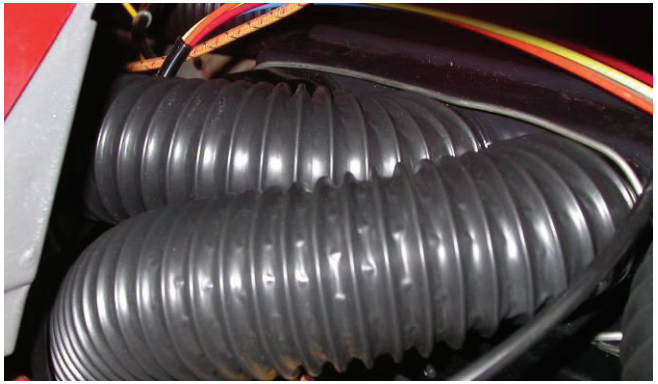
Locate 2” duct hose and cut an 11” piece.

Attach duct hose to outlet closest to blower motor and route down to louver as shown.

Attach the end to the unit with a ty wrap.







Locate 2” duct hose and cut a 14” piece.

Attach duct hose to second out let closest to blower motor as shown.

Route the hose down and attach to center control louver on the right.

Locate 2” duct hose and cut 22” piece.

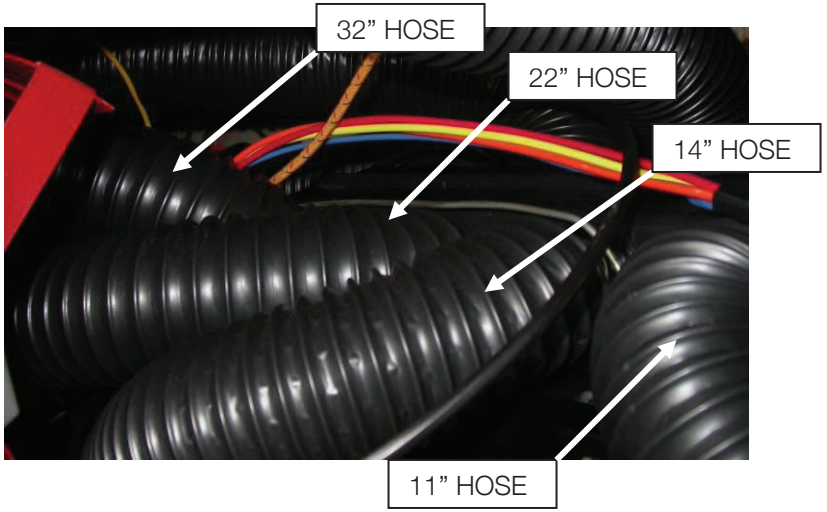
Attach duct hose to third out let closest to blower motor as shown.

Route down and attach to center control louver on the left.

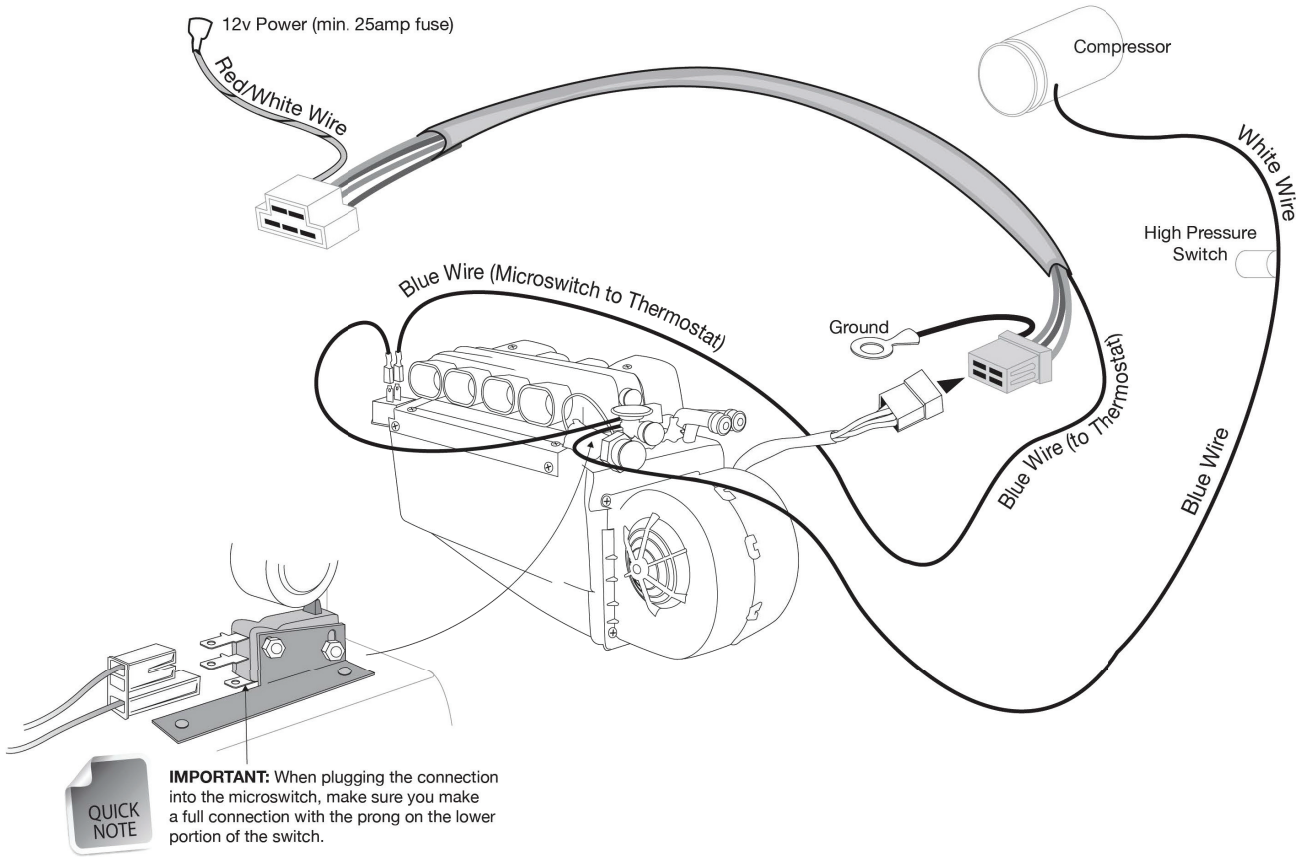
Locate 2” duct hose and cut a 32” piece.Attach to last outlet open as shown. Route behind instrument cluster and down to driver side louver.

Locate new Glove Box and loosely install into the opening.Install Glove Box Door using the original hardware. Complete glove box install using the original hardware.

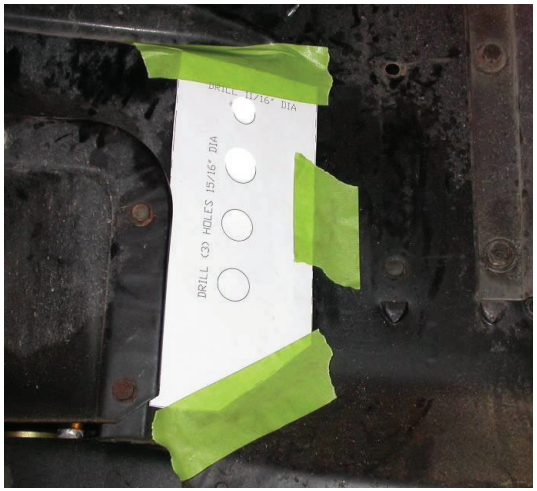
NOTE: INSTALL GLOVE BOX OVER THE HINGES FROM THE DOOR.



The next step is to utilize the main wiring harness per this diagram.



CAUTION: The control cables are equipped with inline adjusters. Adjust the Defrost, Heat / Face door and Water valve cable so that full travel of the Control cable operates the door to its full travel. Make sure that the water valve completely closes when cable is in the cold position.

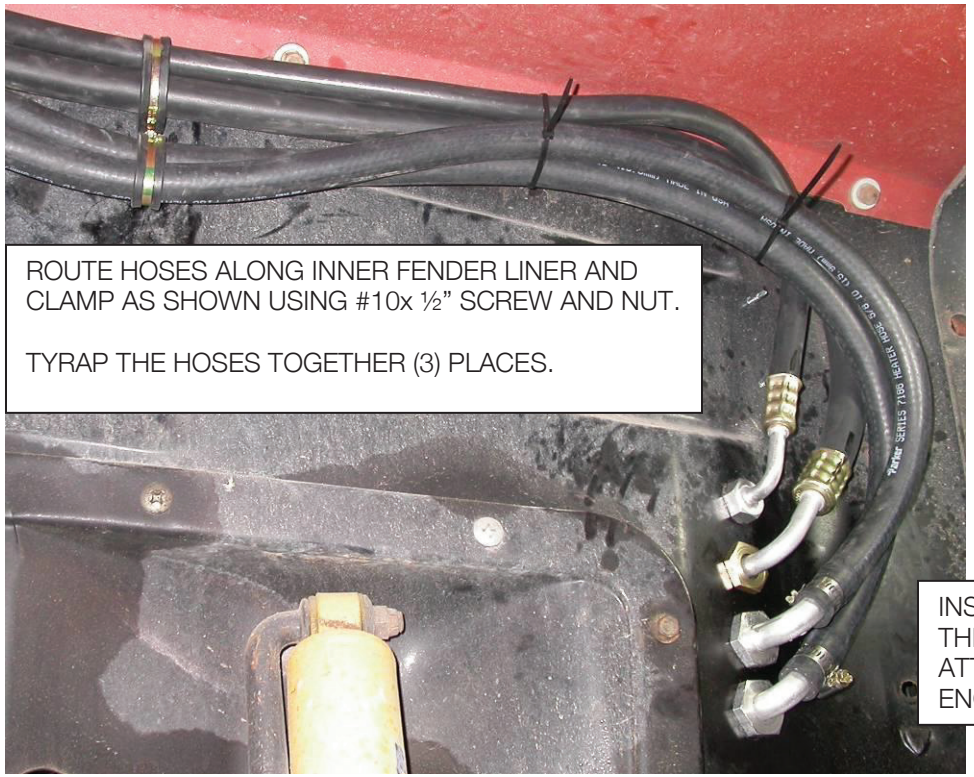


Raise the front passenger side of the truck using a floor jack and a safety stand. Remove the front tire and set aside.

Locate in the condenser box the long #10 suction hose with the bulkhead fitting, (1) #6 liquid hose with bulkhead fitting, (2) 90 deg heater fittings, and (2) 90 deg heater bulkhead fittings.

Locate the template at the last page of instructions.
Cut out as shown and tape to the inner fender in front of the shock cover as shown.

Drill (4) holes to the diameter as stated on the template.



ROUTE HOSES ALONG INNER FENDER LINER AND CLAMP AS SHOWN USING #10x ½" SCREW AND NUT.

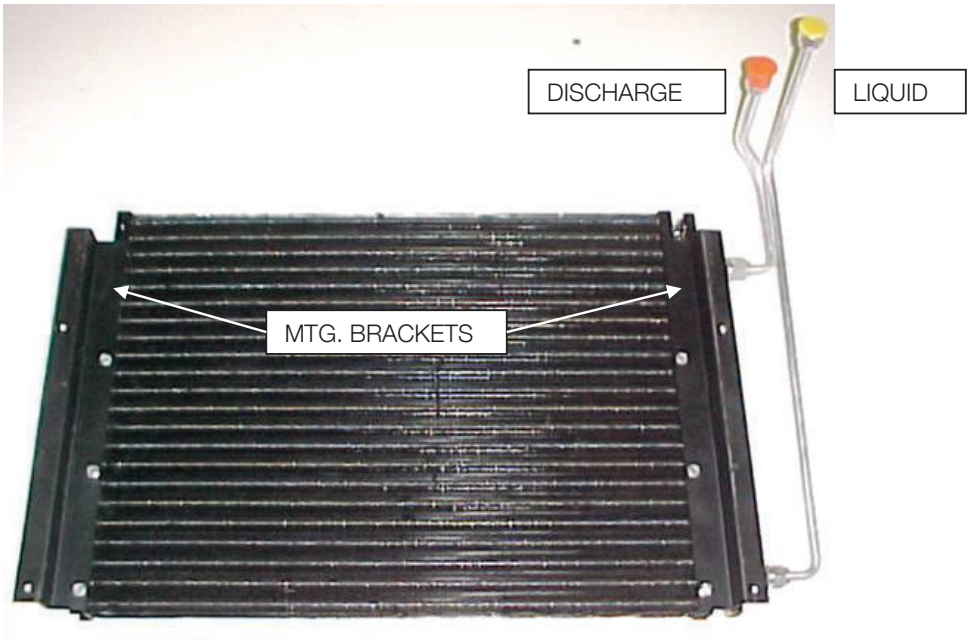
TYRAP THE HOSES TOGETHER (3) PLACES.

INSERT THE FIITNGS TROUGH THE DRILLED HOLES AND ATTACH USING NUTS ON ENGINE SIDE.

The engine compartment components should be installed at this time. Carefully follow the electrical diagram provided.

COMPRESSOR MOUNTING COMPONENTS WILL DIFFER DEPENDING ON THE ENGINE AND DRIVE ACCESSORIES THAT YOUR VEHICLE IS EQUIPPED WITH. THE FOLLOWING INSTRUCTIONS SHOW THE PROPER INSTALLATION SEQUENCE FOR THIS VEHICLE

Locate following components from the under hood components box: Condenser, Receiver Drier / Hi –Low pressure switch, Drier mounting bracket, Discharge Tube, Liquid Tube , (2) Condenser mounting brackets, (6) #10 x 3/8 hex washer head screws, (2) #10 x ¾" tek screws



Locate Condenser, (2) Lower condenser mounting brackets, Liquid Tube (Condenser to Drier), Discharge Tube.

Attach these components on condenser as shown. Use (6) #10 x 3/8" hex head screws. Use (1) #6 o-ring, (1) #8 o-ring and a few drops of mineral oil. Insert condenser assembly in front of the radiator.

Attach condenser mounting brackets to front of the radiator using (4) ¼" – 20 x 5/8" hex head screws and ¼" – 20 flange nuts.

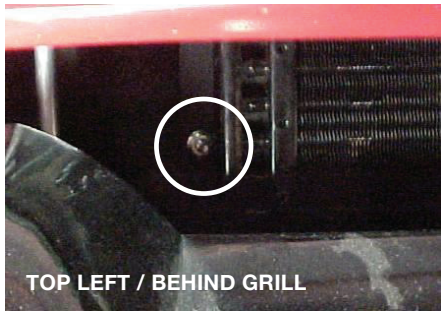
Locate the Filter / Drier, Drier, pressure switch, Mounting bracket and (2) #10 x ¾" tek screws. Attach the pressure switch to drier.

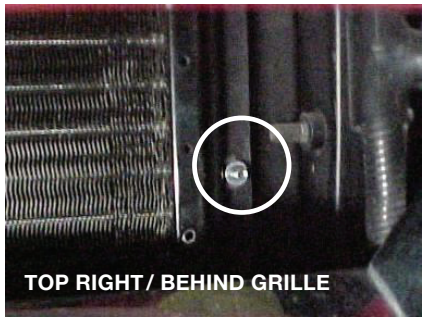
Loosely attach Drier to liquid tube from the condenser. This will position Drier in the side of the fender skirt. Attach using the (2) # 10 x ¾" tek screws.

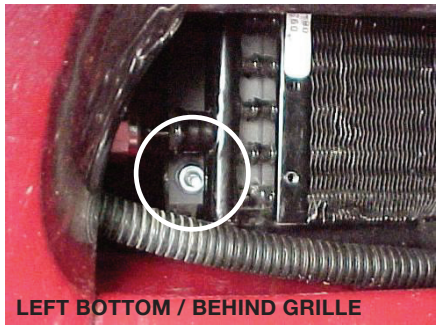
Locate short liquid hose assembly and (2) #6 o-rings.
Attach hose to drier and bulkhead as shown. Use o-rings and a few drops of mineral oil.

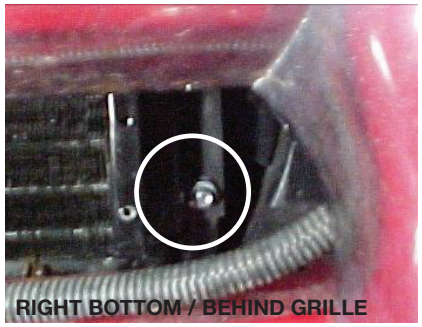
Located in the condenser kit is a tube clamp bracket assembly. Attach bracket assembly over the Discharge and Liquid tubes as shown.

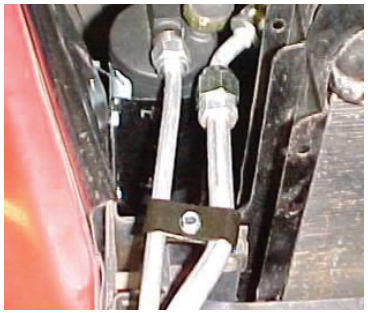
It is recommended that the heater hoses be replaced at this time. Hookup the heater hoses to the connections coming through the inner fender below the drier.

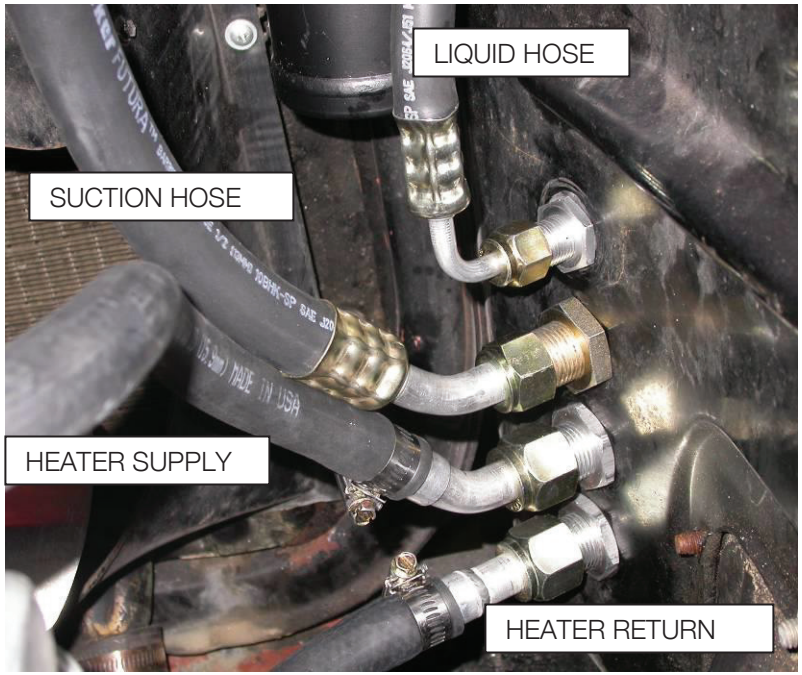

TOP LEFT / BEHIND GRILL

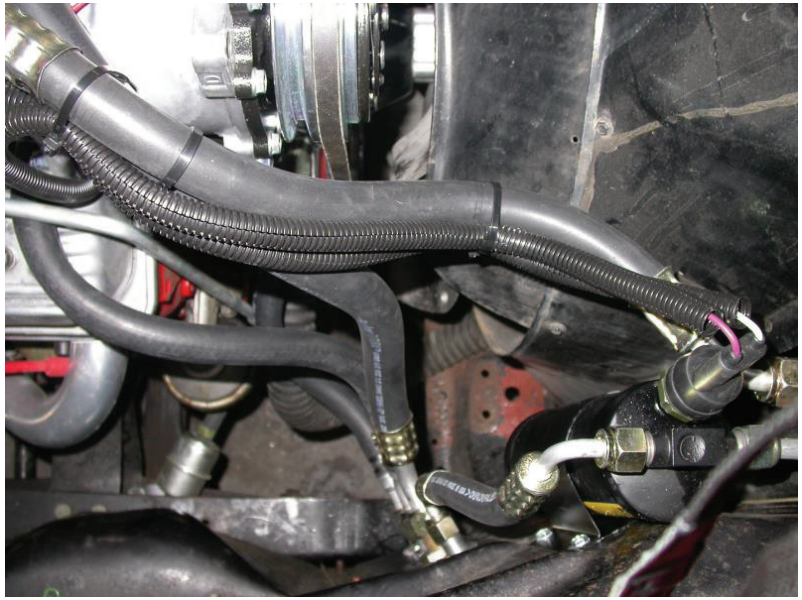

TOP RIGHT/ BEHIND GRILLE


LEFT BOTTOM / BEHIND GRILLE


RIGHT BOTTOM / BEHIND GRILLE







NOTE: THE HEATER SUPPLY LINE FROM THE ENGINE WILL BE HOOKED TO THE FITTING SECOND FROM THE BOTTOM USING THE 45 deg FITTING AND A WORM GEAR CLAMP.

The heater return line attaches to the bottom fitting using the straight fitting and a worm gear clamp. Attach using (2) #10 o-ring and few drops of mineral oil.

Locate the suction hose, the end with out the service port attaches to fitting on inner fender.
Route the hose over to the compressor. Cut to length and crimp fitting with service port as required.
Attach using (2) #10 o-ring and few drops of mineral oil.

Locate the discharge hose, the end with out service port attach to condenser tube. Route hose over to the compressor. Cut to length and crimp fitting with service port as required. Attach using (2) #8 o-ring and few drops of mineral oil.

Locate electrical plug that attaches to the Pressure switch on the drier

There are two white wires attached to the pressure switch route one of them to the compressor clutch and attach a Female bullet connector. Other wire route and attach to clutch wire at the firewall. Secure wires with ty-wraps provided.

Reinstall battery box, battery, fan shroud, hookup radiator hoses and refill with coolant.

**THE ENGINE COMPARTMENT OF YOUR SYSTEM IS COMPLETE.
THE UNIT IS READY FOR EVACUATION AND CHARGING.**

THIS SHOULD BE DONE BY A QUALIFIED AND CERTIFIED AIR CONDITIONING TECHNICIAN.

NOTE: COMPRESSOR IS SUPPLIED WITH THE CORRECT OIL CHARGE. DO NOT ADD OIL TO SYSTEM.

134a SYSTEMS 24 oz OF REFRIGERANT
Recommend that power fuse is 25amp minimum

Congratulations you have completed the install of your CLASSIC AUTO AIR “Perfect Fit Series” system.

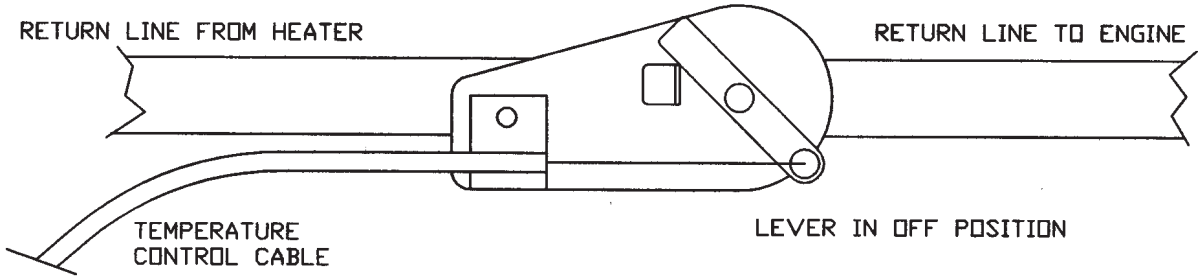
IMPORTANT!

CAUTION: WATER VALVE MUST BE INSTALLED PER THE INSTRUCTIONS.

This data sheet covers the proper instalation of the “Temperature Control Water Valve” that is supplied in your Air Condioning , Heating, and Defrost unit. Classic Auto Air has done extensive testing on the correct method to install the water valve in order to get a repeatable and progressive temperature control.

It is necessary to locate the “Supply Line” from the engine on the vehicle and route a hose directly to the heater connection.
NOTE: The supply line will be coming from the engine block after the water has passed through and absorbed heat from the engine. Typically it is located next to the return radiator hose from the engine to the top of the radiator.

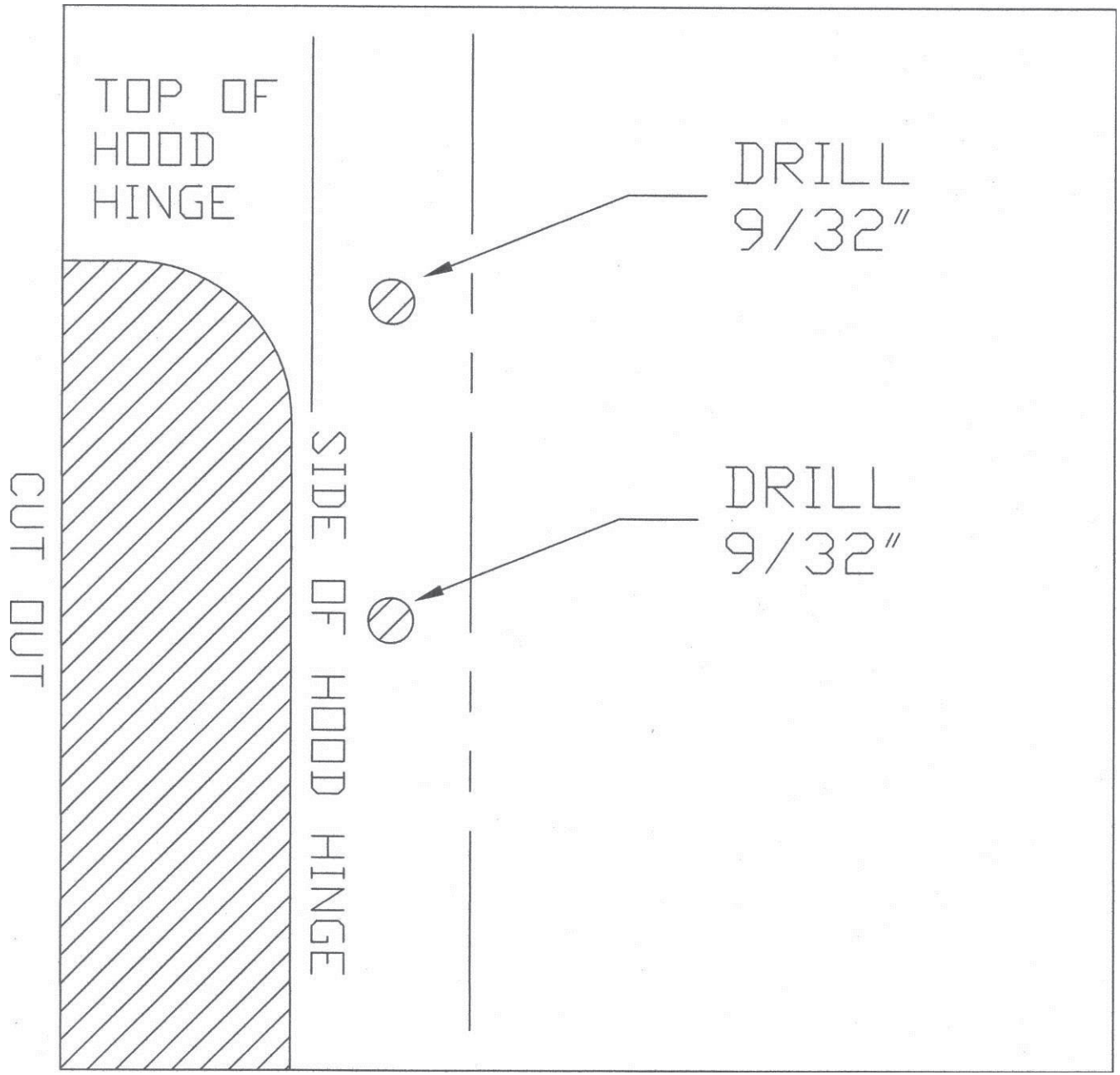
Locate the “Return Line” from the heater connection. Cut 6” of 5/8” dia. heater hose and attach it to the inlet side of the water valve. Attach this assembly to the return heater connection. Attach a heater hose from the outlet side of the water valve and route to the return connection on engine. NOTE: The return connection is typically located on the water pump.

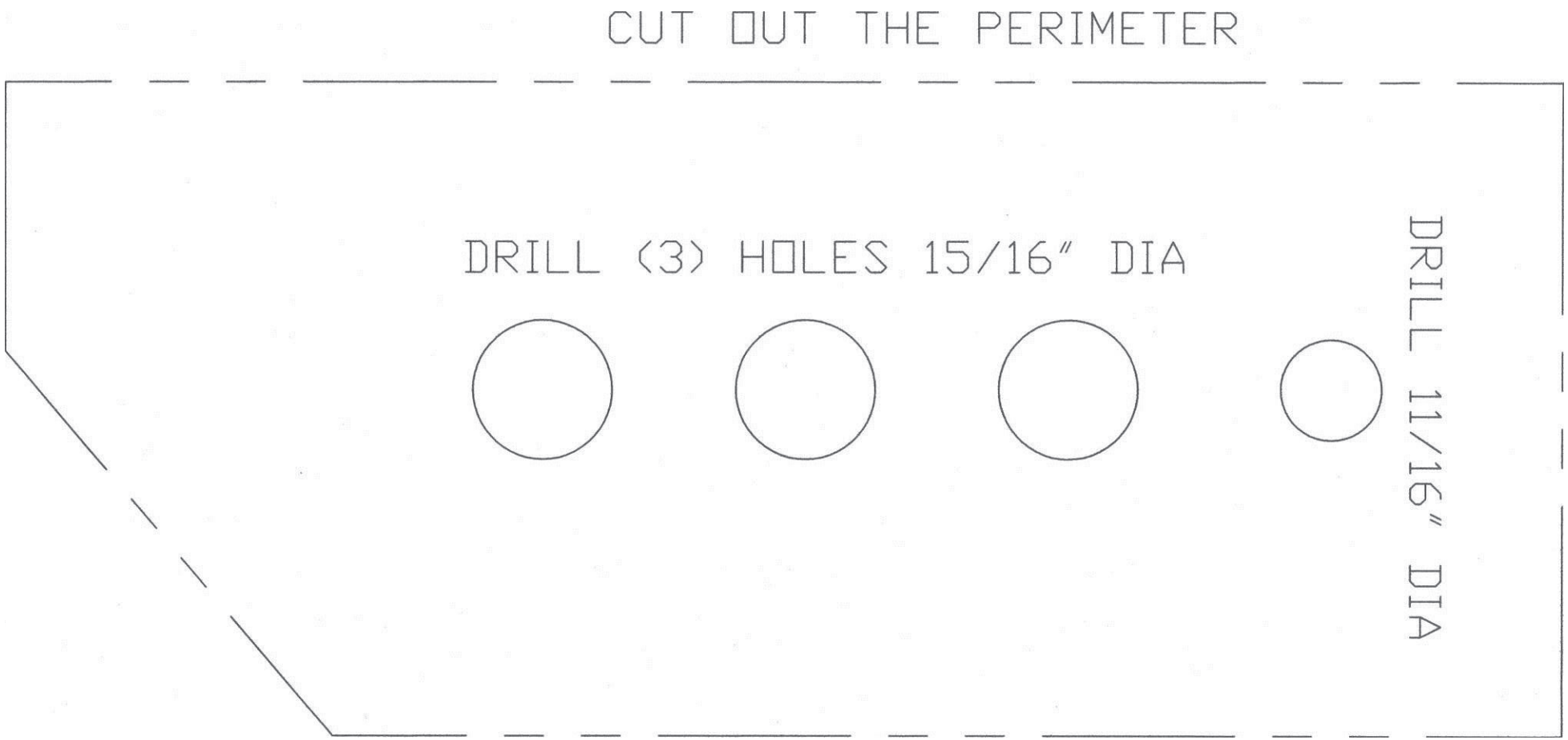


TDS-001 WATERVALVE

CAUTION: WATER VALVE MUST BE INSTALLED ON HEATER LINE ROUTED TO WATER PUMP.

NOTE: COMPRESSOR PURCHASED WITH KIT IS SUPPLIED WITH THE CORRECT OIL CHARGE. DO NOT ADD OIL TO SYSTEM.
134A SYSTEMS 24 oz OF REFRIGERANT
Recommend that power fuse is 25amp minimum


TOP OF
HOOD
HINGE
DRILL
9/32"
DRILL
9/32"
SIDE OF HOOD HINGE
CUT OUT


CUT OUT THE PERIMETER
DRILL (3) HOLES 15/16" DIA
DRILL 11/16" DIA