

Installation Manual

1953-56 FORD PICKUP

DOCUMENT #1-1069

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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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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.

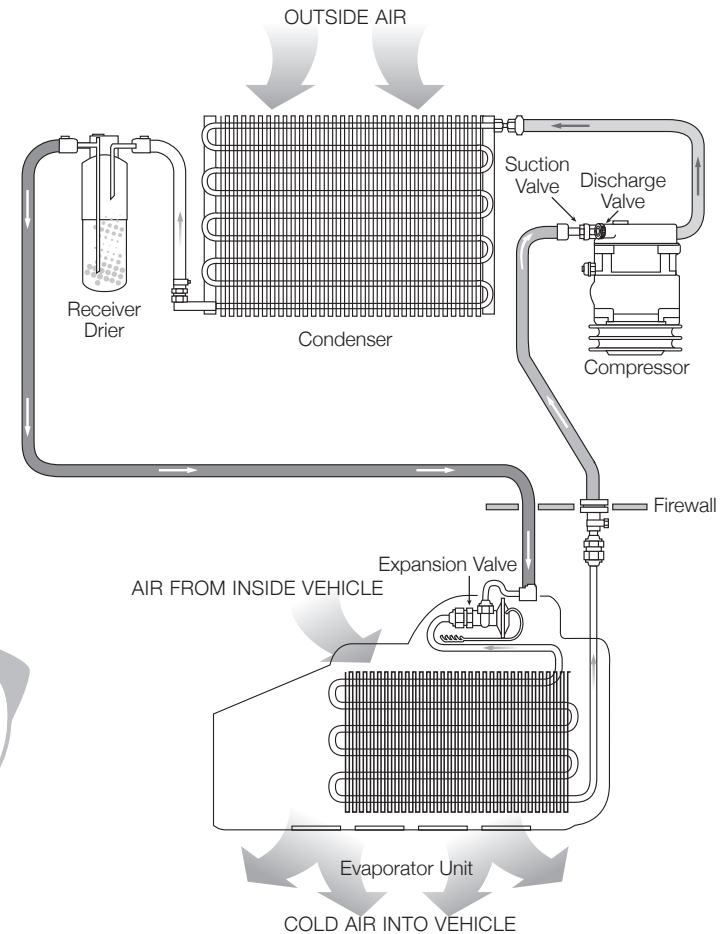
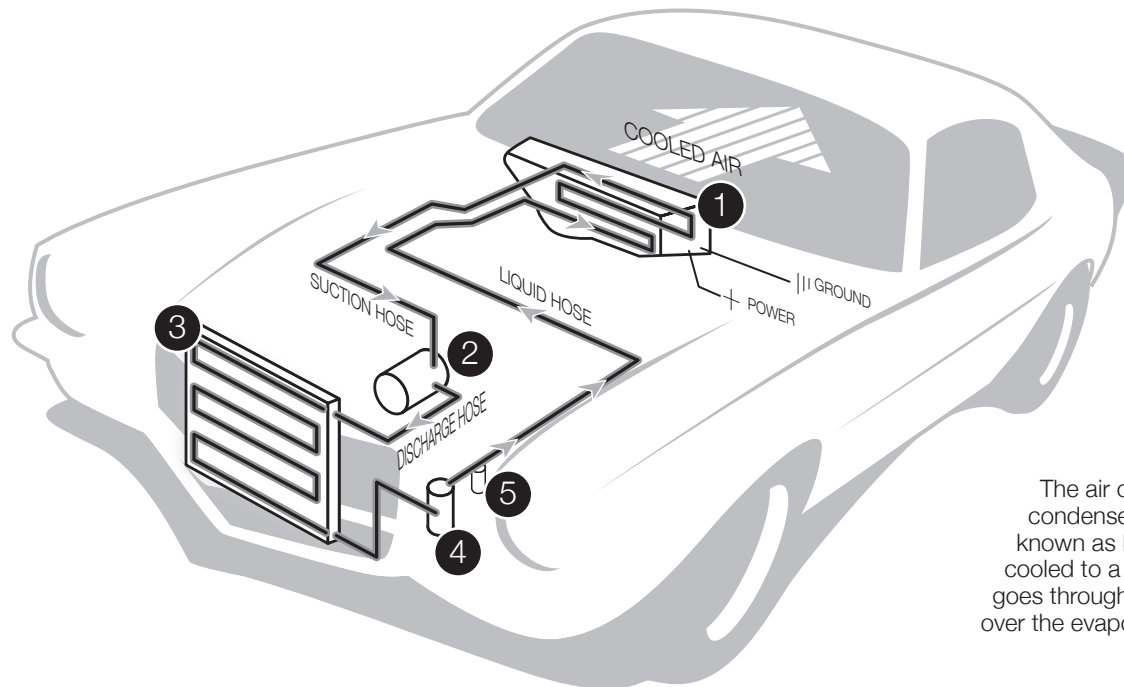
Procedures, During Installation:

- ☐ 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 FUNCTION AT ITS MAXIMUM PERFORMANCE LEVEL.

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

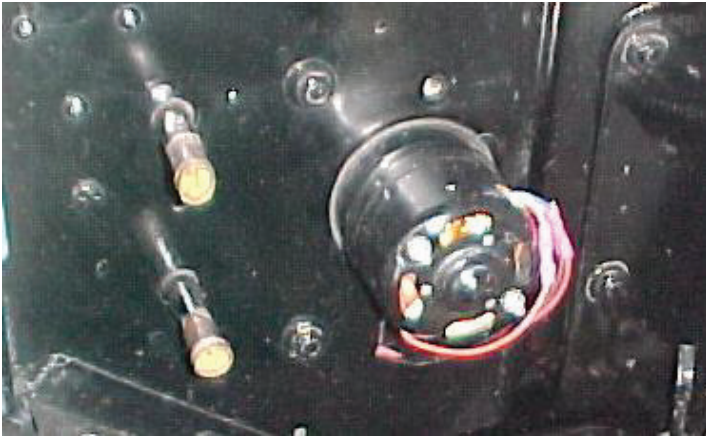
FAN SPEED SWITCH: There are 3 speeds plus Off. When the switch is in the off position it will disconnect the 12V power to the Blower Motor and the A/C Clutch. This will shut down the entire system. When the switch is moved to any of the blower speeds 1, 2 or 3 there is 12V supplied to the Micro-Switch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

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 A/C Mode (air-flow out the FACE outlets). When the Mode control knob is in this position the Air Conditioning is activated and the compressor clutch is on. When the compressor is activated the Temperature Knob will control the air from maximum cold through maximum heat.

HEAT MODE: The Heat Knob is shown in the A/C position. As the Knob is pulled out the air will blend to the Heat / Defrost Mode. When the knob is in the this position the Temperature Knob will change the discharge air from full cold through maximum heat.



Disconnect the battery ground cable. Battery is located under floor on the passenger side.

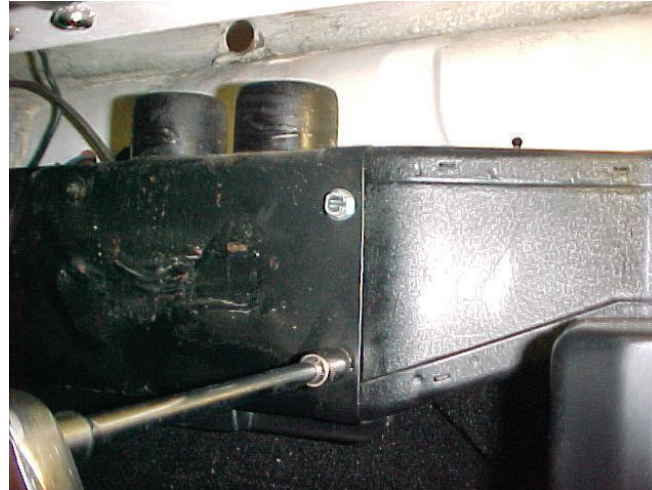
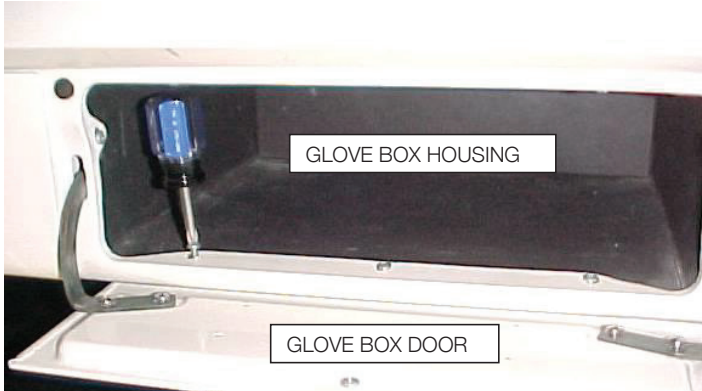
Drain radiator and disconnect Heater hoses from heater connections on the firewall.

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

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

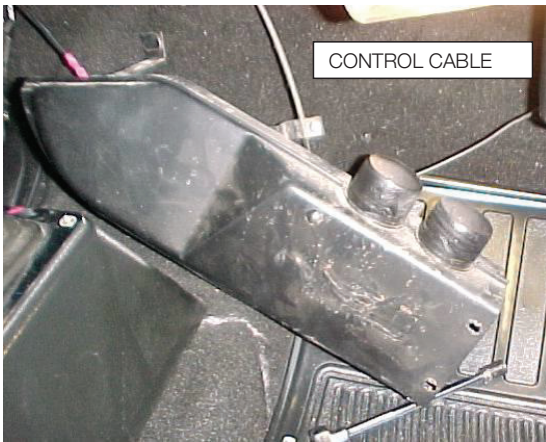
Locate on front of the heater assembly (2) screws that hold heater to the distribution assembly.

Remove and discard.





NUT & WASHER



CONTROL CABLE

Locate along firewall in the engine compartment behind air cleaner (1) Hex head nut and washer.

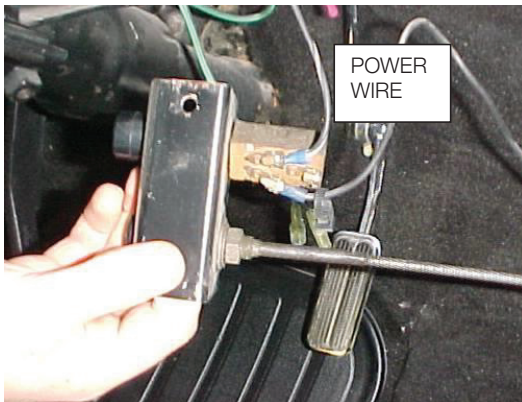
Remove and discard.

Drop the air distribution assembly to the floor and disconnect control cable.

Locate under instrument panel the control bracket assembly.



CONTROL CABLE



Identify power wire that feeds power to the switch. This is the wire that will hook to the new controls on your system.

Discard the entire assembly.

Located on firewall in the engine compartment there are (4) nuts that hold original heater in place. Remove these nuts and discard.

Disconnect wires from the heater.

Remove and discard heater assembly.

If vehicle is equipped with the deluxe heater. Remove the air inlet box from the passenger side.

Retain original hardware. Remove the square nuts from the original cage nuts off the air inlet. These will be reused on the new blockoff.

Locate the air inlet block off. Attach over the louvers using the original hardware.





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

Locate Evaporator Assembly and Face Duct from the kit. Place on work bench.

Attach Face duct over outlet flange. Be sure that the s-clips attach to flange.

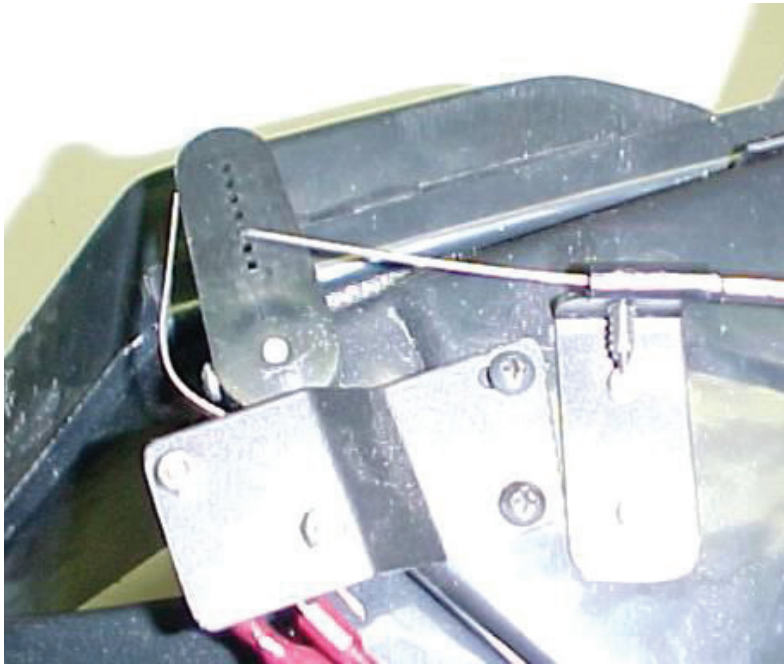
Locate Defrost / Heat duct and (2) #10 x 5/8" pan head screws.

Attach duct to back of the evaporator and onto metal bracket as shown.

Locate (1) #8 x 3/8" pan head screw.

Place unit upside down on bench and fasten together face and defrost / heat duct using the #8 screw.





Locate in the Control Sack Kit the heat control cable and (1) #10 x 5/8" pan head Phillips screw.

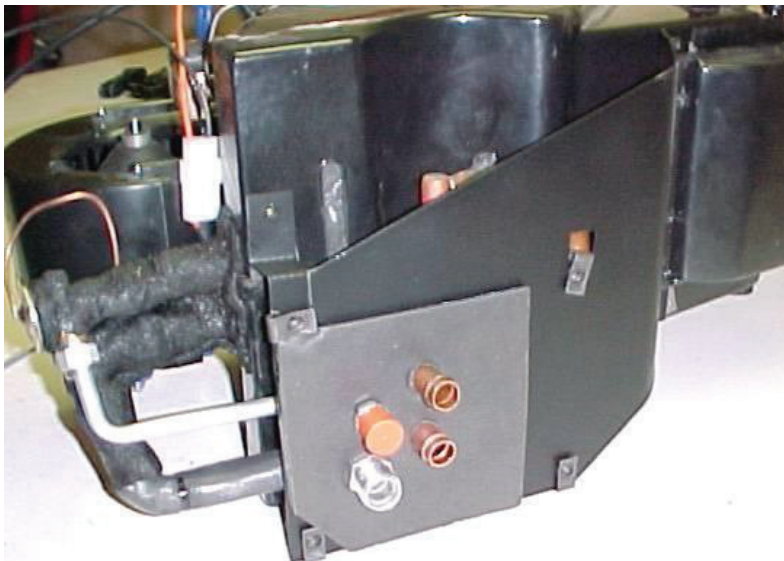
Attach cable to the evaporator using the #10 screw. End of cable inserts through third hole from center of the crank arm.

Notice (4) 1/4" - 20 j- clips on back of the evaporator.

Insert evaporator assembly up and behind the glove box opening.

Line up j-clips with original heater holes in the firewall.

From engine side of the firewall attach unit using (4) 1/4" - 20 x 5/8" hex head screws and (4) flat washers.



(2) 1/4" - 20 x 5/8"
HEX HEAD SCREWS
& FLAT WASHERS

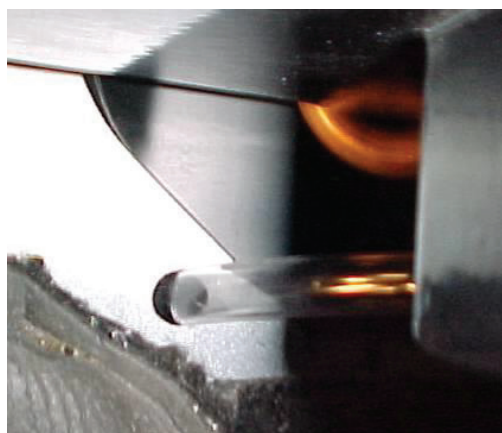
(2) 1/4" - 20 x 5/8"
HEX HEAD SCREWS
& FLAT WASHERS



Locate in the hardware sack kit (1) #10 x $\frac{3}{4}$ tek screw and (1) #10 x $\frac{1}{2}$ hex head screw.

Locate the Support bracket attached to evaporator under the glove box opening.

Drill $\frac{5}{32}$ " dia. hole through hole in the bracket and into the instrument panel. Attach with #10 x $\frac{1}{2}$ screw.



Locate Black wire with Ring Terminal from the blower motor. Attach wire to the body as shown.

Locate in the hardware sack kit (1) 9" piece of $\frac{5}{8}$ dia. drain tube.
Drill (1) $\frac{11}{16}$ " dia. hole in firewall just to the left of the mounting bracket and slightly down from drain nipple.

Attach over drain nipple and through hole previously drilled.

Locate in the unit box the 2" dia. flex hose
2ft. x 2ea.

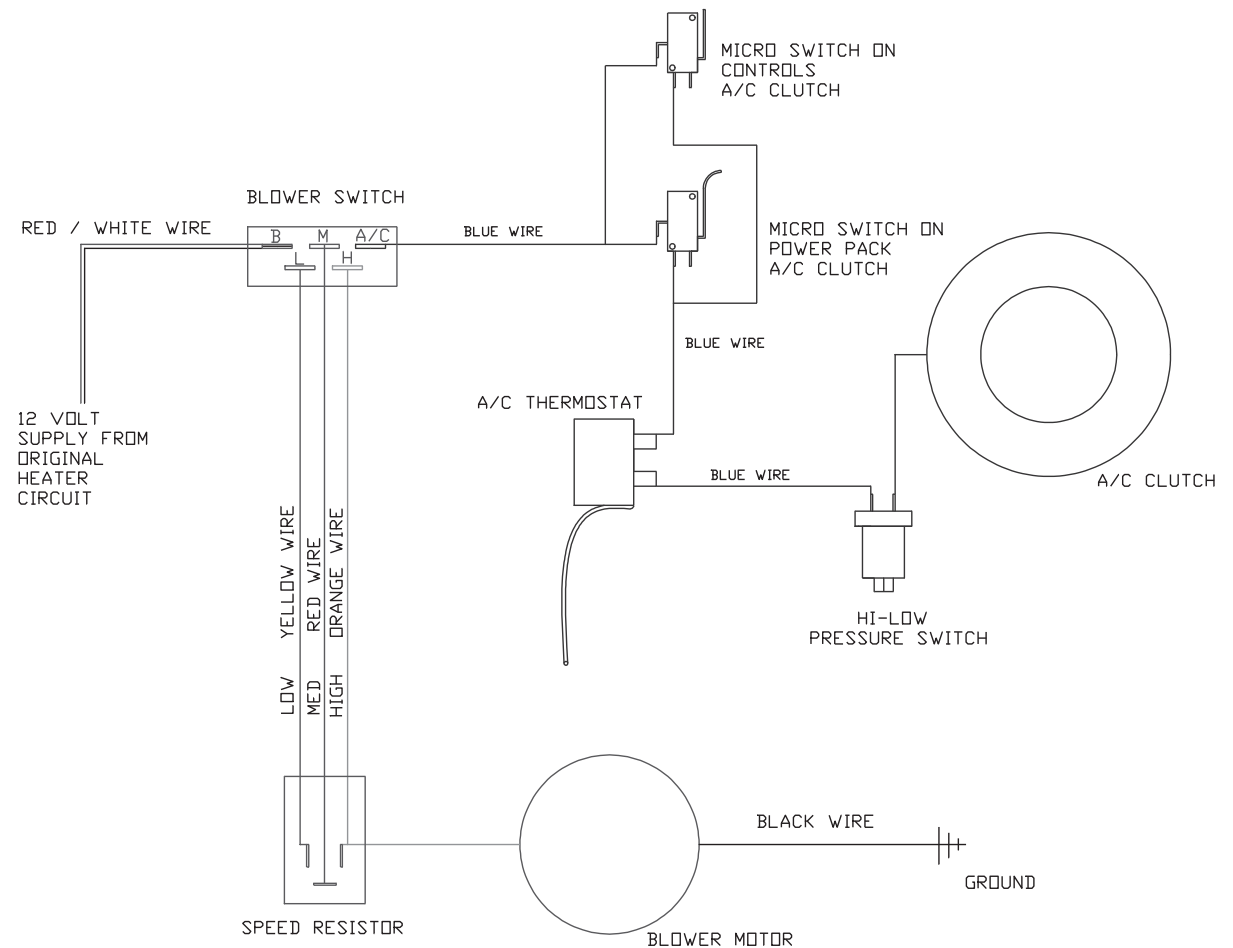
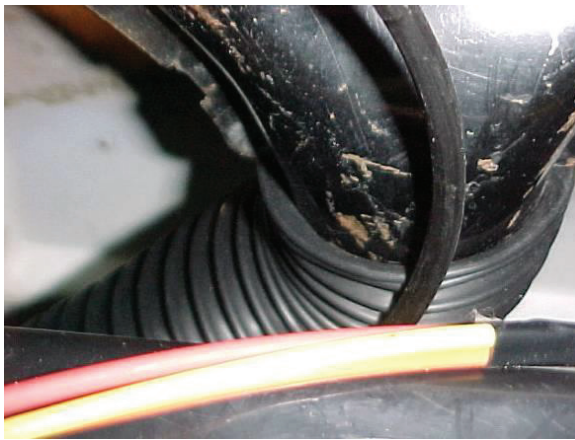


Attach over defrost duct outlets located on the center duct as shown.

Route both pieces of flex hose up and attach them to the original defrost diffusers. NOTE: THE ORIGINAL DRIVERS AND PASSENGERS DIFFUSER ARE THE SAME.

Locate wire that attached to the original blower switch that was identified on page 4. Cut off the terminal and attach a ¼" male spade connector.

Locate red / white stripped wire on wire harness and plug it into the original power wire. Also locate clutch wire from the thermostat, route over top of evaporator and out through bottom hole that original heater tubes went through.





Locate in the hardware sack kit. Passenger side Ball Louver and 2" dia. x 4ft. flex hose

Locate (1) #10 x 3/4" hex head tek screw. Under the instrument panel there is a screw that attaches the glove box door hinge, this lines up with one of the holes in the Ball louver remove and retain this screw. Remove Ball Louver from housing and attach Housing to bottom of instrument panel using the original screw. Use the #10 tek screw through the second hole on louver housing.

Reattach ball louver to the hose adapter.

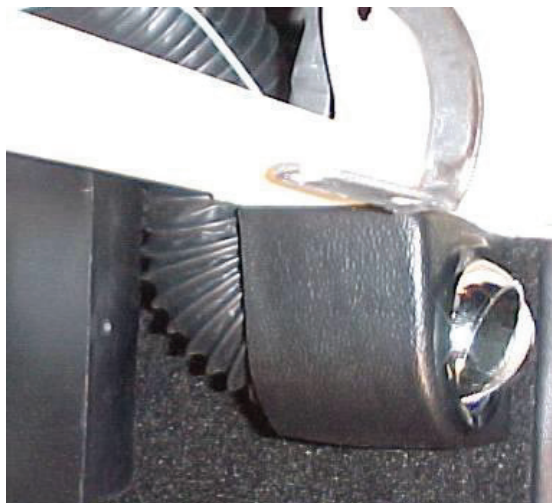
Attach 4ft flex hose to hose adapter on rear of the Louver.

Route flex hose up and over evaporator and attach to right outlet on top of the center duct assembly.

Locate drivers side louver. Remove ball louver and attach housing to the drivers side instrument panel using (2) #10 x 3/4" Tek screws.

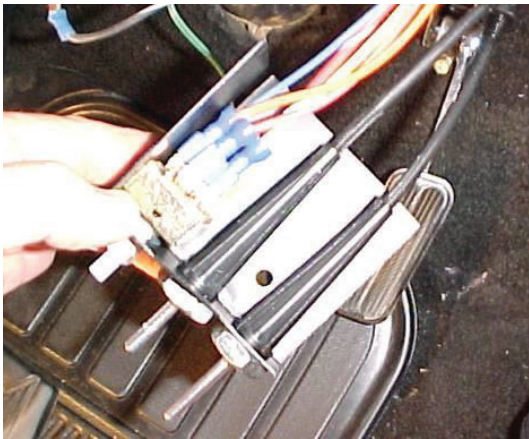
Reinstall the ball louver assembly.

Locate 2" dia. x 36" flex hose and attach to hose adapter on back of the louver.





Route flex hose from drivers louver up and behind instruments and then through center of Fresh Air Vent lever then down and connect to center outlet on the Center Duct assembly



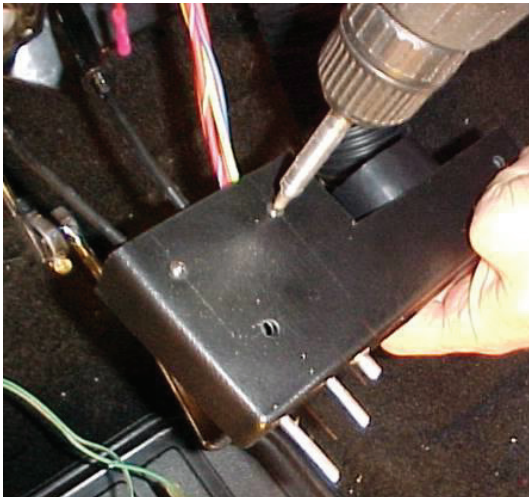
Locate in the Control Sack kit the Control Bracket Assembly.

Locate wire harness and cable that is attached to the Evaporator.

Attach wire harness to control assembly using the Wiring Diagram.

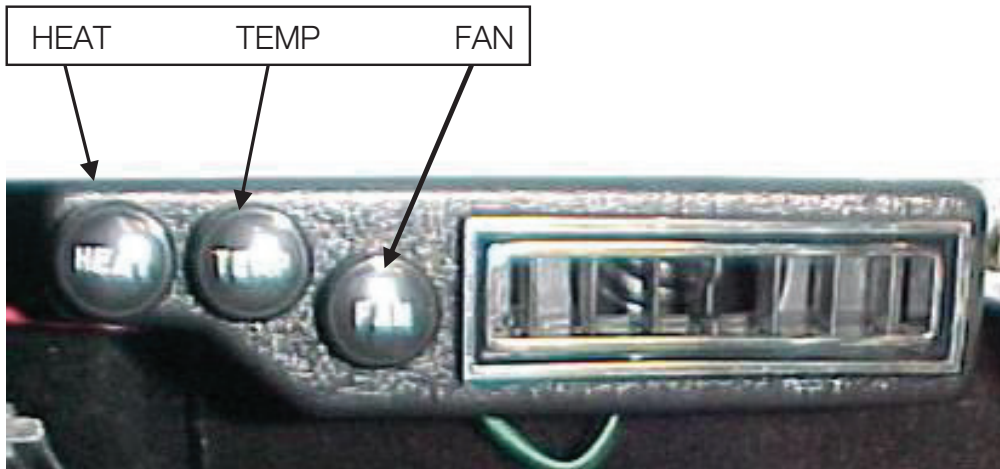
Attach control cable to the hole in the bracket.

Locate the Center Louver Assembly.



Slide control assembly through back of the center louver assembly and line up (3) holes on the top.

Attach together using (2) #8 x 1/2" pan head Phillips screws.



Attach Center Louver assembly to bottom of instrument panel between fresh air vent handle and the steering column using (2) #10 x $\frac{3}{4}$ " hex head tek screws from the hardware sack kit.

Locate in the Control Sack Kit (3) Control Knobs.

Attach to the Center Louver assembly as shown.

Locate Temperature Cable attached to the control head. Route this cable straight towards firewall and out through original hole that supported the original heater and defrost ducts.

Locate remaining 2" dia. x 24" flex hose. Attach hose to hose adaptor on rear of the Center Louver Assembly and route up and behind the vent lever arm assembly.

Other end of the hose connects to left hose adaptor on the face duct.

Locate New Glove Box and install into the opening using original hardware.

Install Glove Box Door using the original hardware.

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

The Micro Switch that is mounted on the Face / heat door is used to turn on the compressor clutch. This will occur when the control lever is in the face position. It may be necessary to adjust thin metal arm on the switch. Make sure that the Clutch Micro Switch is depressed when the lever is in the face position.

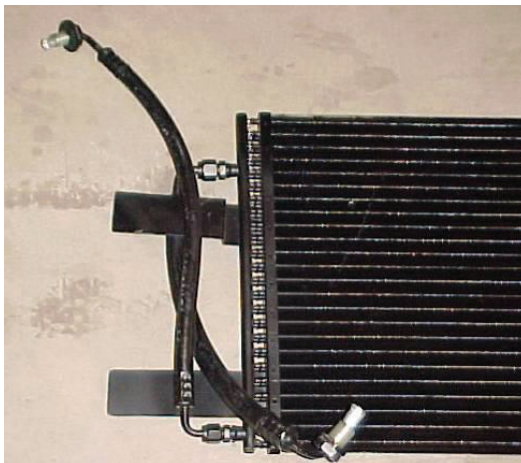
The engine compartment components should be installed at this time. Carefully follow the electrical diagram provided on page 8.

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 Hose Assembly
- Liquid Hose Assembly
- (4) Condenser mounting brackets
- (8) #10 x 3/8 hex washer head screws



Remove the Hood Latch panel assembly

Remove (13) screws and retain original hardware.

Remove the top radiator mounting bolts and retain. The lower radiator bolts just loosen.

Locate Condenser, (2) Left side, (2) Right side condenser mounting brackets, Liquid Hose (Condenser to Bulkhead), and Discharge Hose (Condenser to Bulkhead). Attach these components on condenser as shown. Use (8) #10 x 3/8" hex head screws. Use (1) #6 o-ring, (1) #8 o-ring and a few drops of mineral oil.

Attach condenser brackets to radiator side of the condenser using (2) #10 x 3/8" hex washer head screws for each bracket. The top bracket 4th hole from the top. The bottom bracket 2nd hole from the bottom.

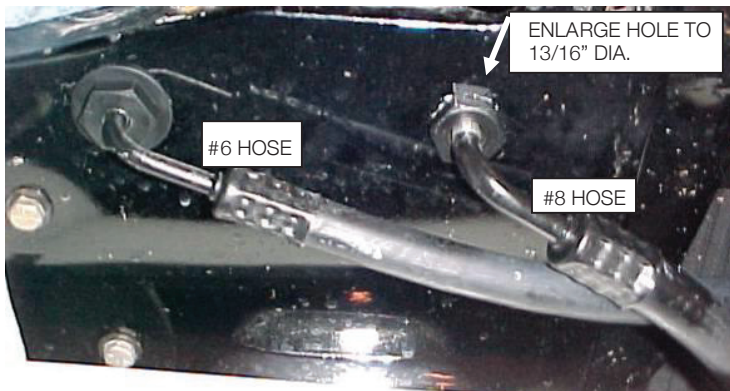
NOTE: THE LEFT HAND BRACKETS ARE THE SHORT ONES AND ATTACH IN THE SAME VERTICAL LOCATION.



Slide condenser assembly between Radiator and the radiator bulkhead.

Reinstall the upper radiator mounting bolts tighten securely.

Note: Condenser top edge should be even with the radiator bulkhead.



Locate on the radiator bulkhead on passenger side (2) holes. Enlarge the right hole to 13/16" dia.

Route hoses around radiator support and up through holes in the bulkhead. Attach using the bulkhead fitting nuts.

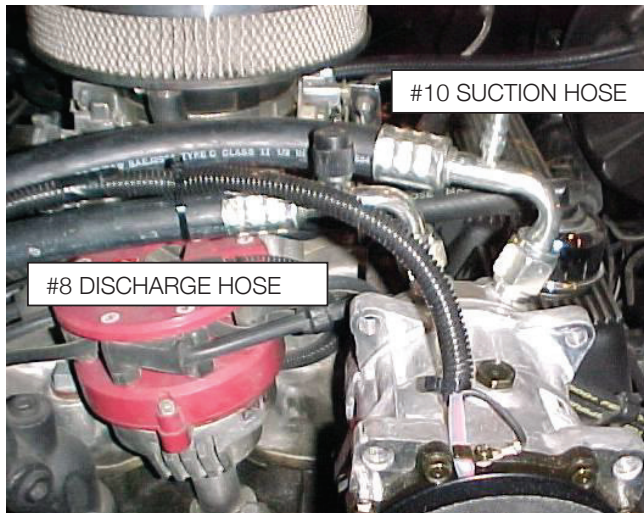
Tighten securely.

Reinstall Hood Latch panel assembly using the original hardware.



Locate in the under hood kit (1) #6 liquid hose, (1) #8 hose assembly, (1) #6 o-ring, and (2) #8 o-ring.

Attach hose to the bulkhead fitting using o-ring and a few drops of mineral oil for each connection.



Route discharge hose end with service port over to compressor and attach to the compressor using (1) #8 o-ring and a few drops of mineral oil. Tighten securely.

Locate the #10 suction hose.

Attach hose end with service port to the compressor using (1) #10 o-ring and a few drops of mineral oil.

Route suction hose from compressor to #10 fitting at the firewall. Attach to the fitting using (1) #10 o-ring and few drops of mineral oil.

Locate Receiver / Drier, pressure switch, Drier Mounting bracket, Liquid Hose, (3) #6 o-rings and (2) #10 x 3/4" tek screws.

Attach pressure switch to drier. Loosely attach Drier to liquid hose using (1) #6 o-ring and a few drops of mineral oil. Attach other end to #6 fitting at the firewall using (1) #6 o-ring and a few drops of mineral oil. This will position the Drier to the firewall. Attach Drier assembly to firewall using (2) # 10 x 3/4" tek screws.

Route #6 Liquid hose along fender skirt up and attach to inlet on the drier using (1) #6 o-ring and a few drops of mineral oil.

Tighten all fittings securely.

It is recommended that the heater hoses be replaced at this time. Hookup the heater hoses to the connections coming through the firewall.



NOTE: SUPPLY LINE FROM ENGINE WILL BE HOOKED TO THE LOWER FITTING USING A WORM GEAR CLAMP.

Locate in the Hardware Sack Kit the Water Valve and (3) worm gear clamps. Cut 6" off of the return heater hose and attach to the connector then to water valve and then to remaining hose that goes back to the engine. Use the worm gear clamps supplied.

Locate Temperature Control Cable and attach it to the water valve as shown. Set cable so that Temp knob is pushed all the way in and the water valve is in its fully closed position.

Locate electrical plug that attaches to the Pressure switch on the drier, attach to switch.

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 along Liquid hose and attach to clutch wire at the firewall. Secure wires with tywraps provided.

Use same refrigeration tape to seal around the cable and clutch wire.

Reconnect 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!

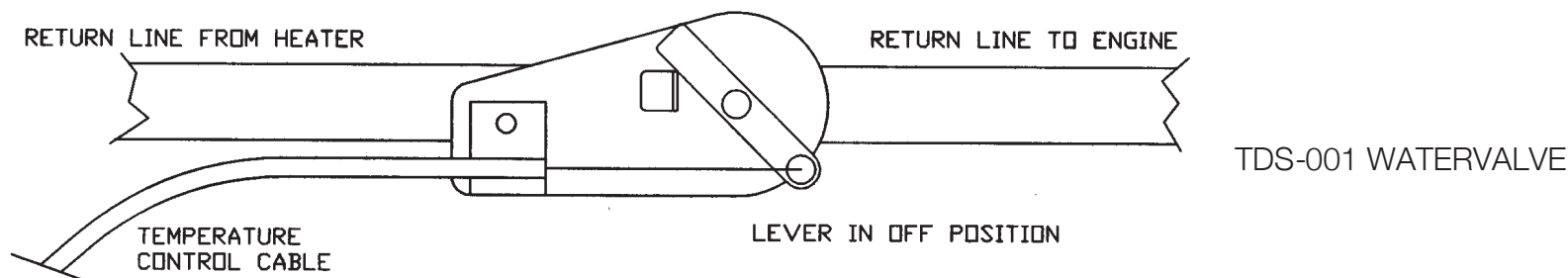
CAUTION: WATER VALVE MUST BE INSTALLED PER THE INSTRUCTIONS.

This data sheet covers the proper installation of the "Temperature Control Water Valve" that is supplied in your Air Conditioning , 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.



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**

