

Installation Manual

1958-60 FORD THUNDERBIRD

DOCUMENT #1-1082

©2018 ClassicAutoAir / 12.18





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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

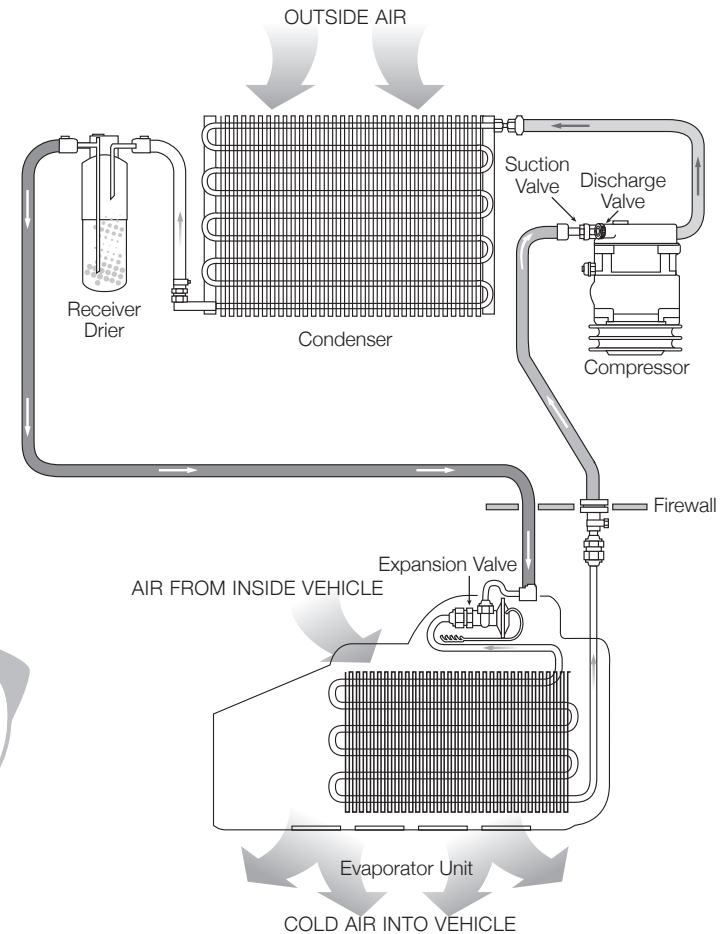
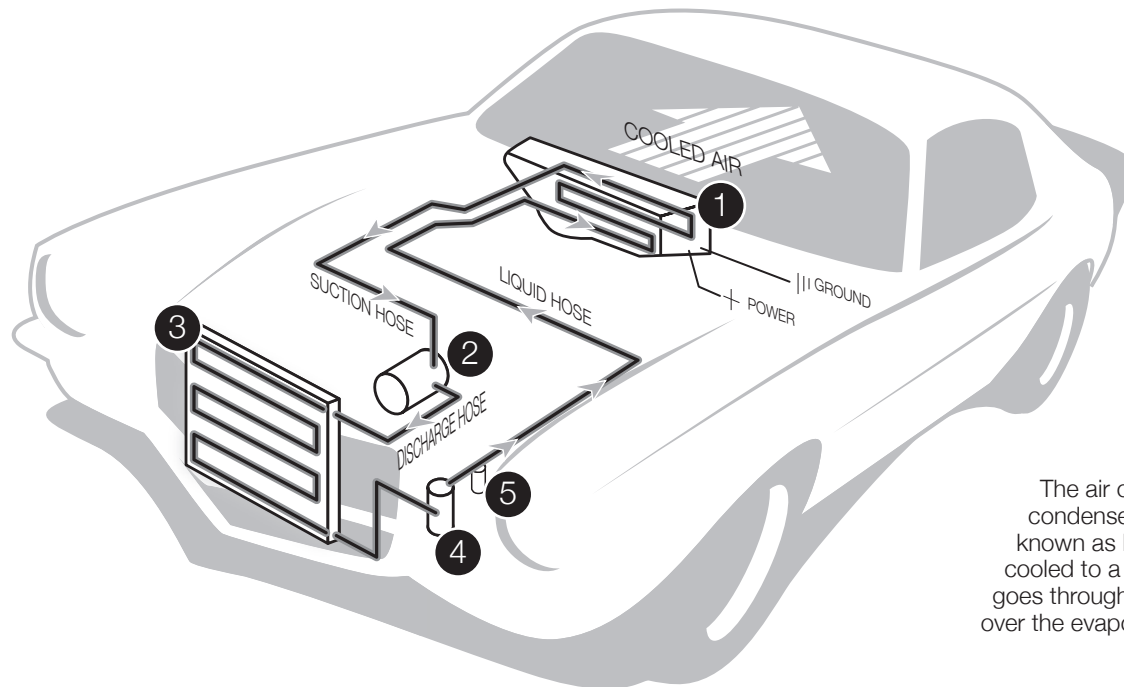
Procedures, During Installation:

- ☐ 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.



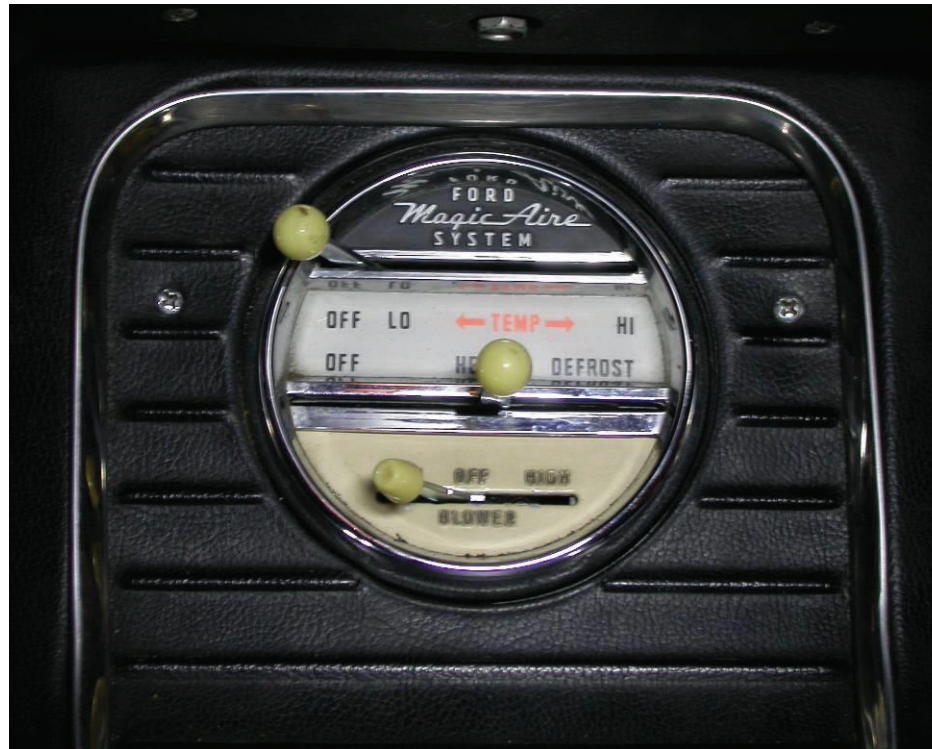
The air conditioning system in your car is comprised of a compressor, condenser, expansion valve, receiver/drier, and evaporator. Refrigerant (also known as Freon) is compressed in the compressor. In the condenser, gas is cooled to a liquid state and travels to the expansion valve. As the liquid refrigerant 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, offer complete comfort capabilities in virtually every driving condition. This includes Temperature control in all of the modes.

This system also provides the ability to blend the air between, Face and Heat / Defrost modes.



THE PICTURES YOU SEE ABOVE SHOW THE CONTROLS IN THE A/C MODE. THIS MEANS THAT THE AIR WILL BE DISTRIBUTED THROUGH THE DASH LOUVERS. THIS ALSO HAS THE TEMPERATURE LEVER IN THE COLD POSITION. WITH THE CONTROLS IN THIS POSITION YOU WILL GET THE AIR THROUGH THE LOUVERS AT THE COLDEST TEMPERATURE AVAILABLE.



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 LOWER CONTROL LEVER CAN BE MOVED TO THE LEFT AND WILL OPEN THE PASSENGER FRESH AIR DOOR.

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 main housing.

FACE AND FLOOR / DEFROST MODE: When the lever is MOVED all the way RIGHT, it will direct the air to the floor / and defrost ducts. The lever can be moved to any position from CENTER to RIGHT. This will give blend between all distribution outlets.

TEMPERATURE CONTROL: The temperature LEVER as shown is in the COLDEST temperature position. As the lever is pushed to the right the temperature of the discharged air will rise to the HOTTEST point.

Note: The temperature lever will function in any of the modes.

AIR CONDITIONING MODE: The picture shows the LEVER in the Face Mode (air-flow out the face outlets).

When the Mode control knob is pushed all the way to the LEFT against the lower stop in the control bezel the Air Conditioning is activated the compressor clutch is on. When the compressor is activated the Temperature Lever will control the air from maximum cold through maximum heat.



Carefully remove the Glove Box door, glove box, trim cover and console cover as shown below

To remove the glove box door remove and retain the 5 screws on the hinge assembly.

Also remove the screws that attach the center brace to the trim panel. Retain screws and brace.

Remove and retain the screws from both sides of the door supports. Discard hardware and left door support. Set door aside.

Remove and retain the trim around the glove box.

Remove and discard box.





Remove (4) screws at the trim to the console on passenger and drivers side.



Remove and retain the passenger kit panel.

Remove and retain the (2) screws attaching the trim to the body.

Remove panel and retain.

Remove and retain the screws on the front of the console cover.



REMOVE SCREWS

Remove and retain the (2) screws at the bottom of the control mounting assembly.

Locate behind the glove box opening the fresh air door. Disconnect the cable.





Locate on the front of the heater box the Heat / Defrost door cable. Disconnect.

Disconnect the electrical connectors from the blower switch.

Disconnect the temperature cable from the control head. Retain original hardware.

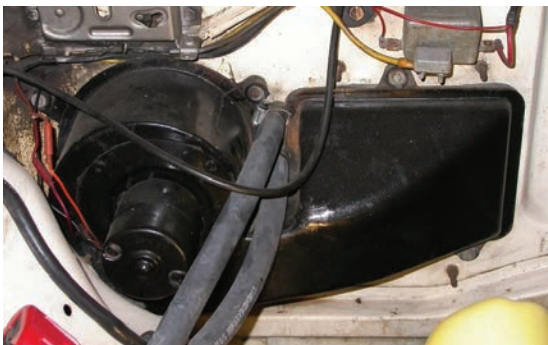
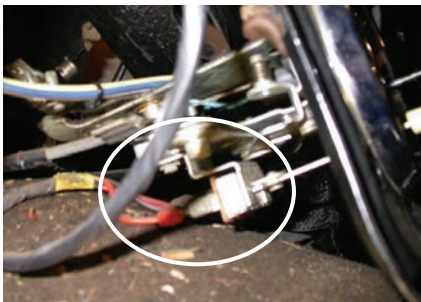
Remove the control assembly and set aside.

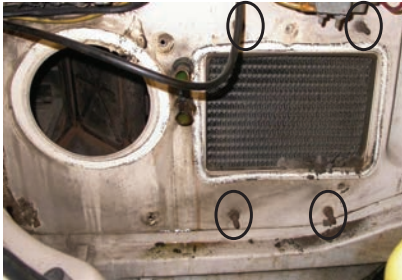
Disconnect heater hoses from heater coil.

Disconnect the electrical wires from the blower motor.

Remove and discard the (5) screws holding the blower housing to the firewall.

Remove and discard the blower assembly.





Remove the (4) nuts as shown. Discard the hardware.

NOTE: This will allow removal of the heater box. From inside of the car.

Remove the (4) screws holding the passenger side fresh air inlet assembly to the body.

Remove the assembly and discard along with the hardware.

Locate the air inlet block off plate and attach over the inlet using (5) #10 x ¾" tek screws supplied in kit.



It is necessary to trim the insulation at the bottom of the opening in the firewall.

Locate the Unit Mounting Panel, (5) ¼" – 20 x 5/8" screws, (5) ¼" – 20 flange nuts and ¼" flat washers.

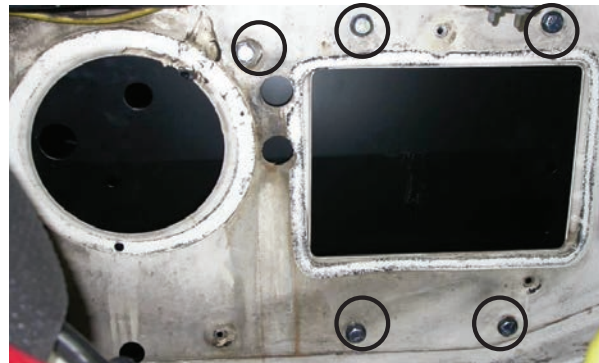
Attach panel to the inside of the firewall as shown.

BEFORE



REMOVE THIS SECTION OF INSULATION

AFTER





The following (3) pictures shows the (2) hole requirements for the heater hookup.

Locate and drill (2) holes 15/16" dia.

Match drill (1) 11/16" dia hole as shown.

Locate in the hardware sack kit (2) #10 bulkhead fittings.

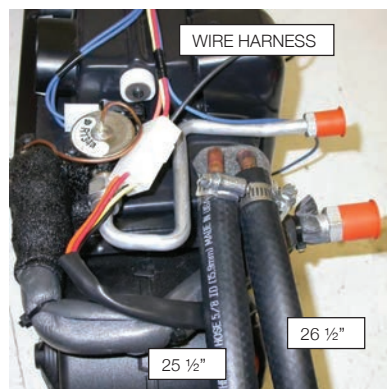
Remove the lock nut and insert through the 15/16" holes. Loosely install the lock nuts on the engine side of the firewall. Let fittings hang down as shown.

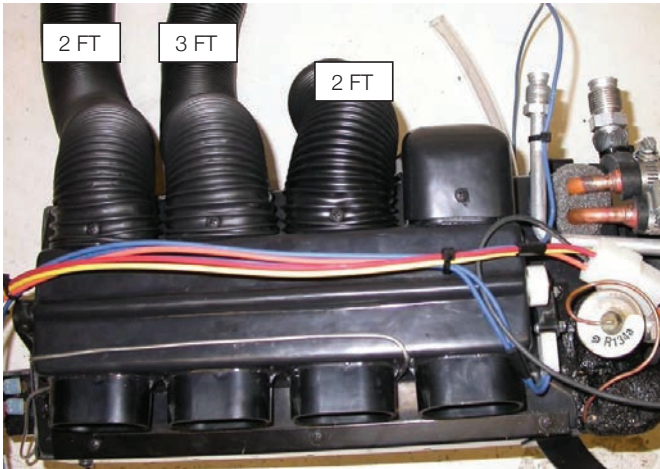
Locate the wire harness from the control sack kit and attach the plug to the blower motor and the micro switch.

Route harness over the top of the unit.

Locate (1) 25 1/2" heater hose, (1) 26 1/2" heater hose and (2) worm gear clamps from the unit box.

Attach the hoses as shown to the heater tubes using the worm gear clamps. Tighten clamps securely.





Locate in the unit box. (2) 2 ft sections of flex hose and (1) 3ft section of flex hose.

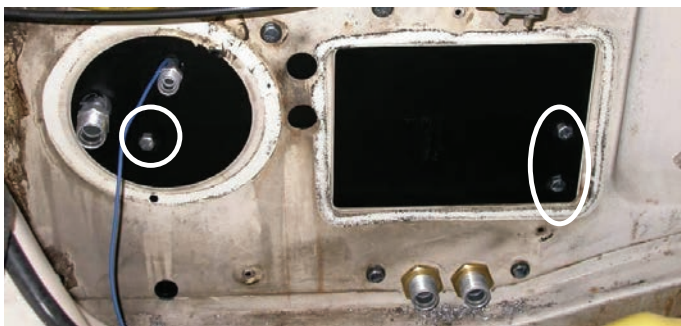
Attach to the evaporator as shown using (1) #8 x 3/8" pan head screw for each hose.

Lift the evaporator into position. The (2) left duct hoses will go behind the windshield wiper motor towards the drivers' side.

The third hose goes over the top.

Insert the tubes and the blue wire through the mounting plate.

Attach the evaporator to the mounting plate using (3) 1/4"-20 x 5/8" screws.





Locate in the hardware sack kit (1) support brace and (1) #10 x 3/4" tek screw.

Remove the pan head screw from the right side of the unit. Attach the brace to the unit reusing the screw.

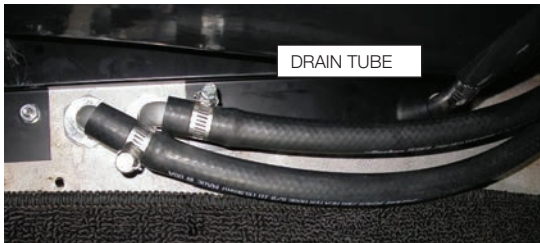
The other end of brace attach to the body using the #10 tek screw.

Locate (2) worm gear clamps.

Attach the heater hoses to the bulkheads below the unit.

Tighten the locknuts on the fittings.

Install the drain tube through the firewall hole as shown.



Remove the mounting screw from the passenger side defrost assembly.

Discard the assembly and the hardware.

Locate the defrost diffuser in the hardware sack kit.

The clips on the edge of the diffuser will attach to the metal lip around dash opening.





Locate the 2 / 2 ½" hose adaptor and attach to the 3 ft. flex hose, using (1) #8 x 3/8" pan head screw.

Attach over the end of the drivers defrost diffuser using the s-clips.



Route the hose on the top of the evaporator around the wiper motor cables and attach to the defrost diffuser using (1) #8 x 3/8" pan head screw.

Locate in the hardware sack kit the drivers' side heat dump and (2) #10 tek screws.

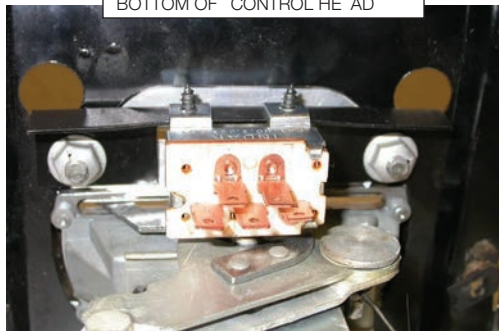
Locate and attach to firewall so that the heated air is distributed to the driver.

Attach the 2" flex hose to the dump.

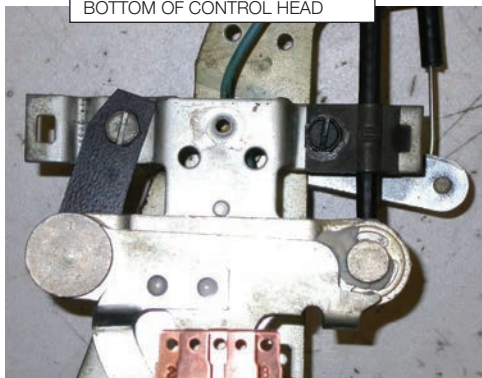




BOTTOM OF CONTROL HEAD



BOTTOM OF CONTROL HEAD



Locate the original control assembly.

Remove and discard original switch. Retain the knob. Discard the hardware.

Remove the original control cables and retain clips and screws.

Locate blower switch assembly provided in the kit.

Attach switch using the original nuts that attaches the face to the mounting plate.

Locate (2) control cables and the lever stop bracket from the kit.

Using original cable clip and hardware attach short cable to the BOTTOM control lever.

NOTE: When lever is in the position shown the cable housing will touch.

Attach the lever stop bracket over the left drive pin and attach using the original screw.

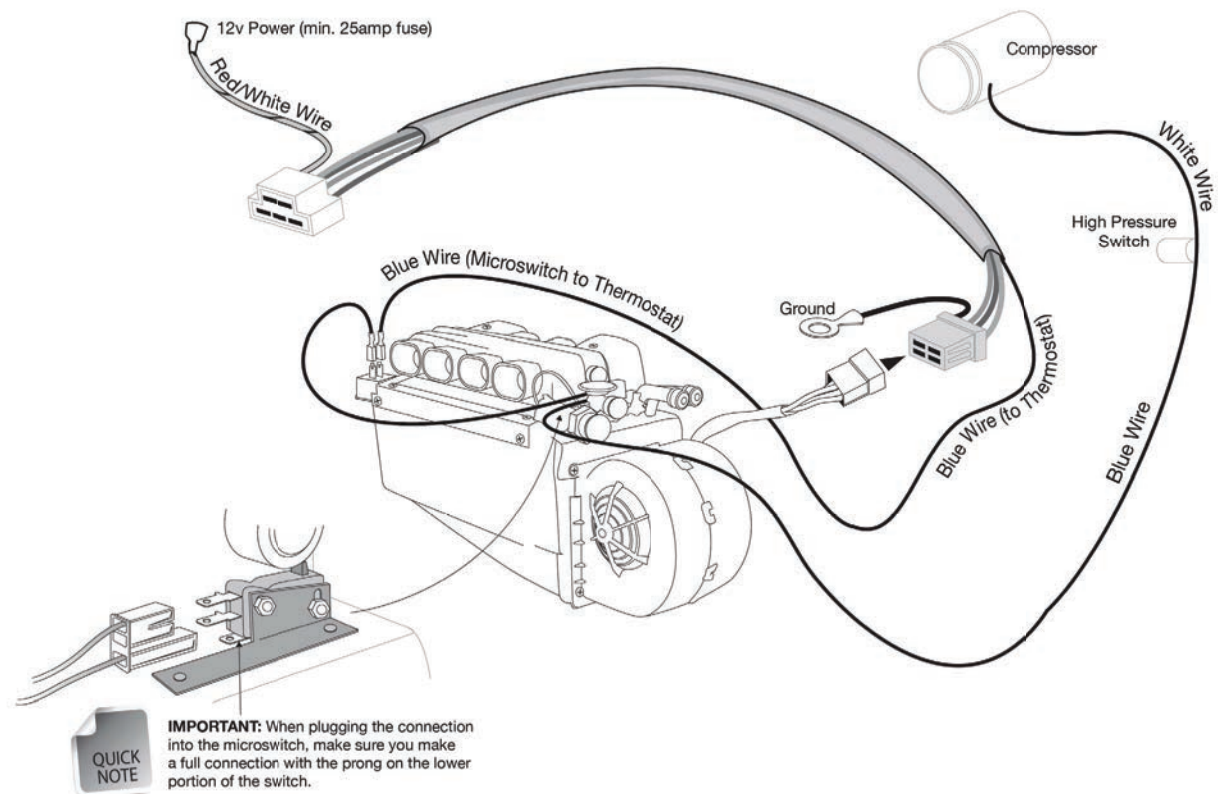


COOLANT FLOW

Turn controls over.

Using original cable clip and hardware attach longest of the control cables to the TOP lever.

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





Attach ground wire from blower connector to the body using (1) #10 tek screw.

Locate brown wire that was attached to the original blower switch. Cut off the connector and add a ¼" male spade connector.

Plug red/white wire from a/c wire harness to this wire. This is your power wire for the system.



Reinstall the control assembly to the console using the original hardware.

Insert cable offset into 2nd hole from pivot of the door. Attach cable flag to the bracket using (1) #8 x 3/8" pan head screw.

Check adjustment of the door by moving the control lever from left to right.





On the engine side of the firewall.

Drill 1/2" hole next to the heater bulkhead and insert the snap bushing supplied in kit.

Route longest of the control cables across bottom of the evaporator and out through bushing.

Locate (2) 45 deg. Heater hose fittings and (2) #10 o-rings. Attach heater hoses from the engine to the fittings.

NOTE: IT IS RECOMMENDED THAT YOU REPLACE THE HOSES AT THIS TIME. THE SYSTEM IS DESIGNED FOR 5/8" DIA HOSES.



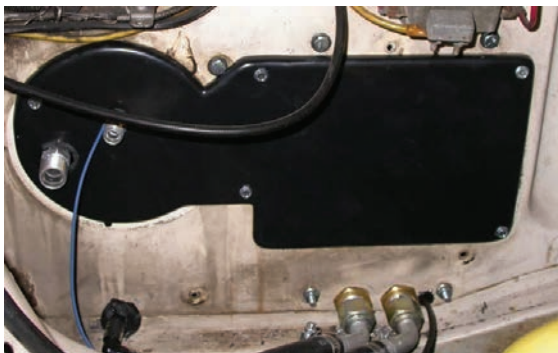
Locate the water valve and (2) worm gear clamps from the control sack kit.

Cut the return hose 10" from the fitting.

NOTE: RETURN HOSE IS ATTACHED TO THE WATER PUMP.

Install water valve using the (2) worm gear clamps.

Attach the cable to the water valve.



Adjust cable so that when temp lever is all the way to the left when the water valve is closed.

Locate the firewall block off and (5) #10 tek screws.

Slide cover over the a/c connections.

Attach to firewall using the #10 tek screws.



REINSTALL CONSOLE COVER; LOWER TRIM PANEL, AND GLOVE BOX DOOR USING THE ORIGINAL HARDWARE.

Locate the following flex hoses:(2) 2ft., (1) 4ft., and (1) 5ft.

The (2) 2ft pieces cut off to 18" and 15".

Attach the 5ft section to the left center outlet and route over to left of the steering column.

Attach the 4ft section to the left outlet and route over to the right of the steering column.

Attach the 18" section to the right center outlet and route to the left passenger outlet.

Attach the 15" section to the right outlet and route to the right passenger outlet.

Locate (4) of the remote louver assemblies, (8) #10 tek screws.

On the passenger side mount the louver assemblies back so that the glove box door can open all the way.

On the drivers side mount the louvers as shown.

Using #10 screw attach through the holes in the bottom of the housing.

Insert louver assembly into the housing

And then attach the flex hose.



Caution: Carefully check under the Instrument Panel for all cables, electrical harness, or Flex Hoses that might interfere with the safe operation of the vehicle.

Install the compressor drive kit at this time.

The engine compartment components should be installed at this time. Carefully follow the electrical diagram provided on page 10.

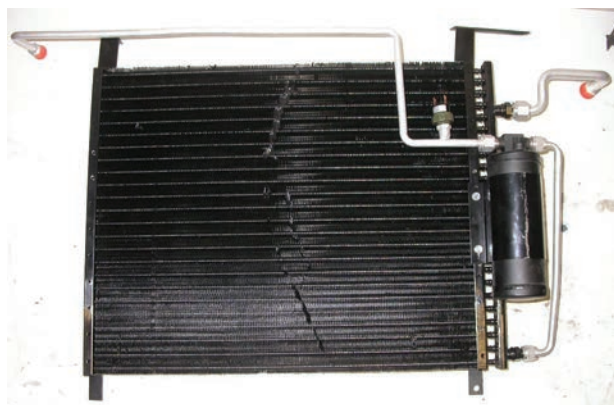


Locate following components from the condenser kit. Condenser, (2) top condenser mounting bracket, (2) bottom condenser mounting brackets and (8) #10 x 3/8" screws.

Place condenser on the bench with fittings on the left side.

Attach bottom condenser brackets to bottom hole of the condenser. Using the #10 screws.

Attach top condenser brackets to top hole of the condenser. Using the #10 screws



Locate the drier, drier mounting bracket, pressure switch, (1) #6 liquid tube (short), (1) liquid tube (long), (4) #6 o-rings and (2) #10 x 3/8" hex screws.

Attach short liquid tube to #6 fitting on condenser using (1) o-ring and a few drops of mineral oil.

Using (1) o-ring and a few drops of mineral oil the other end attaches to the drier inlet.



Use the tube to locate drier and mounting bracket. Attach using the #10 screws.

Attach long liquid tube to the drier using a #6 o-ring and a few drops of mineral oil. Attach pressure switch to liquid tube using a few drops of mineral oil.



Locate the #8 discharge tube and #8 o-ring. Attach discharge tube to #8 fitting on the condenser using #8 o-ring and a few drops of mineral oil.

Remove the radiator panel cover. Set aside for reinstallation, retain hardware.

Located on the bottom of the radiator are (2) mounting bolts.

These can be accessed from under the car.

Loosen these bolts do not remove.

Slide condenser between radiator and the radiator support.

Locate the condenser assembly so the upper mounting brackets are inline with the holes on the top of the radiator.

Tighten the bottom radiator mounting bolts.





Locate (1) 3/8" tube clamp and (1) #10 x 3/4" tek screw.

Attach liquid tube to the radiator support using clamp and screw.

Attach the electrical boot to the pressure switch, route white wires across the discharge tube.

Tywrap the wires to the tube.

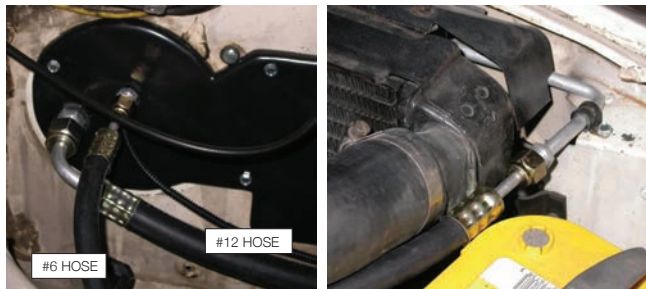
Locate (1) tube bracket, (1) 1/2" tube clamp, (1) #10 x 3/4" tek screw and (1) #10-32 x 3/8" screw and nut.

Attach bracket the the core support using the #10 tek screw.

Attach tube clamp th bracket using (1) #10 screw and nut.

Reinstall the radiator panel cover using the original hardware.

Trim the passenger side of cover to clear liquid line.



REINSTALL RADIATOR FAN AND SPACER USING THE ORIGINAL HARDWARE.

Locate #6 liquid hose and (2) #6 o-rings. Attach hose between fitting on firewall and fitting on the condenser.

Locate #10 suction hose and (2) #10 o-rings.

Attach hose to fitting on the block off and end with the service port to the compressor. When routing suction hose attach hose the firewall as shown using (1) clamp and a #10 tek screw.

Locate #8 discharge hose and (2) #8 o-ring.

Attach end of the hose to the condenser fitting and end with the service port to compressor.

Locate (2) white wires tywrapped to the discharge tube.

Route along the discharge hose. Cut one of the wires and attach female bullet connector provided and plug into the compressor clutch wire.

Other wire route along suction hose and connect to blue clutch wire from the thermostat.





**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!

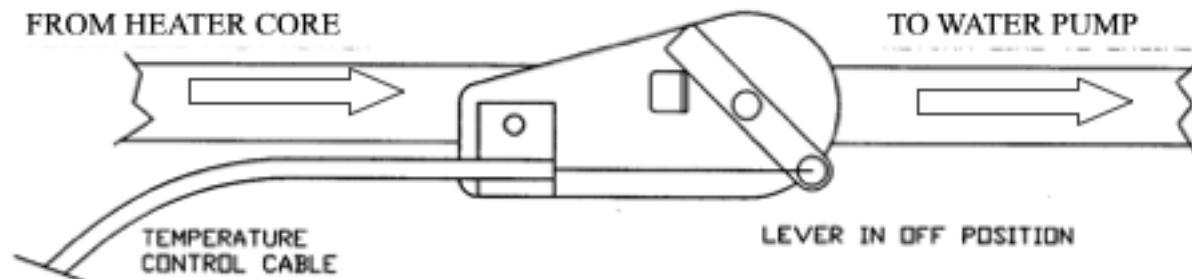
CAUTION: WATER VALVE MUST BE INSTALLED PER THE INSTRUCTIONS.

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**

