

Installation Manual

1961-64 FORD PICKUP

DOCUMENT #1-1071

©2019 ClassicAutoAir / 02.19





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

Defrost Duct Assembly

Flex Hose 2"dia. x 1ft.

Flex Hose 2"dia. x 2ft.

Flex Hose 2"dia. x 3ft.

Flex Hose 2"dia. x 4ft.

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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

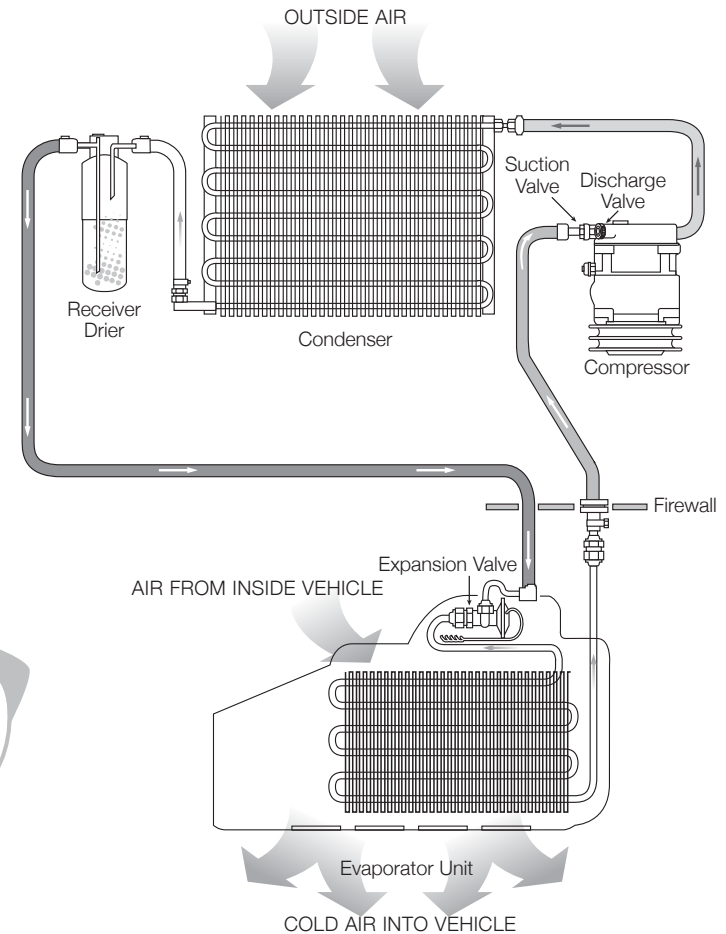
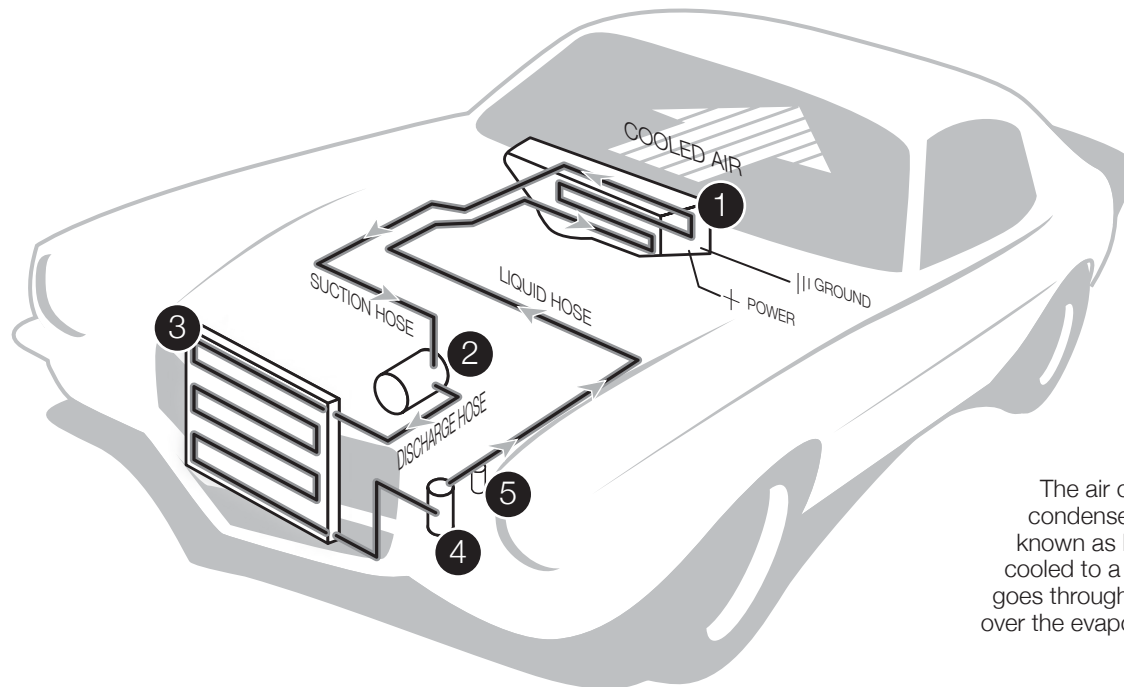
Procedures, During Installation:

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



THE PICTURE YOU SEE ABOVE SHOWS THE CONTROLS IN THE FACE MODE. THIS MEANS THAT THE AIR WILL BE DISTRIBUTED THROUGH THE FACE OUTLETS. THIS ALSO HAS THE TEMPERATURE LEVER IN THE COLD POSITION. WITH THE CONTROLS IN THIS POSITION YOU WILL GET THE AIR THROUGH THE FACE OUTLETS WITH THE COMPRESSOR ON.



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 main housing.

FACE AND FLOOR / DEFROST MODE: When the push pull cable is pulled all the way OUT, it will direct the air to the floor / and defrost ducts. The cable can be moved any position from full in to full out. This will give blend between all distribution outlets.

TEMPERATURE CONTROL: The temperature Knob as shown is in the COLDEST temperature position. As the lever is pulled out 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 Knob in the Face Mode (air-flow out the face outlets). When the Mode control knob is pushed all the way IN 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.



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

Located on engine side of firewall is the battery. Disconnect and remove battery, and battery tray.

Retain the original hardware.

Located on engine side of the firewall.



Drain radiator and then remove heater hoses from the heater connections.

Remove the blower motor cover dome and discard cover but retain original hardware.





Also remove (3) nuts that attach the heater assembly to the firewall.



Located on engine side of firewall and behind the throttle linkage, is a nut. Remove this nut and discard.



Located on top, drivers side of the heater assembly remove the defrost ducts and discard. Also disconnect the control cable and discard the hardware.



Located on top of heater looking through the glove box opening.

Disconnect wires from the heater.

Remove and discard heater assembly.

Located on the instrument panel is the original heater blower switch and cable combination.

Remove the control knob as shown.



Located on back of the switch is a Brown wire. Disconnect from the switch. This is the power wire for the new heater / a/c unit.

Remove the entire assembly along with original wire harness and discard.

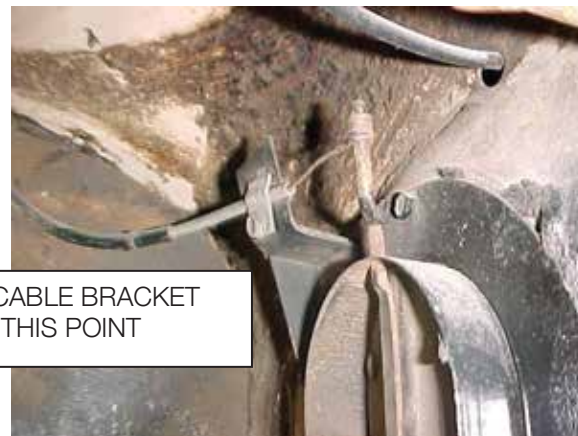
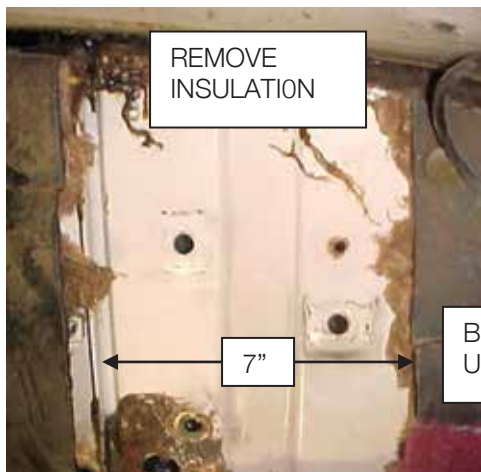


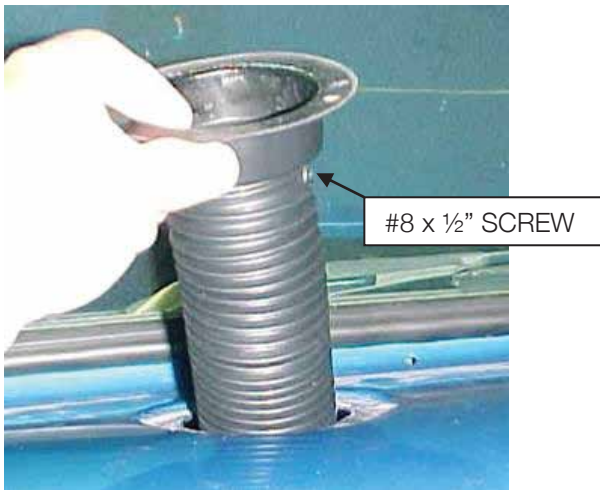


Locate on top of the dash (2) defrost outlets. Remove the cover and the flex hose adaptor. Retain the cover and all of its hardware. Discard flex hose adaptor.

Locate on passenger kick panel the fresh air inlet door. Carefully bend the cable bracket up 90 deg. as shown.

Located on the inside of the firewall behind the glove box. Remove 7" of the original insulation. As shown.





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

Locate in the hardware sack kit (2) Defrost hose adapters. Also locate the 2" dia. x 12" and 2" x 24" flex hose.

Use (1) piece 12" long and attach to one of the hose adapter using (2) #8 x 1/2" pan head phillips screw. Use (1) piece 24" long and attach to the other hose adapter using (2) #8 x 1/2" pan head phillips screw.

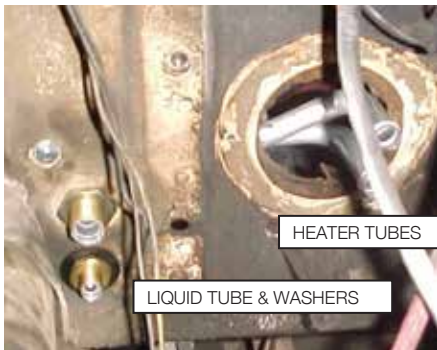
Insert the 11" assembly in the right hole in top of the dash and attach along with original defrost grills and original hardware. The 24" assembly goes in the left hole.

Locate the Evaporator from the kit. Carefully set the Evaporator on a bench.

Locate in the Control Sack Kit shortest of the (2) Control cables. Insert cable in to the Door crank in third hole from the end as shown. Using (1) #10 x 5/8". Pan Head Phillips screw attach cable clip to the attachment bracket.

Locate the Defrost Duct Assembly and (2) #10 x 5/8" pan head screws from the hardware sack kit. Attach duct to the rear support bracket as shown.





The evaporator has A/C tubes that will insert through original heater tube holes in the firewall. Locate the J-clips on the rear mounting bracket. Align clips to the original heater mounting holes in the firewall.

Attach using (3) 1/4" – 20 x 5/8" hex head bolts and 1/4" flat washers provided in the hardware sack kit.

NOTE: THE LIQUID A/C TUBE HAS (2) LARGE WASHERS. REMOVE THE NUTS ON THE BULKHEAD FITTINGS AND INSTALL (1) WASHER BEFORE INSERTING TUBES THROUGH FIREWALL.

Heater tubes will insert through the firewall hole as shown.

Reinstall large washer and nut over the liquid tube assembly.

Reinstall the suction tube nut. Tighten both nuts securely.

Also locate in the Hardware Sack Kit (1) #10 x 3/4" Hex Head Tek Screw. Locate Black wire with Ring Terminal from the blower motor. Attach the wire as shown.

Locate and drill (1) 11/16 dia. hole in firewall under evaporator 4" and a little down from the heater connection.

Locate in the hardware sack kit (1) 9" piece of 5/8 dia. drain tube. Attach over drain nipple and through the hole.



Locate in the hardware sack kit the firewall cover plate.

Attach over heater tubes using the original hardware.

Locate support bracket under the glove box opening.

Attach to bottom of instrument panel using (1) #10 x $\frac{3}{4}$ " tek screw supplied.

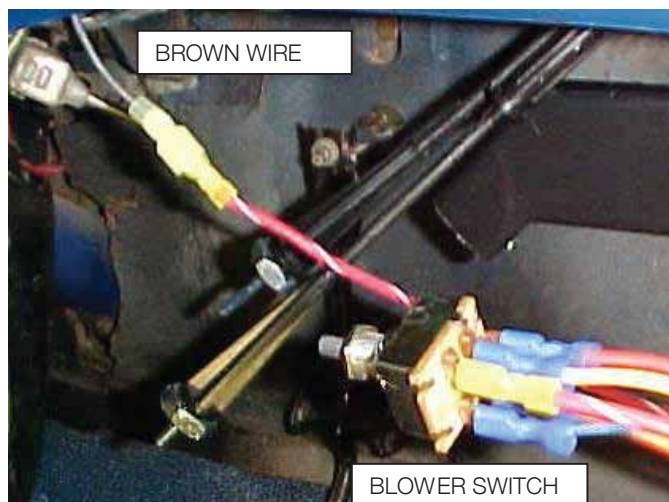
Locate 2" dia. flex hose that is attached to the defrost hose adaptors.

Attach over the defrost duct as shown.



Route Wire Harness and the control cable that is attached to the evaporator over the dash brace.



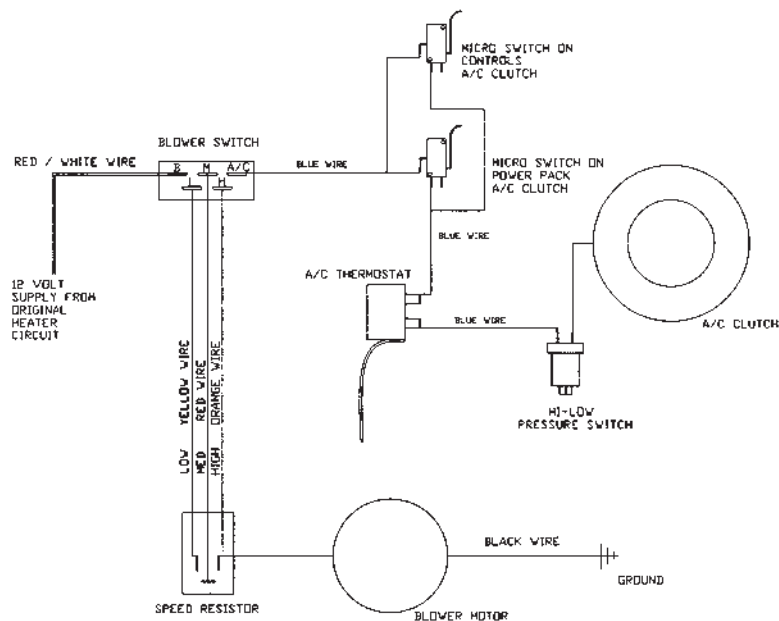


Locate the Blower Switch and (2) switch nuts. Attach blower switch to the wire harness using the diagram below.

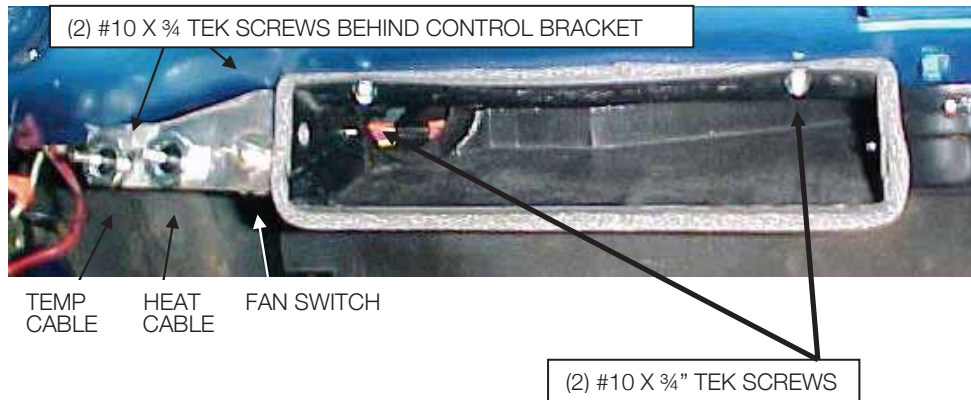
Locate brown wire that attached to the original blower switch. Cut off the terminal and attach a ¼" male spade connector.

Locate red / white stripped wire on the wire harness and plug it into the brown wire.

Locate the Temperature Control cable in the control sack kit. Route the cable back towards firewall. You will find the original hole that supported the original heater assembly. Pass cable through the hole and then out through firewall and over to the heater tubes.



WIRING DIAGRAM 1961 -64 FORD TRUCK



Locate the Face Duct Assembly from the unit box. Slide over outlet on the evaporator.

Attach to bottom edge of the dash using (2) #10 x 3/4" tek screw.

Look behind the control bracket you will find (2) holes. Using (2) #10 x 3/4" tek screws attach bracket to bottom of the dash.

Attach Blower Switch, Heat cable assembly, and Temperature cable assembly to the control bracket. As shown below.

NOTE: CHECK "HEAT" CABLE FOR SMOOTH OPERATION AND FULL DOOR TRAVEL.

Locate Center Louver Bezel. Attach over front of outlet.

Use (3) #8 x 1/2" pan head philips screws.

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

Attach to control cables and blower switch using an allen wrench.





Locate in kit. Passenger side Ball Louver and the 2" dia. x 36" flex hose. Remove the ball louver and retain.

Locate (2) #10 x 3/4" hex head tek screw and attach Housing to Passengers Kick Panel through the opening in front.

Reattach ball louver assembly.

Cut 27" of flex hose and attach to outlet on top of center duct just inside the glove box. Route up and over glove box opening and down. Attach to passengers side louver.

Locate drivers side louver. Attach to drivers kick panel as you did the passenger louver.

Locate remaining 2" dia. x 48" flex hose and cut to 44". Attach to hose adaptor on back of the louver.

Route flex hose from drivers louver up and behind instruments, then down and connect to the center duct outlet.





Install Glove Box Door using the original hardware.

Locate New Glove Box and install using original hardware.

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 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 Clutch Micro Switch is depressed when lever is in the face position.

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. FOLLOWING INSTRUCTIONS SHOW THE PROPER INSTALLATION SEQUENCE FOR THIS VEHICLE

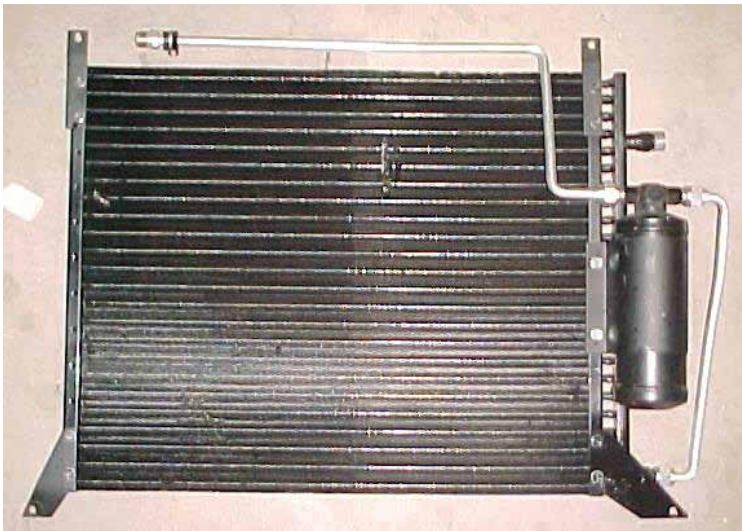


Remove original fan, fan shroud, drain and remove radiator. Retain all original hardware.

Locate following components from the under hood components box.

Condenser
Receiver Drier / Hi -Low pressure switch
Drier mounting bracket
Discharge Tube
Liquid Tube (2)
(4) Condenser mounting brackets
(10) #10 x 3/8 hex washer head screws

Locate Condenser, (2) Lower condenser mounting brackets, Liquid Tube (Condenser to Drier), Liquid Tube (Drier to Liquid Hose) and receiver drier with mounting bracket.





Attach these components on condenser as shown above. Use (2) #6 o-ring and a few drops of mineral oil.

Attach condenser brackets and the drier bracket to the condenser using (6) #10 x 3/8" hex head screws.

Locate the Hi / Low Pressure switch.

Attach to port on top of the Drier using a few drops of mineral oil. Tighten securely.



Locate in the hardware sack kit (2) 1/4 - 20 j-clips.

Located at bottom of the radiator opening are (2) holes. Push the j-clips over holes as shown.

NOTE: CONDENSER BRACKETS MOUNT BEHIND THE BULKHEAD AND BEHIND THE GRILL.

Locate and remove the Hood Latch Assembly. Retain original hardware.

Modify latch assembly as shown. Reinstall using original hardware.





Place condenser assembly from engine side of bulkhead into the opening in the bulkhead.

Locate lower condenser mounting brackets as shown.

Locate in the hardware sack kit (2) 1/4" – 20 x 5/8" hex head screws. Attach the lower (2) condenser mounting brackets

Locate in the condenser sack kit, (2) #10 x 3/4" hex head tek screws. Attach to upper bulkhead as shown.

Locate the Discharge Tube (1/2" dia.), 1/2" hose clamp, (1) 1/4" – 20 x 5/8" screw, and (1) 1/4" – 20 flange nut.

Attach tube to upper condenser fitting and insert through hole in the bulkhead as shown. Using (1) #8 o-ring and few drops of mineral oil.





Located behind the grill.

Drill 9/32" hole in line with tube clamp and fasten to the bulkhead as shown.

Locate the Liquid Hose; attach one end to the tube as shown.

Route hose along bulkhead and attach to the Liquid Tube from the receiver / drier. Attach using (2) #6 o-rings and a few drops of mineral oil.

Locate (1) 3/8" dia hose clamp, (1) 1/2" dia. hose clamp, and (2) #10 x 3/4" hex head tek screws.

Attach liquid tube and hose assembly to the bulkhead as shown.

Locate the Suction Hose and attach end with service port to the Compressor. Route the hose back and along firewall across and down to #10 bulkhead fitting on the firewall.

Attach using (2) #10 o-ring and few drops of mineral oil.



Locate the Discharge Hose. Attach straight fitting to tube from the condenser and 90 deg. with service port to the compressor. Attach using (2) #8 o-rings and a few drops of mineral oil.

Locate electrical plug that attaches to pressure switch on the drier. Route along discharge hose to the compressor.

There are two white wires attached to the pressure switch route one of them to the compressor clutch and attach a female bullet connector. The other wire route along suction hose and attach to clutch wire at the firewall. Secure wires with tywraps provided.

Hookup heater hoses to the connections coming through the firewall.

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

It is recommended that the heater hoses be replaced at this time.

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 the water valve and then to the remaining hose that goes back to the engine. Use the worm gear clamps supplied.

Locate control cable that was passed through the firewall. Attach end to the water valve as shown. Be sure that control knob is pushed in all the way and water valve is in the full closed position.

Using the same refrigeration tape, seal around the cable and clutch wire.

Reinstall battery box, battery, radiator, fan shroud, fan assembly, 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.

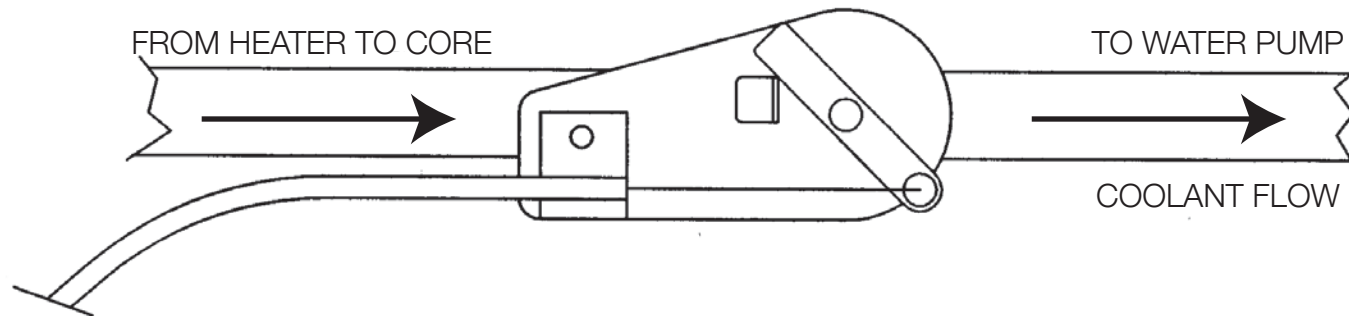
IMPORTANT!

CAUTION: WATER VALVE MUST BE INSTALLED PER THE INSTRUCTIONS.

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.

Locate the bottom connection from the evaporator/heater unit off of the firewall and attach a 6" piece of 5/8" dia. heater hose with the supplied hose clamp. Next attach the inlet side of the water valve using another supplied hose clamp, (make sure the arrow on the water valve points toward the engine) Attach a heater hose from the outlet side of the water valve and route to the connection on the water pump.

NOTE: WATER VALVE = 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

