

Installation Manual

1966-67 CHEVROLET NOVA

DOCUMENT #1-1059

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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

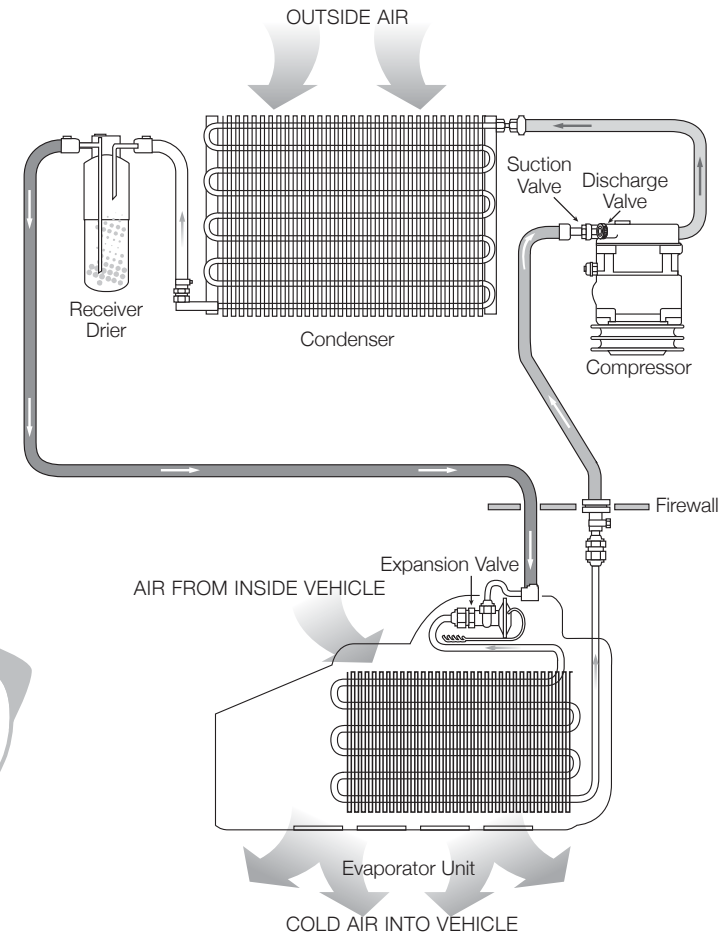
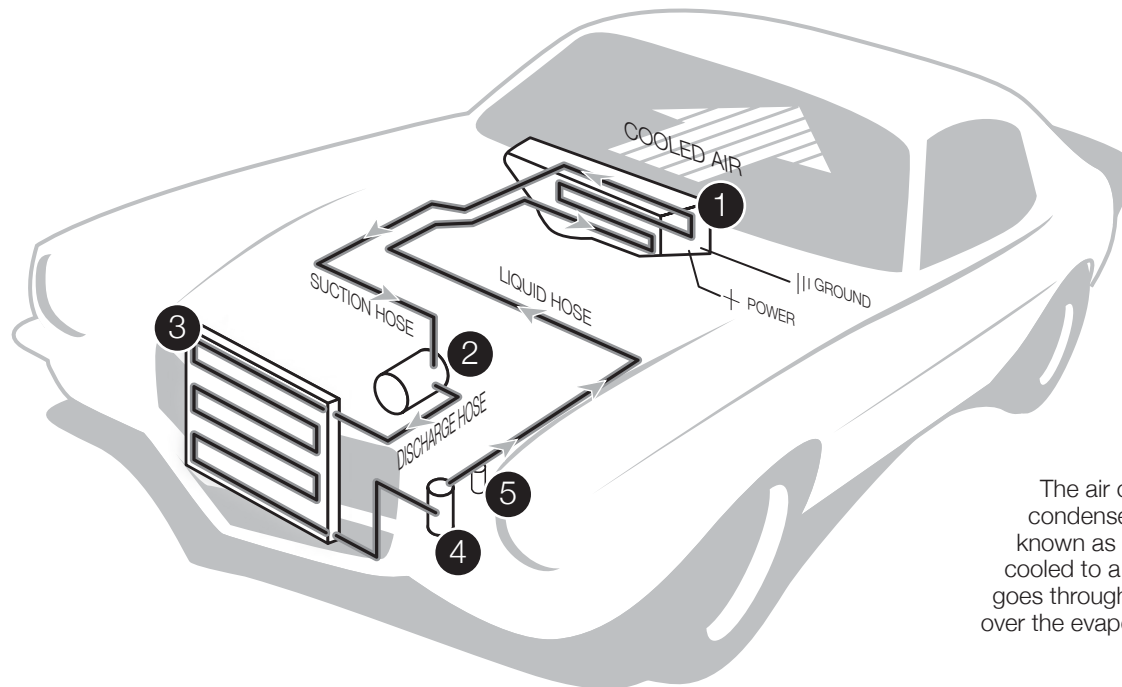
Procedures, During Installation:

- 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, 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, Heat and Defrost modes.



THE PICTURE YOU SEE ABOVE SHOWS 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.



Remove Glove box door and glove box, discard glove box, and retain original hardware.

Removal of the Original Heater Assembly can be accomplished by disconnecting (3) control cables.

One attached to the Fresh Air Door.

Disconnect electrical harness at the resistor block.

One attached to the Heat / defrost door cable.

The 3rd cable is attached on front of the unit and is attached to the Blend Air Door.

Remove control head assembly and retain the original hardware.





Locate behind glove box opening the heater support tab.

Remove and discard the screw.



Locate on drivers side of the heater (1) bolt that attaches the ducts to the firewall.

Remove and discard this bolt.

DRAIN COOLANT FROM RADIATOR.

Remove Heater hoses from heater coil at firewall.

Remove (3) nuts that attach heater to the firewall.



Located behind the glove box, remove heater assembly and discard.



Locate behind glove box opening the air inlet flange.

Remove and discard flange and original hardware.

Locate the Air Inlet Block Off and (3) #10 x $\frac{3}{4}$ TEK screws.

Attach Block Off to the air inlet as shown.



Locate in the Hardware Sack kit (2) defrost hose adapters (1) piece 20" long of 2" flex hose and (1) piece 36" long. Attach the hose to the defrost adapters using (2) each #8 x $\frac{3}{8}$ " pan head screws.

Attach 20" long passenger defrost adaptor to under side of the defrost diffuser.

Attach 36" long drivers defrost adaptor to under side of the defrost diffuser.





Locate control head and remove (3) original control cables. Retain original hardware.

Locate remove, and discard the original blower switch.

Retain original hardware.

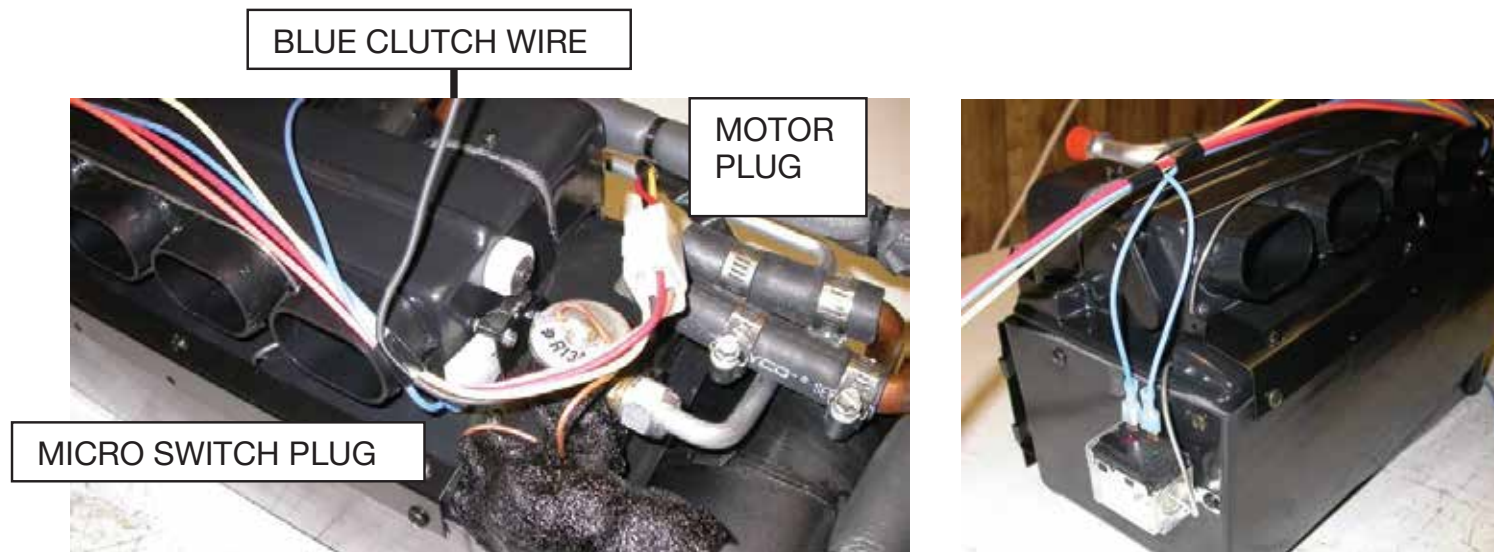
Locate original wire harness that provided power for the original heater assembly.

Cut off the plug and attach a Male Spade connector. This is the power wire for the a/c unit.

NOTE: check original heater fuse. Update to 25 amp minimum.

All modifications to the vehicle are complete. We will now begin the installation of the system.

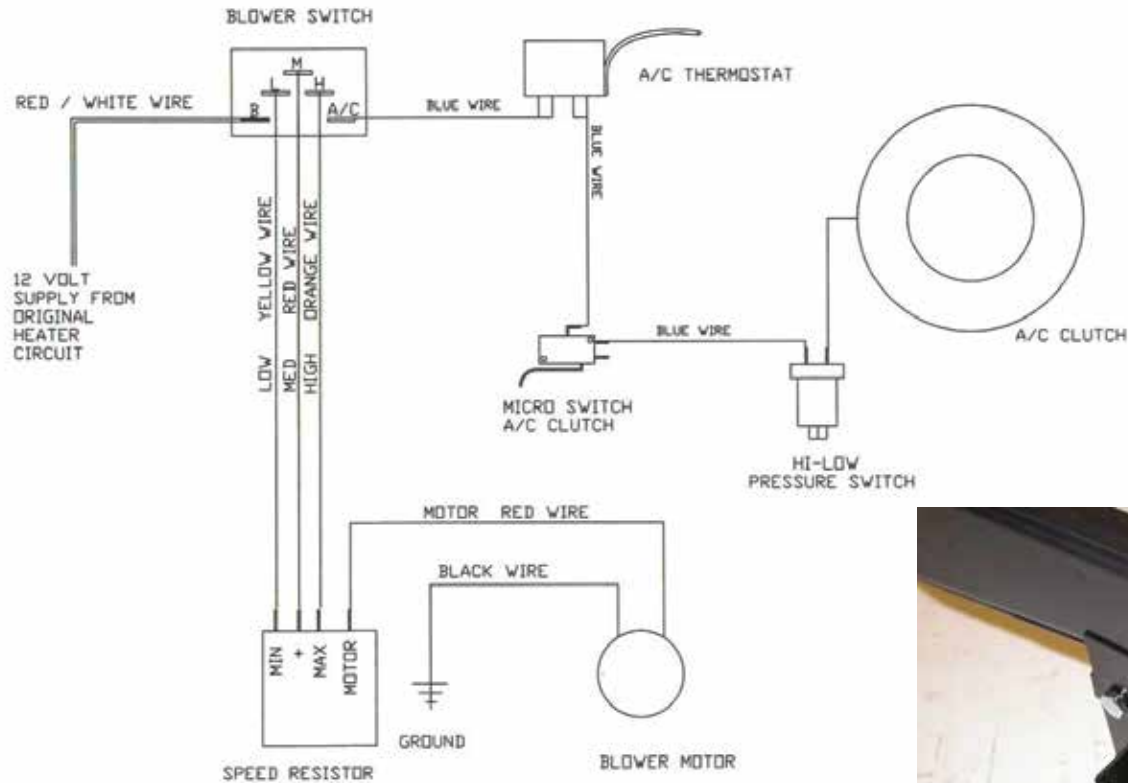




Locate the Evaporator, and Wire Harness.

Attach wire harness to the BLOWER connector, and micro switch plug to the micro switch. Route the blue clutch wire over the top and along the suction tube. Refer to diagram on next page.

Route wire harness across top of the evaporator and attach harness to the thermostat.



WIRING DIAGRAM



Carefully place evaporator upside down on the bench. Locate the heater duct from the main box.

Slide the heater duct over the heater outlet on the evaporator.

Push firmly so that the clips are fully engaged.



CAP PLUG



Lift evaporator up and behind the instrument panel. Insert tubes and clutch wire through opening in the firewall.

Attach unit to the firewall using (2) 1/4"-20 x 1" hex head screws and # 1/4" SAE washers.

Attach through the original heater mounting holes.

Locate in the hardware sack kit (2) 1" cap plugs. Insert over the original heater holes.

Located on side of the blower is a support brace, attach to bottom of the Instrument panel using (1) #10 x 3/4" TEK screw.

The 20" flex hose that is attached to passenger defrost outlet attaches to top of the evaporator on passenger side.

The 36" flex hose that is attached to drivers defrost outlet route across behind radio to left outlet on top of the evaporator.

CAUTION: BE SURE THAT THE WINDSHIELD WIPER CONTROL ARM DOESN'T INTERFERE WITH FLEX HOSE

Locate the original control head and place it on the bench upside down.

Locate the blower switch, (2) #6 x 3/8" pan head screws, actuator wire and 3/16" push nut.

Attach control bracket to control head using the original hardware.

Attach blower switch to control bracket using the #6 screws provided.

Insert actuator wire through hole in the switch and other end over the center lever pin. Secure using the push nut provided.

Locate (2) mode cables, (2) 3/16" push nuts and (2) cable retaining brackets.

Longest of the cables is attached to bottom lever using push nut and to the control head using a cable retaining bracket and original screw.

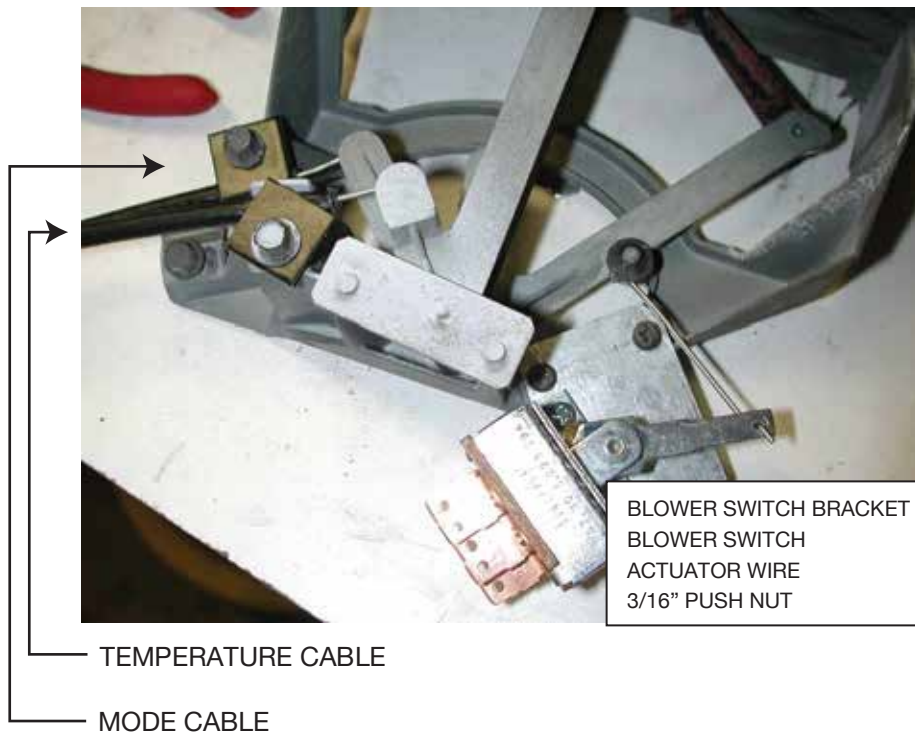
The shortest of the cables is attached to the top lever using the push nut and to the control head using (1) cable retaining bracket and original screw.

Reinstall control head using the original hardware.

Hookup electrical harness to the blower switch and the red / white striped wire to brown wire from the fuse box.

Route mode cable assembly over top of the radio and attach to mode door on the unit.

Insert off set end into 4th hole from pivot of the crank arm. Attach to the evaporator using (1) #8 screw.



TEMPERATURE CABLE

MODE CABLE



Route temperature cable around back of evaporator and out through hole in the firewall along with the tubes.

Locate the Firewall Block Off plate, and (3) #10 x 3/4" hex head TEK screws.

On engine side of firewall attach over hookup tubes and insert the clutch wire and temperature control cable through the holes as shown.

Attach using (3) #10 x 3/4" hex washer head TEK screws.

Locate refrigeration tape provided and seal around the hookup tubes.

Locate the Water Valve and (3) worm gear clamps.

Supply line from engine is attached to the left heater hookup tube. Cut 6" off end of the RETURN LINE and install water valve using (3) worm gear clamps as shown above.

Note: It is recommended that you replace heater hoses from the engine to the hookup tubes.

Locate temperature cable and attach to the water valve.

NOTE: WATER VALVE MUST BE CLOSED WHEN CONTROLS ARE ALL THE WAY TO THE LEFT POSITION.





Next few steps are in the interior of the car.

Locate in the hardware sack kit the drain hose.

Attach to evaporator and route over to 9/16" hole drilled in the firewall.

Seal the tube using refrigerant tape provided.



Locate in the hardware sack kit the (4) remote louver assemblies, and the #10 x 3/4" hex head tek screws. Mount the (4) remote louver assemblies in desired location of dash. Locate 2" dia flex hose from the unit box and attach to the unit.





Route above radio behind instrument panel over the steering column and attach to the drivers louver.

Attach to face duct over 2nd outlet from the left. Route across and over the unit brace and attach to the left center louver.

Attach to face duct over the 2 outlets remaining. Route and attach (1) to right center and (1) to passenger louver.



Locate black ground wire that is attached to the motor and (1) #10 TEK screw.

Attach to body just above the air inlet block off.

Install the new glove box and glove box door using original hardware.

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

Installation of the interior components is complete. We will now install the under hood portion of the unit.



INSTALL THE COMPRESSOR ADAPTER KIT AND COMPRESSOR AT THIS TIME PER THE MANUFACTURERS DIRECTIONS.

**NEXT PAGES COVER INSTALLATION FOR THE 6 CYL ENGINE:**

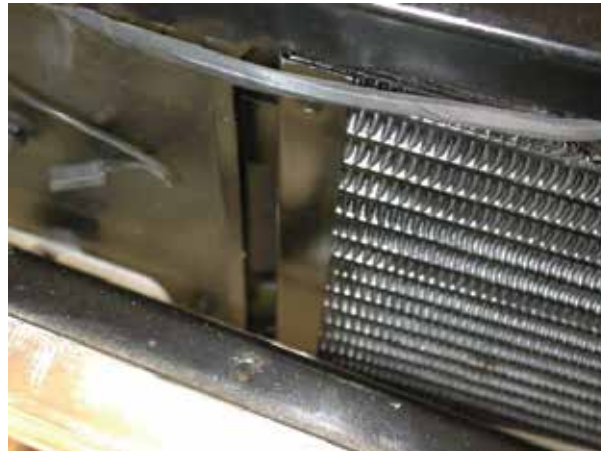
Remove radiator fan and radiator. Retain all original hardware.

Locate the condenser, (4) condenser mounting brackets and (8) #10 x 3/8" hex head screws.

Attach (4) brackets to the condenser as shown to right, using (2) #10 screw for each bracket.

Condenser is inserted from engine side of the radiator support. Reinstall the radiator using the original hardware.

Condenser brackets are clamped between the radiator mounting flange and the radiator support.





Locate the Discharge Tube and the Liquid Tube.

Loosely attach tubes to condenser and locate the center of the holes for the radiator support fittings.

Drill (1) 3/4" diameter hole at the top location, and (1) 5/8" diameter hole at the bottom location.



Reinstall tubes to condenser using a few drops of mineral oil at each of the connections.

Insert bulkhead fittings through the holes you just drilled. Tighten securely.

Reinstall the radiator fan.

Locate #6 liquid tube, #6 hose, #10 hose, filter drier, drier mounting bracket, Hi-Low pressure switch & electrical boot, (4) #6 o-rings, (2) #10 o-rings and (2) #10 TEK screws.

Attach liquid tube to fitting from the evaporator. Locate filter drier, drier mounting bracket and (2) #10 TEK screws.



Attach drier assembly to inner fender using the liquid tube as a guide. Attach using (2) #10 TEK screws.



Attach hose assembly using (2) #6 o-rings and a few drops of mineral oil on each fitting.

Attach #10 suction hose to #10 fitting on the firewall using (1) #10 o-ring and a few drops of mineral oil. Route other end along firewall and then to the compressor. Attach end with service port to the compressor using (1) #10 o-ring and a few drops of mineral oil.

Attach long liquid hose to outlet of the drier using (1) #6 o-ring and a few drops of mineral oil and route over the suction hose and forward to lower fitting on radiator support using (1) #6 o-ring and a few drops of mineral oil

Attach hi-low pressure switch & boot to port on the liquid tube using a few drops of mineral oil.



Locate Discharge Hose from the condenser kit. Attach to #8 fitting on radiator support and route over to the compressor.

Attach with service port at the compressor and (2) #8 o-rings and a few drops of mineral oil.

Locate Clutch wire (blue) from thermostat and attach it to one of the white wires from the Pressure switch. Other white wire from pressure switch attaches to the compressor clutch.

Locate double hose clamp and (1) #10 TEK screw from the condenser kit. Attach suction and liquid hoses to the firewall as shown.

Locate #6 hose clamp and (1) #10 TEK screw.

Attach liquid hose to the driver's side shock tower as shown.





NEXT SECTION IS FOR VEHICLES WITH V8 ENGINES.

Locate the condenser, (4) condenser mounting brackets and (8) #10 x 3/8" hex head screws.

Attach the (4) brackets to the condenser as shown above, using (2) #10 screw for each bracket.

The condenser is inserted from engine side of the radiator support. Reinstall radiator using the original hardware. NOTE: THE V8 CONDENSER ASSEMBLY IS INSTALLED WITH THE FITTINGS ON THE PASSENGER SIDE.

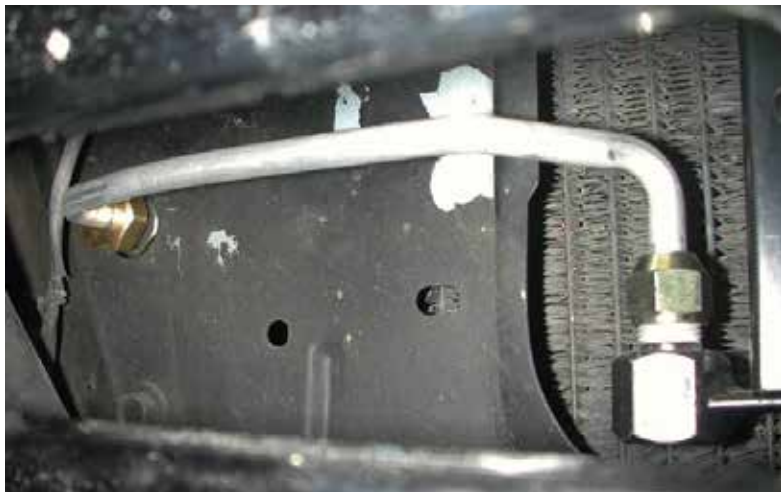
Locate in the condenser kit the liquid tube with the bulkhead fitting.

Attach tube to condenser and the bulkhead fitting through existing hole in the radiator bulkhead.

Locate the discharge tube from the condenser kit.

Holding tube in place using the condenser as a guide. Locate and drill (1) 7/8" diameter hole in the radiator bulkhead.

Install discharge tube.





Locate #6 liquid tube, #6 hose assembly, the #10 hose assembly, filter drier, drier mounting bracket, Hi-Low pressure switch & electrical boot, (4) #6 o-rings, (2) #10 o-rings and (2) #10 TEK screws.

Attach liquid tube to fitting from the evaporator. Locate the filter drier and the drier mounting bracket, and (2) #10 TEK screws.

Attach drier assembly to inner fender using the liquid tube as a guide. Attach using (2) #10 TEK screws.

Attach tube assembly using (2) #6 o-rings and a few drops of mineral oil on each fitting.

Attach long liquid hose to outlet of drier using (1) #6 o-ring and a few drops of mineral oil and route around shock tower and forward to lower fitting on the radiator bulkhead using (1) #6 o-ring and a few drops of mineral oil.

Attach hi-low pressure switch & boot to port on the liquid tube using a few drops of mineral oil.

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





**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**

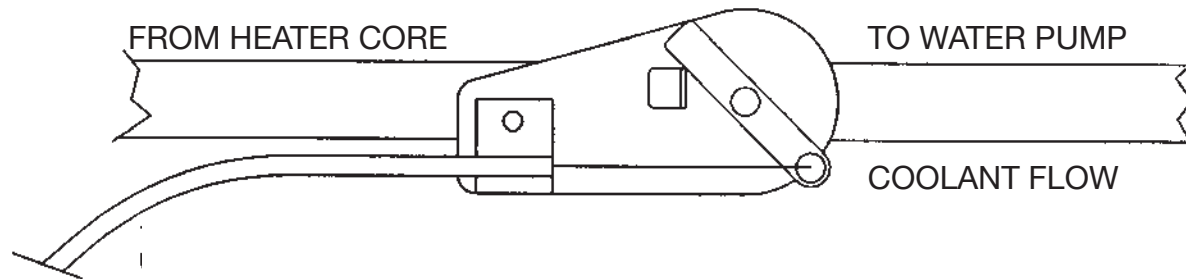
Congratulations you have completed the install of your CLASSIC AUTO AIR "Perfect Fit Series" system.

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.



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**

New A/C System Preparation... A MUST READ!

Please read through these procedures before completing this new A/C system charging operation.

A licensed A/C technician should be utilized for these procedures to insure that your new system will perform at it's peak, and that your compressor will not be damaged.



- 1) Your radiator/cooling system is an integral part of your new system. Please insure that you have a 50/50 mix of distilled water and antifreeze. The heater coil **MUST** be purged (cycle heater control valve) to make sure no water, without antifreeze, is in the heater coil before you charge the A/C system.
- 2) Evacuate the system for 45 minutes (minimum).
- 3) **Your new compressor MUST be hand-turned 15-20 revolutions before and after charging with liquid. Failure to do this may cause the reed valves to become damaged** (this damage is NOT covered by your warranty).
- 4) Your new system requires 134a refrigerant. It will require 1.5 lbs (or 24 oz).
- 5) Your new compressor comes charged with oil - NO additional oil is needed.
- 6) Insure that the new belt is tight.
- 7) **DO NOT CHARGE SYSTEM WITH LIQUID REFRIGERANT!**

RECOMMENDED TEST CONDITIONS: (After system has been fully charged and tested for basic operation)

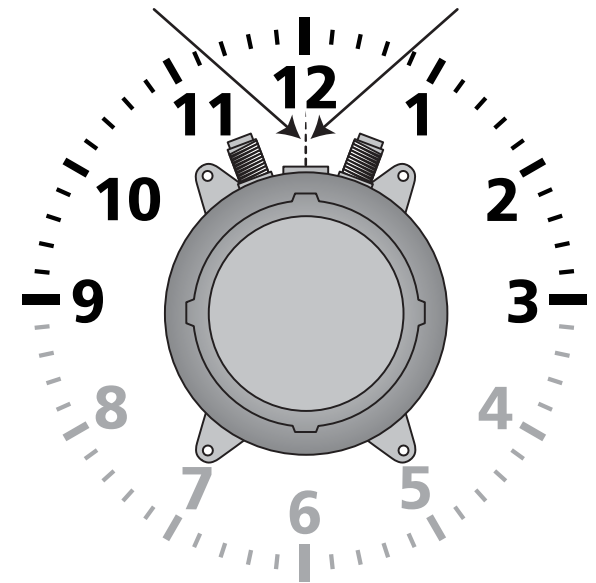
- Determine the temperature outside of the car
- Connect gauges or service equipment to high/low charging ports
- Place blower fan switch on medium
- Close all doors and windows on vehicle
- Place shop fan directly in front of condenser
- Run engine idle up to approx. 1500 rpm

ACCEPTABLE OPERATING PRESSURE RANGES:

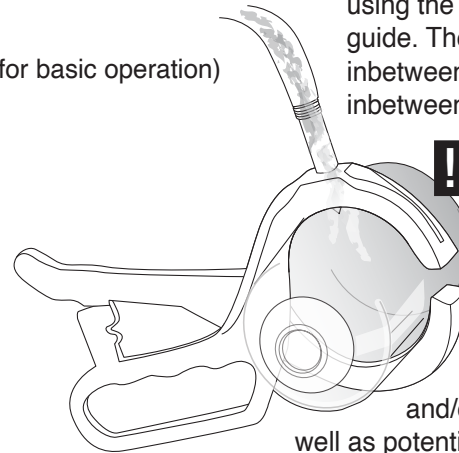
1. HIGH-SIDE PRESSURES (150-275 PSI)
2. LOW-SIDE PRESSURES (10-25 PSI in a steady state)

Readings above are based on an ambient temperature of 90° with an adequate airflow on condenser

CENTERLINE OF THE OIL FILL BOLT



CAUTION! When mounting your compressor and/or adjusting the belt use caution. Mount by using the centerline of the oil fill plug as your guide. The compressor can **ONLY** be mounted inbetween the 9 to 3 positions. **DO NOT** mount inbetween the 4 to 8 positions.



Do NOT tilt, shake or turn refrigerant can upside-down OR use a charging station to install refrigerant while the engine is running.

Doing so will direct liquid refrigerant into the compressor piston chamber, causing damage to reed valves and/or pistons and/or other components, as well as potentially seizing the compressor. Allow a minimum of 30 minutes for liquid to "boil off." You must hand turn the compressor hub (not the pulley) a minimum of 15 complete revolutions prior to starting the engine with the clutch engaged.

TROUBLESHOOTING GUIDE

TEST CONDITIONS USED TO DETERMINE SYSTEM OPERATION

(THESE TEST CONDITIONS WILL SIMULATE THE AFFECT OF DRIVING THE VEHICLE AND GIVE THE TECHNICIAN THE THREE CRITICAL READINGS THAT THEY WILL NEED TO DIAGNOSE ANY POTENTIAL PROBLEMS).

- B. CONNECT GAUGES OR SERVICE EQUIPMENT TO HIGH/LOW CHARGING PORTS.
- C. PLACE BLOWER FAN SWITCH ON MEDIUM.
- D. CLOSE ALL DOORS AND WINDOWS ON VEHICLE.
- E. PLACE SHOP FAN IN FRONT OF CONDENSER.
- F. RUN ENGINE IDLE UP TO 1500 RPM.

ACCEPTABLE OPERATING PRESSURE RANGES (R134A TYPE)

1. HIGH-SIDE PRESSURES (150-275 PSI) **Note- general rule of thumb is two times the ambient (daytime) temperature, plus 15-20%.*
2. LOW-SIDE PRESSURES (10-25 PSI in a steady state).

CHARGE AS FOLLOWS: R134A = 24 OZ.
NO ADDITIONAL OIL IS NECESSARY IN OUR NEW COMPRESSORS.

TYPICAL PROBLEMS ENCOUNTERED IN CHARGING SYSTEMS

NOISY COMPRESSOR. A noisy compressor is generally caused by charging a compressor with liquid or overcharging

- A. If the system is overcharged both gauges will read abnormally high readings. This is causing a feedback pressure on the compressor causing it to rattle or shake from the increased cylinder head pressures. System must be evacuated and re-charged to exact weight specifications.
- B. Heater control valve installation - Installing the heater control valve in the incorrect hose. Usually when this occurs the system will cool at idle then start to warm up when raising the RPM's of the motor. THE HEATER CONTROL IS A DIRECTIONAL VALVE; MAKE SURE THE WATER FLOW IS WITH THE DIRECTION OF THE ARROW. As the engine heats up that water transfers the heat to the coil, thus overpowering the a/c coil. A leaking or

faulty valve will have a more pronounced affect on the unit's cooling ability. Installing the valve improperly (such as having the flow reversed) will also allow water to flow through, thus inhibiting cooling. Check for heat transfer by disconnecting hoses from the system completely. By running down the road with the hoses looped backed through the motor, you eliminate the possibility of heat transfer to the unit.

- C. Evaporator freezing - Freezing can occur both externally and internally on an evaporator core. External freeze up occurs when the coil cannot effectively displace the condensation on the outside fins and the water forms ice (the evaporator core resembles a block of solid ice), it restricts the flow of air that can pass through it, which gives the illusion of the air not functioning. The common cause of external freezing is the setting of the thermostat and the presence of high humidity in the passenger compartment. All door and window seals should be checked in the event of constant freeze-up. A thermostat is provided with all units to control the cycling of the compressor.
- D. Internal freeze up occurs when there is too much moisture inside the system. The symptoms of internal freeze up often surface after extended highway driving. The volume of air stays constant, but the temperature of the air gradually rises. When this freezing occurs the low side pressure will drop, eventually going into a vacuum. At this point, the system should be checked by a professional who will evacuate the system and the drier will have to be changed.
- E. Inadequate airflow to condenser - The condenser works best in front of the radiator with a large supply of fresh air. Abnormally high pressures will result from improper airflow. Check the airflow requirements by placing a large capacity fan in front of the condenser and running cool water over the surface. If the pressures drop significantly, this will indicate the need for better airflow.
- F. Incorrect or inadequate condenser capacity - Incorrect condenser capacity will cause abnormally high head pressures. A quick test that can be performed is to run cool water over the condenser while the system is operating, if the pressures decrease significantly, it is likely a airflow or capacity problem.
- G. Expansion valve failure - An expansion valve failure is generally caused by dirt or debris entering the system during assembly. If an expansion valve fails it will be indicated by abnormal gauge readings. A valve that is blocked will be indicated by high side that is unusually high, while the low side will be unusually low or may even go into a vacuum. A valve that is stuck open will be indicated by both the high and low pressures rising to unusually high readings, seeming to move toward equal readings on the gauges.
- H. Restrictions in system - A restriction in the cooling system will cause abnormal readings on the gauges. A high-side restriction (between the compressor and the drier inlet) will be indicated by the discharge gauges reading excessively high. These simple tests can be performed by a local shop and can help determine the extent of the systems problem.

Trouble Shooting Your Classic Auto Air A/C System

PROBLEM: system is not cooling properly

ISSUE: cold at idle, warmer when raising engine RPM's

Make sure the Water Valve is positioned correctly

The water valve is a directional valve and should be installed with the arrow pointing towards the water pump, it should be connected to the heater hose that runs from the heater core to the water pump. If the water valve is connected to the incorrect hose it allows water to circulate through the system via the heater core over powering the cooling effect of the A/C coil, (normally the air conditioning is functioning properly).

Step 1: Check placement of the water valve, correct if needed. (In some cases changing the location of the water valve may not fix the above problem.) Continue to next step.

Step 2 If changing the location of the water valve does not rectify the issue, then possibly the water valve is permanently damaged and may need to be replaced. To check the integrity of the water valve completely remove the water hoses for the heater core and "loop" together. (This will remove the heater system completely from the possibilities) If the system now cools, replace the water valve

Verify Adequate Air Flow to Condenser

For an air conditioning system to function properly there has to be adequate airflow across the condenser. The function of the condenser is to dissipate heat, without proper airflow your system will not cool correctly in the cabin of your vehicle.

Step 1: connect gauges to a/c hoses. The pressures should be: with the ambient temp is 90, low side pressures should be between 10-25 psi, high side pressures should be between 150-275 psi

Step 2: IF the low side pressures are normal and the high side pressures are high then there might be an airflow issue, continue to next step.

To test air flow to Condenser do the following three tests:

1. Place a piece of paper on the condenser with the car in idle and see if paper is held in place.
2. With car in idle, attach gages, and place a large capacity fan in front of

the condenser. What happens to the pressures?

3. With car still in idle and gages attached, pour water down the front of the condenser. What happens to the pressures?

If the paper is held in place you are at least getting some air flow. If the high side decreases during test 2 & 3 then your condenser is not getting enough air which is causing your system to not cool properly. To correct this issue you will need a more powerful mechanical fan.

Step 3: Confirm correct Refrigerant charge in System

All of our systems should be charged with 24 oz or 1.5 lbs of R134A Refrigerant only. If overcharged you will need to evacuate the system and recharge with the correct amount.*

What measurements mean:

Low Temp and High Pressure seem to be equal...

You have a malfunctioning expansion valve that is stuck open.

High Side is extremely high and Low Side is extremely low (possibly into vacuum)...

There is a blockage in the system. Remove hoses and blow compressed air through in both directions. If pressures don't change its possible that your expansion valve is stuck closed and would have to be replaced.

*Compressor Concerns:

This is often misdiagnosed as a problem for the system not cooling properly. If you have a noisy compressor it is due to improper charging of refrigerant. An overcharged (more than 24 oz or 1.5 lbs R134A) compressor can cause rattling. If charged with pure liquid there is a high probability you have bent reed valves that are causing tapping sound.

SCAN QR code
with your mobile camera

Get the technical support you want the moment you need it, with no wait times. Simply **SCAN** the **QR code** and be directly taken to our support section to troubleshoot all things A/C.

