

Installation Manual

Late 1955 - 1959 Chevrolet Pickup

DOCUMENT #1-1030

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Congratulations...

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

Congratulations! ! You have just purchased the highest quality, best performing A/C system ever designed for you 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 boxes for the correct components.

Evaporator 1-1080 Auxiliary Install Kit 1-1030

Flex Hose 2"dia. x 15 ft.

Sack Kit Hardware

Sack Kit Control

(2) Refrigerant Hoses

(2) Heater Hoses

(2) Defrost Diffusers

Center Louver Assembly

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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

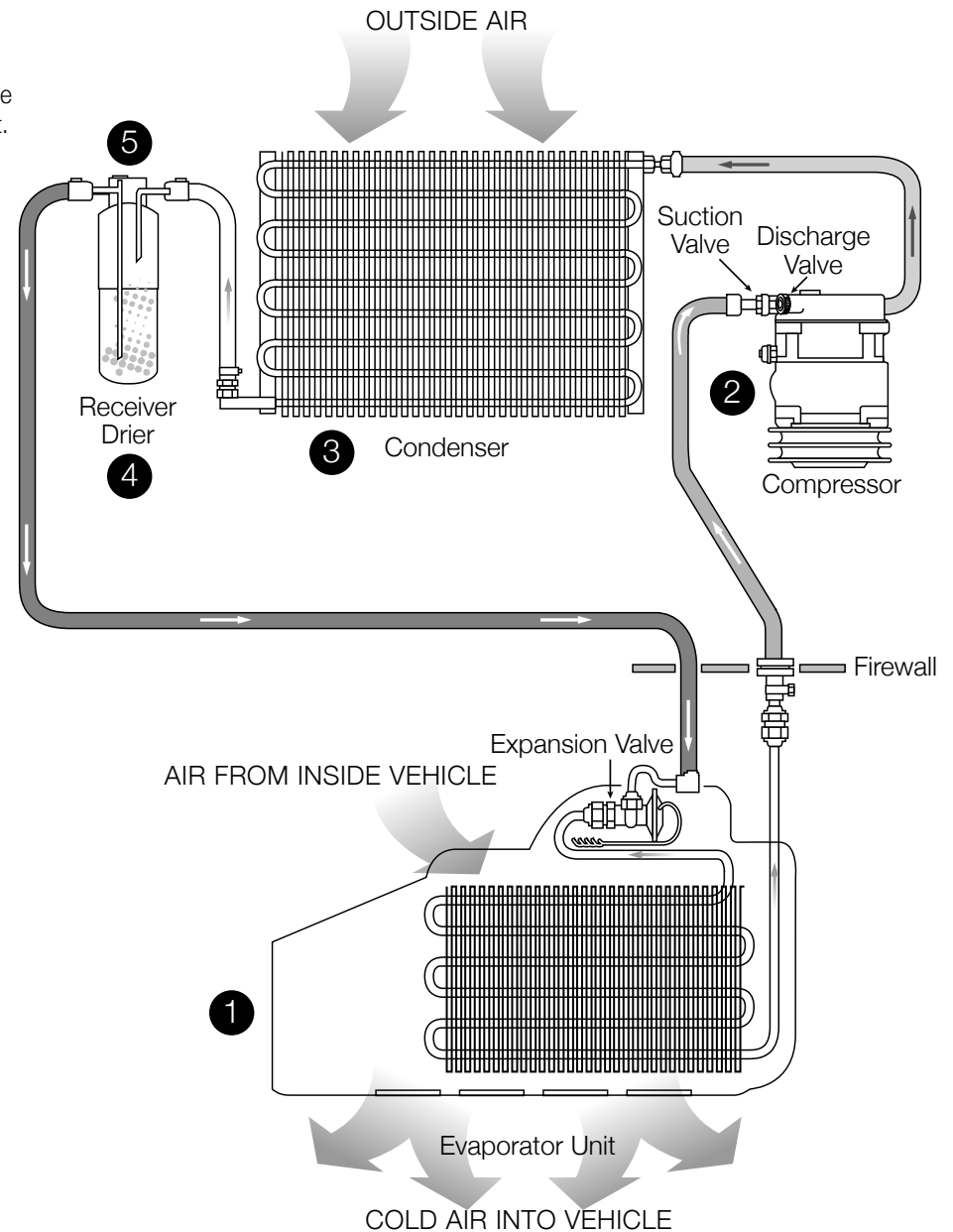
- ☐ Fittings: Use one or two drops of mineral oil (supplied with your kit) on ALL rubber o-rings, threads and where o-rings seat in fittings. Do not use thread tape or sealants.
- ☐ Measure twice (or more), cut once
- ☐ **Should you have any technical questions, or feel you have defective components (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 vehicle 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.



DELUXE CONTROLS 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.

BLOWER SWITCH

TEMPERATURE CONTROL



DOOR CONTROLLER

**LEFT DOOR
STOP - REMOVE
AND DISCARD**



Remove the Glove box door, remove and discard the left door stop, also remove the glove box. Retain the glove box door and discard the glove box housing.

Remove OEM control panel and set aside for modifications later.



Remove the (2) screws that attach the floor distribution plenum (1) at the heater box and (1) under the instrument panel.





Rotate the air plenum as shown remove and discard



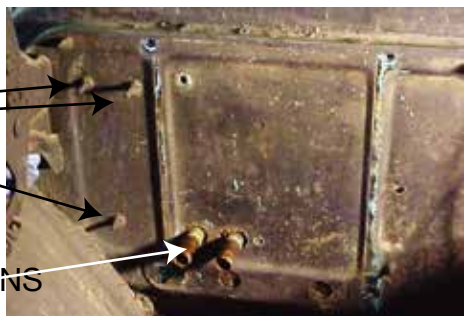
Remove the screws that hold the vent cables. Let the cables hang, retain original hardware.



On the engine side of the firewall remove and retain the following components.
The Battery, and the Battery mounting box and all of its hardware.

3 NUTS

HEATER CONNECTIONS



Drain radiator and then remove heater hoses from the heater connections. Also remove (3) nuts that attach the heater assembly through the firewall.



Under the glove box opening carefully remove the original heater box and discard.

On the firewall below the glove box opening there are (2) holes that the original heater tubes inserted through to the engine compartment. Carefully pull back the insulation. Attach the firewall template to the firewall using masking tape. The hole on the right will be utilized for the location of the template. Drill the (4) 5/16" holes as indicated on the template.

Push insulation back in place. Cut holes in the insulation to match the unit mounting locations



It will be necessary to remove the passenger wheel assembly.

Locate the template that locates the holes for the a/c and heater connections.

Attach the template to the firewall behind the inner fender well and on the firewall as shown. Use masking tape to secure while locating holes.



CAUTION: USE TEMPLATE VERY CAREFULLY HOLES MUST BE IN THE CORRECT POSITION.



← **VIEW FROM INSIDE TRUCK**



The modifications to the vehicle are complete. You can now begin installing your new Classic Auto Air conditioner.

Locate the suction hose assembly and the liquid hose assembly from the condenser kit. (w/o service ports)



Insert through the bottom (2) holes as shown.

Install nuts on the inside of the firewall.

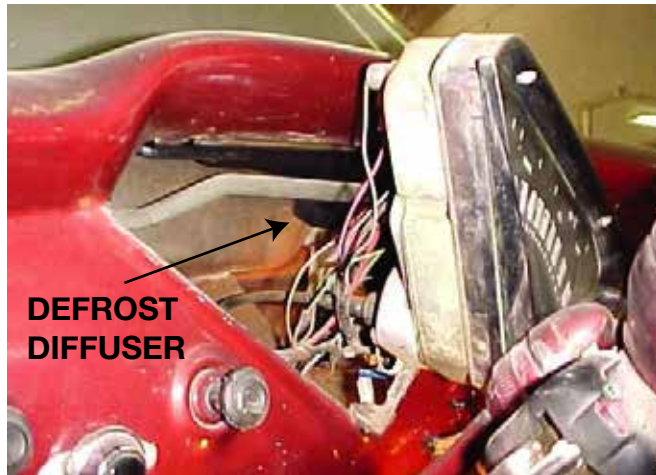


Looking through the glove box opening locate the defrost diffuser mounting location. Vehicle may be equipped with original diffusers. If not follow the next few steps.

The passenger side diffuser will require (2) #8 x 3/8 pan head screws. Attach the supplied diffuser as shown.



Attach the flex hose to the diffuser using (2) #8 x 3/8" pan head screws.



Loosen the instrument cluster and carefully pull back for access to the defrost diffuser.

Locate (1) Defrost air diffuser. Attach the assembly over the opening in the cowling using (2) #8 pan head screws.

Attach the flex hose to the diffuser using (2) #8 x 3/8 pan head screws.

Reattach instrument cluster.



Locate the Evaporator and lay on the bench.

Remove the right heat dump and discard.



Locate the 2" flex duct from the kit. Cut (3) pieces 16", 26", and 36" long.

Attach to the rear outlets as shown.



Lift Evaporator up and into location.

Locate (4) 1/4"-20 x 1" hex head screw. Attach the evaporator to the firewall through the (4) holes previously drilled.



NOTE: ENGINE SIDE OF FIREWALL

Locate the clear drain tube, and (1) 90 deg elbow. Cut 1 1/2" piece of the drain tube and insert the elbow between the short and long hose.

Insert the drain through the heater hole and attach to the evaporator. Seal the hole around the drain tube



Locate the remote heat dump and (2) #10 x 3/4" tek screws.

Attach heat dump to the steering support assembly.
Use the # 10 tek screws.



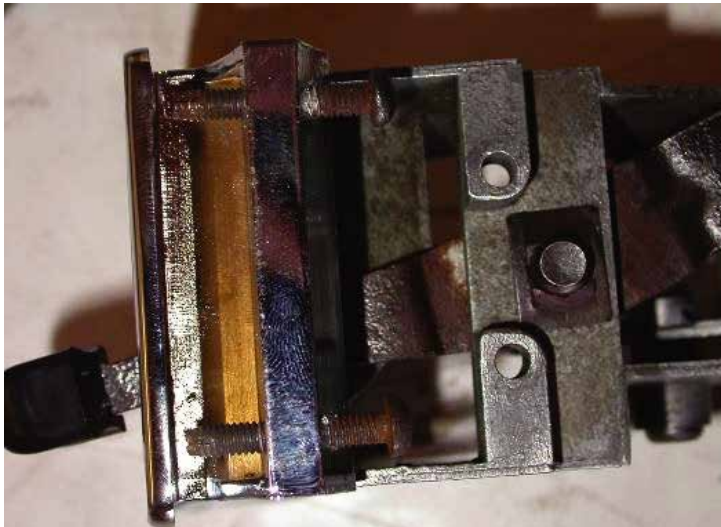
Route the 26" flex duct from the back of the evaporator to the remote heat dump attach using (1) #8 x 3/8 pan head screw.



Route the 36" flex duct from the back of the evaporator over to the drivers defrost diffuser.



Route the 16" duct hose from the back of the evaporator to the passenger defrost diffuser.

**DELUXE HEATER CONTROLS:**

Remove the blower switch control knob. Retain knob and hardware.

Remove and discard the original blower switch and hardware.

Using the (2) #10 screws and nuts from the sack kit, attach the switch assembly to the control head as shown.

NOTE: SWITCH IS INSTALLED BACKWARDS



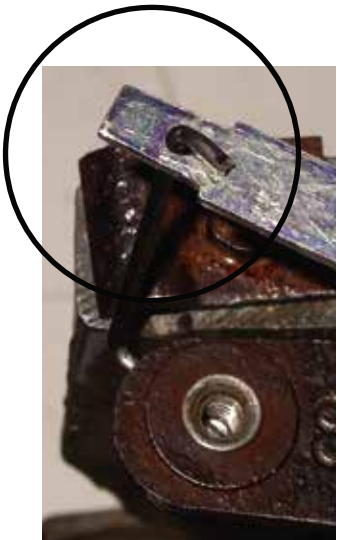
Locate the original blower control knob and screw and attach to the fixed lever as shown.



Locate the connecting wire from the control kit.

Insert the short end of the connecting wire through the hole in the blower switch. The long end of the wire goes into the control arm.

Move the control lever to the left when looking at the front of the control head. The blower switch lever will be in the off position.



Tighten the set screw on the control lever so that the connecting wire will not rotate as the lever is moved from left to right.

Locate the longest of the control cables. Cut off the ring at the end of the cable.

Locate the shortest of the control cables. Cut off the offset at the end of the cable



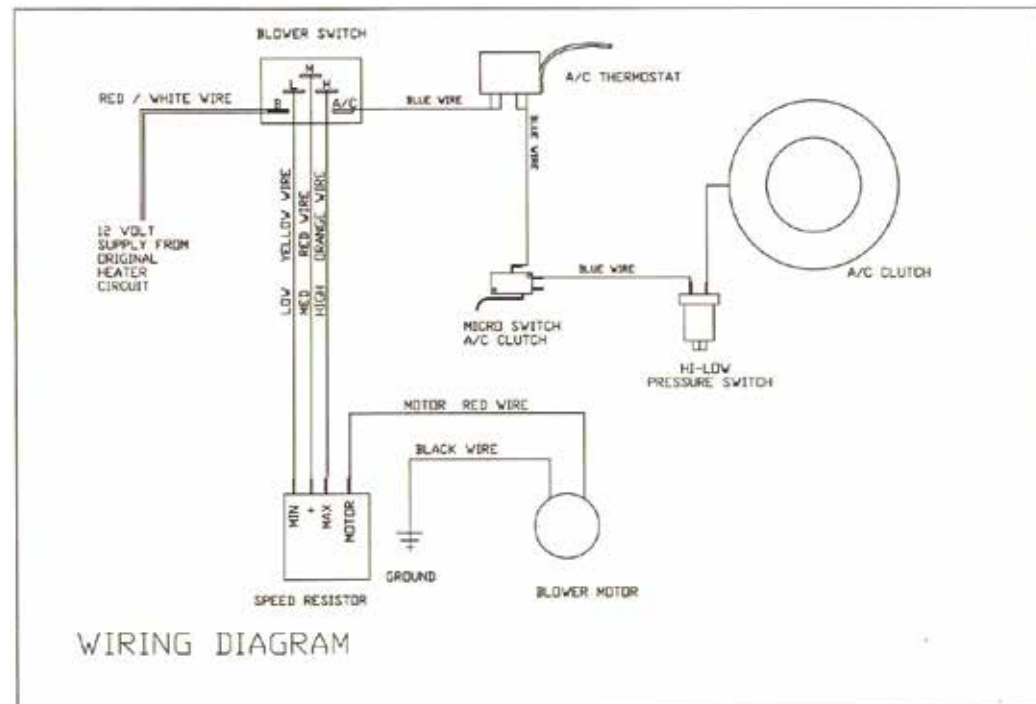
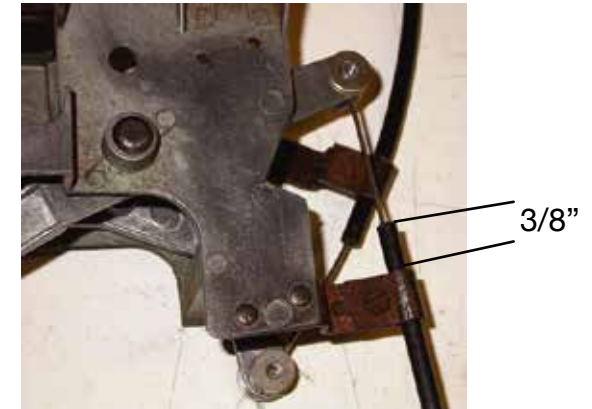
Attach the shortest of the control cables to the temp side of the controls. With the lever all the way down the cable hosing should just clear the arm.

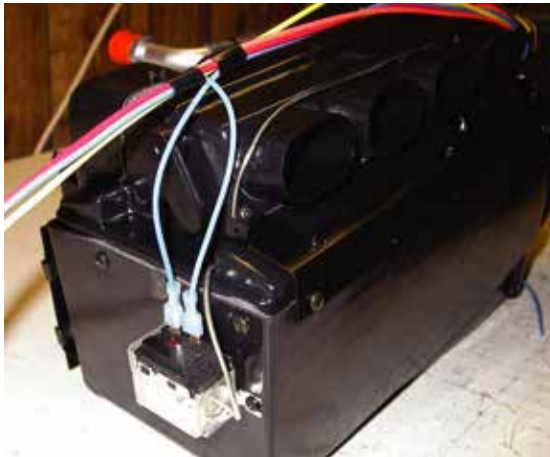
The longest of the control cables is attached to the right lever. The cable housing should be 3/8" from the control clamp.

Reinstall the control head.

Locate the deluxe heater inlet block off from the FA kit. Attach using original hardware.

NOTE: CHECK THE TEMPERATURE AND





Locate the Red / White Stripped Wire from the back of the blower switch and attach it to the original blower power wire.

The original power wire that was hooked to the original blower switch must be a minimum of 12 ga. And have an inline fuse with a minimum of 25 amp capability. It may be necessary to upgrade this wire assembly.

Attach wire harness to the thermostat. Route the blue clutch wire over the top and out the 1/2" hole.

Route wire harness across top of the evaporator and attach harness to the micro switch and the blower motor connection.

Route black wire to the kick panel and using (1) #10 tek screw ground it to the body.

**BLUE CLUTCH
WIRE →**

**MOTOR
PLUG**



**MICRO
SWITCH
PLUG**



DOOR CABLE**Vehicles equipped with STANDARD CONTROLS**

Attach the door control cable to the crank arm. Insert into the first hole from the center of the door shaft.

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

Vehicles equipped with DELUXE CONTROLS

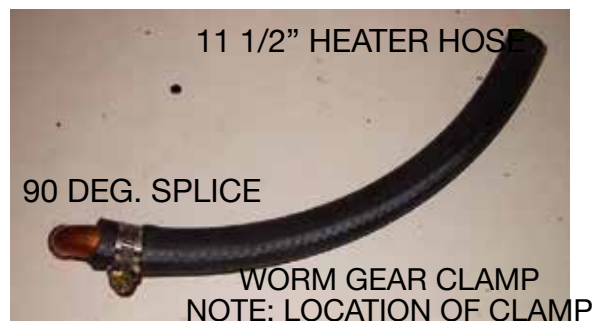
Attach the door control cable to the 4th hole from the center of the door shaft.

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

When routing the cables the temperature cable will route under the thermostat and up and over the top of the evaporator towards the blower.

The door cable will loop towards the driver and then back to the evaporator.

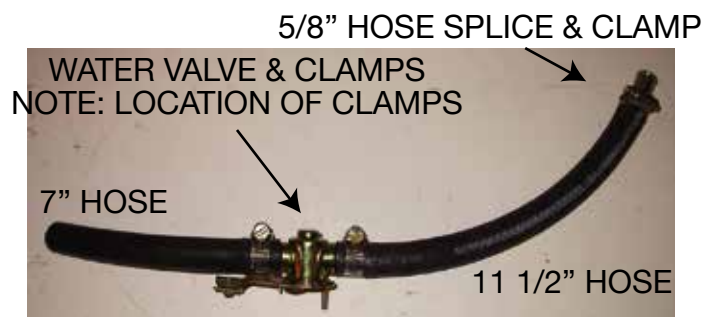
**TEMPERATURE
CABLE****DOOR CABLE**



Locate the heater hose, (1) 90 deg splice, and (1) worm gear clamp.

Assemble 11 1/2" of hose to the splice using the worm gear clamp.

Note location of the clamp.



Locate the heater hose and cut (1) piece 7", (1) piece 11 1/2" long, (3) worm gear clamps, (1) 5/8" hose splice and (1) water valve.

Assemble as shown. Be sure that the clamps are positioned as shown.



Attach the hose assembly without the water valve to the heater connection next to the firewall.

Attach using (1) #8 worm gear clamp.

Route towards the kick panel and insert 90 deg splice through the top hole.



Locate the temperature control cable and pull it out through the glove box opening. Attach the cable to the water valve. As shown.

Note: the cable housing will be in line with water valve stop tab.

Attach the hose assembly to the remaining heater connection using (1) #8 worm gear clamp.

Route the heater hose down and insert through the bottom hole in the firewall.

Attach the hose to the access panel using (1) #10 hose clamp and the original screw.

Locate the Liquid Hose assembly from the unit box.

Attach the straight end to the expansion valve using (1) #6 o-ring and a few drops of mineral oil.





The other end attaches to the bulkhead fitting on the firewall. Attach using (1) #6 o-ring and a few drops of mineral oil.



Locate the suction hose from the unit box.

Attach one of the ends to the coil using (1) #10 o-ring and a few drops of mineral oil.

Wrap all of the metal surface on the suction hose with refrigerant tape provided.



Attach the other end to the bulkhead on the firewall using (1) #10 o-ring and a few drops of mineral oil.



Attach the louver housings to the kick panels as shown.
Reinstall the ball louvers into the housings.

Locate the 2" dia. flex duct and cut off a piece 18" long. Attach to the right outlet on the evaporator assembly.

Route over and down to the passenger louver outlet. Ty-rap the hose to the suction line.



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.



Picture shows the 42" flex duct routed over to the drivers louver.

The picture is viewed from the drivers side of the steering column.

Locate Glove Box supplied and attach to opening using original hardware.

Reinstall original glove box door.

Do not install the left door stop.

Use original hardware.



CAUTION: The control cables are equipped with inline adjusters. Adjust the Defrost, Face / Heat door, and Water valve cable so that the full travel of the Control lever, operates the door to its full travel. Make sure that the water valve completely closes when the Lever 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 the 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 7.

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

THE VEHICLE SHOWN IS A STANDARD SHIFT, NO POWER STEERING. CHEVROLET 235 CID 6 cyl.



Remove Bulkhead support. Retain all of the original hardware.

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

CAUTION: IF VEHICLE IS EQUIPTED WITH A (4) BLADE FAN IT IS NECESSARY TO UPGRADE TO A (6) BLADE FAN.

Locate the following components from the under hood components box.

Condenser

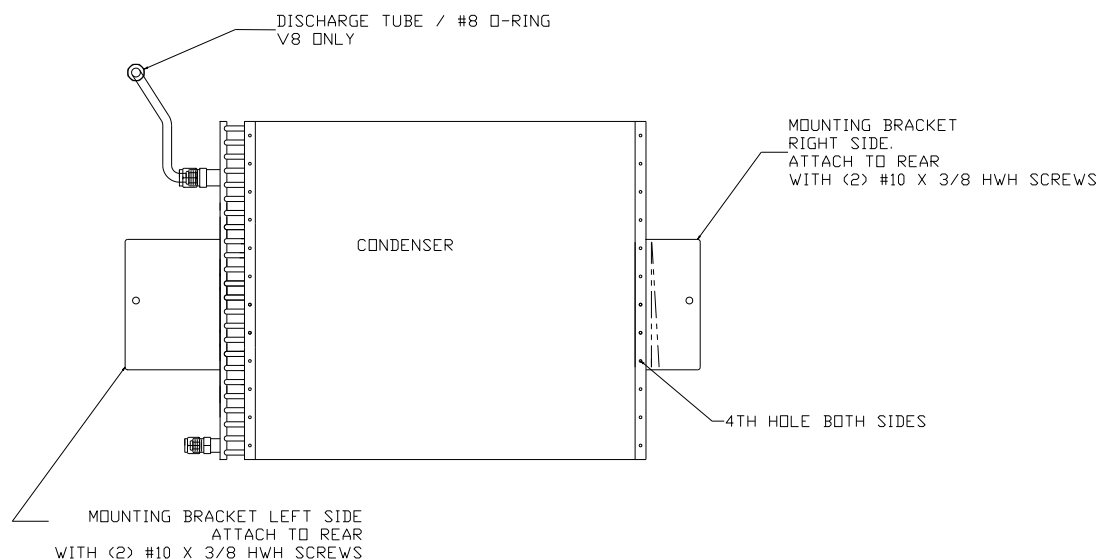
Discharge tube (V8 ONLY)

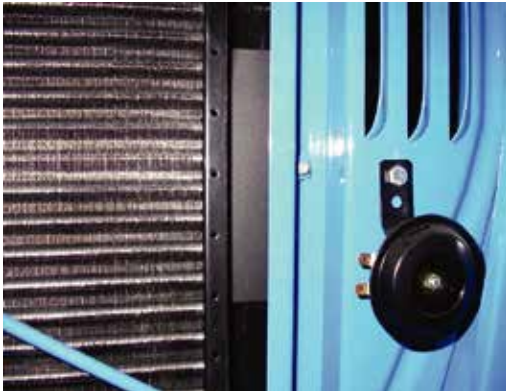
Right and Left condenser mounting brackets

(4) #10 x 3/8 hex washer head screws

Following the diagram below pre-assemble the above components. Be sure to use o-rings and place a few drops of mineral oil on every tube connection. Tighten the fitting and secure all attachment screws.

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





Reinstall the radiator and the fan shroud.
Attach with just the lower (2) bolts.

Holding the condenser assembly in place the middle bolts will go through the shroud, radiator and then through the condenser mounting brackets. The top (2) bolts can now be installed. Tighten all mounting bolts.



Locate the short Liquid hose and (1) hose grommet.

Carefully drill a 1 3/8" diameter hole just below the vent louvers. This hole will accept the hose grommet and will allow the liquid hose to pass into the fender well behind the tire.

Attach the 90 deg fitting to the lower condenser fitting using (1) #6 o-ring and a few drops of mineral oil. Tighten fitting.



Install grommet into drilled hole and insert the other end of the liquid hose inserts through the grommet.

Locate the Discharge Hose Assembly and attach the 90 deg end to the condenser connection. Use (1) #8 o-ring and a few drops of mineral oil.

Route the hose straight down and lay on the floor.



Locate the drier to the inner fender using the drier mounting bracket and (2) #10-32 x 1/2" screw and nuts.

Using the 45 deg fitting on the liquid hose locate the drier assembly. Attach to the fender using the #10 screws and nuts.

Attach pressure switch and electrical harness to the drier using a few drops of mineral oil.

Drill (2) holes (1) 7/8" dia and (1) 1/2" dia. the large hole is located on a dimple that is in the original inner fender. The small hole is just to the right of the big hole.

Locate the Suction Hose Assembly that was attached the firewall on page 5 and insert the bulkhead through the 7/8" hole. Insert 1/2" grommet in the small hole.

There are two white wires attached to the pressure switch route one of them through the wire grommet and one of them along the suction hose to the clutch wire coming through the firewall. Secure wires with ty-raps provided. The other wire routes along the suction hose and connects to the blue wire at the grommet on the firewall.



**PRESSURE SWITCH
ASSEMBLY**

**7/8 DIA HOLE FOR BULKHEAD
1/2 DIA HOLE FOR WIRE GROMMET**



Route the Liquid Hose Assembly along the suction hose attach the #6 fitting to the drier. Use (1) #6 o-ring and a few drops of mineral oil. Tighten both ends securely.

Locate the hose support bracket, (1) double hose clamp, (1) 5/16 nut, and (1) #10 x 1/2" screw and nut.

Attach the bracket to fender bolt. And the hose clamp over the hoses to the support bracket.

The heater hoses must be at least 7 ft long each.

As shown in the picture to the left, attach the heater hoses to the connections coming through the firewall using #10 worm gear clamps.

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

Route the heater hose down and around the inner fender.

Attach hoses to the fender using (3) double hose clamps, screws and nuts.

Route the hose along the bottom of the fender inside the engine compartment.





Route heater hose along the bottom of the inner fender, and up to the engine.

CAUTION: THE HOSE CONNECTED TO THE TOP FITTING ON THE FIREWALL MUST BE THE SUPPLY LINE FROM THE ENGINE.



VEHICLES WITH 6 CYL ENGINES:

Attach suction hose to the bulkhead fitting on the inner fender and route down and across the frame. The discharge hose will route along with the suction hose.

Attach to the frame using (2) double hose clamps provided.

Attach the service port ends to the compressor using o-rings and a few drops of mineral oil.

Route the white wire from the pressure switch along with the refrigerant hoses.





VEHICLES WITH V8 ENGINES:

Attach the discharge tube to the radiator bulkhead using (1) hose clamp and a #10 tek screw.

Locate the discharge hose assembly. Attach the 45 deg end to the discharge tube using (1) o-ring and few drops of mineral oil.

Locate the suction hose assembly. Attach the 45 deg end to the bulkhead on the fender.

Route towards the firewall and then curve over to the compressor. Attach fittings using (2) o-rings and a few drops of mineral oil.

Reinstall the Bulkhead support cover using the original hardware.

Reinstall the battery, and the battery box using original hardware.



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

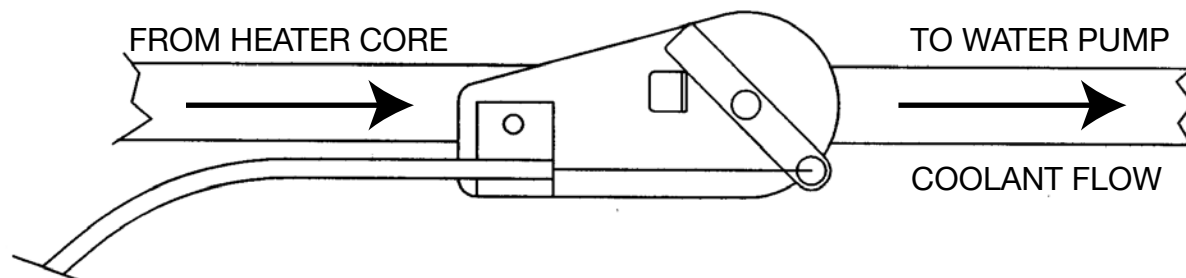
IMPORTANT

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

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!**

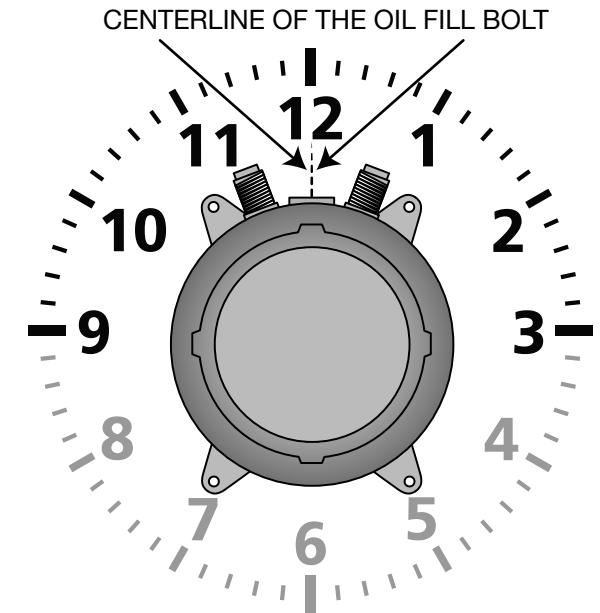
RECOMMENDED TEST CONDITIONS: (After system has been fully charged and tested for basic operation)

- 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

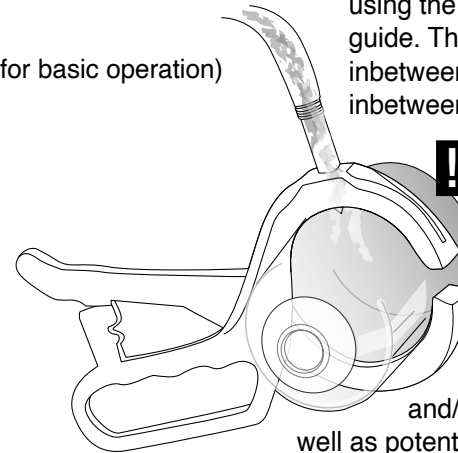
ACCEPTABLE OPERATING PRESSURE RANGES:

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



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

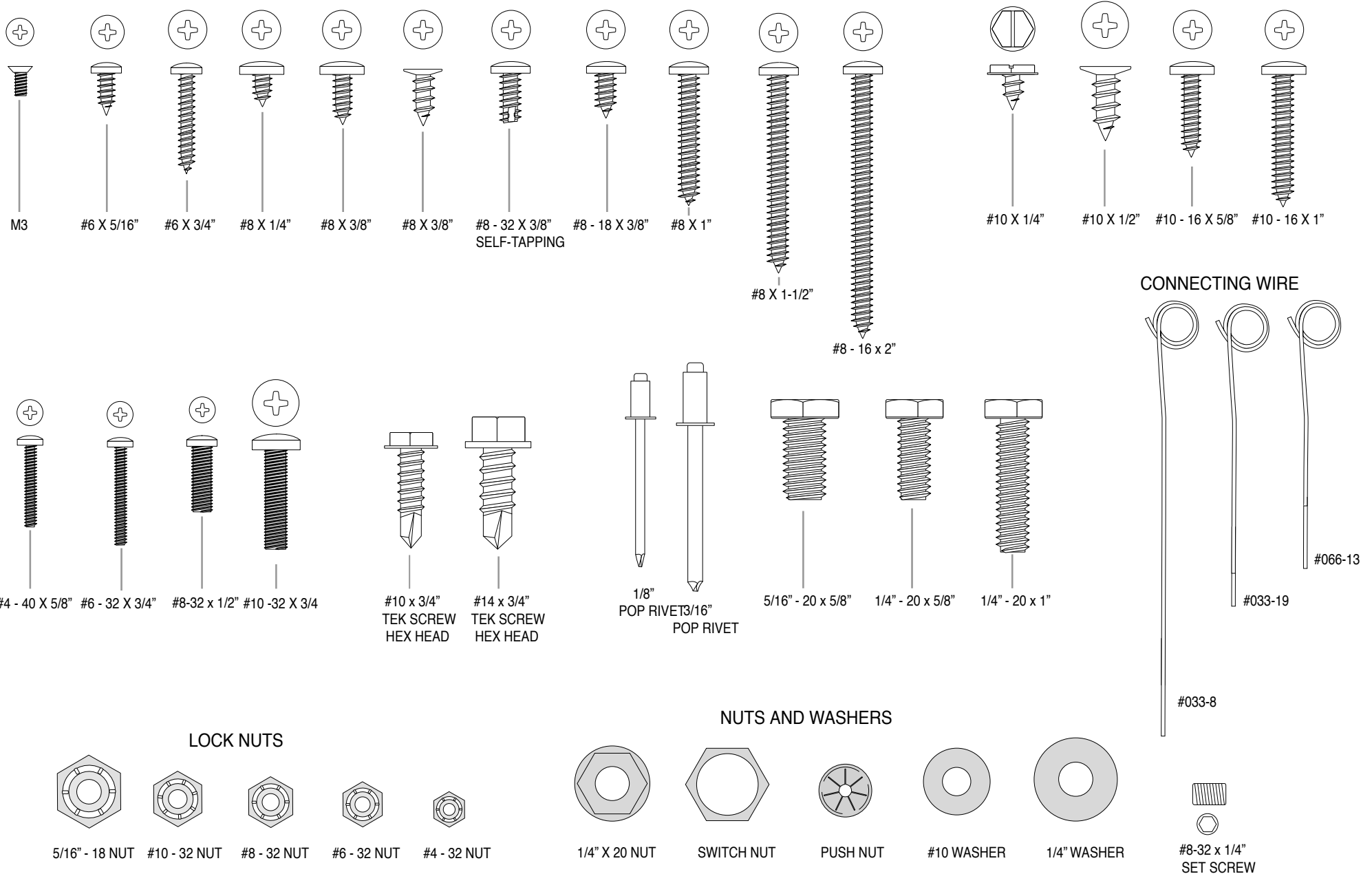
Get the technical support you want the moment you need it, with no wait times. Simply **SCAN** the **QR code** and be directly taken to our support section to troubleshoot all things A/C.



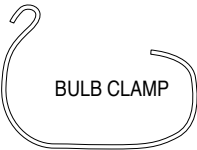
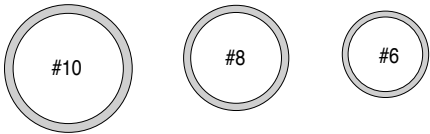


Classic Auto Air Hardware Reference Guide

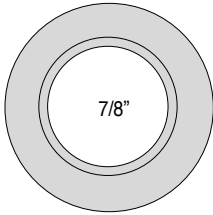
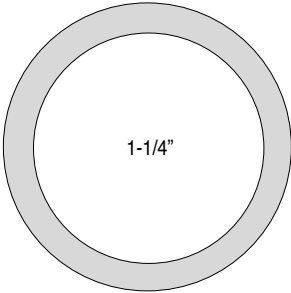
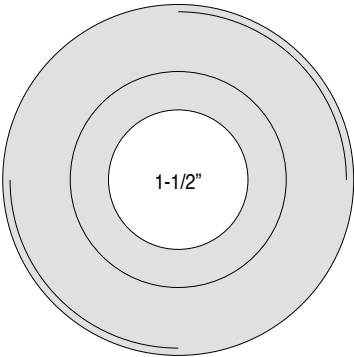
This is our basic line-up of hardware. No single kit will not contain all of these, but you can use this guide to match-up hardware for shape and size (all of these are actual size.)



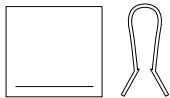
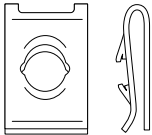
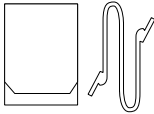
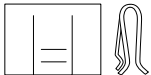
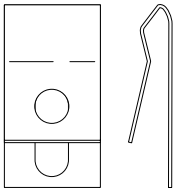
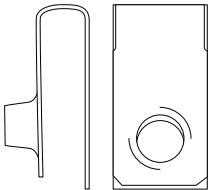
ORINGS



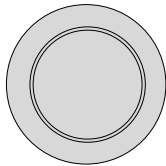
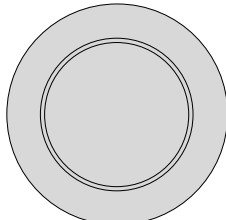
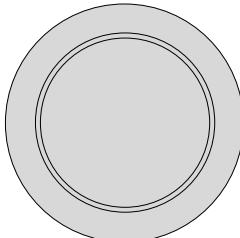
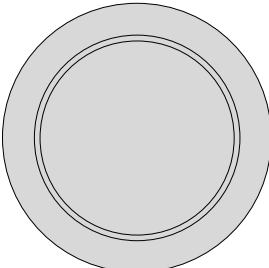
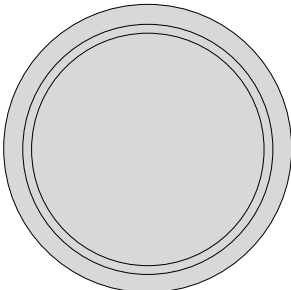
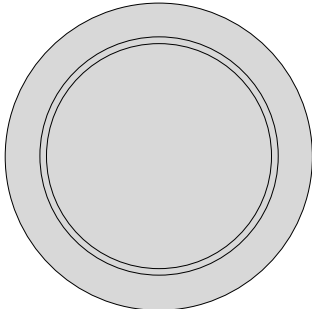
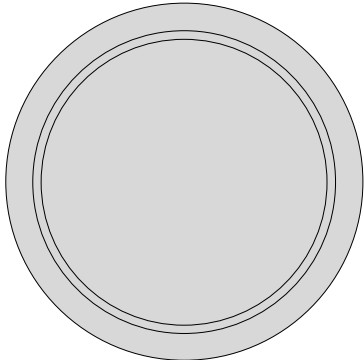
GROMMETS



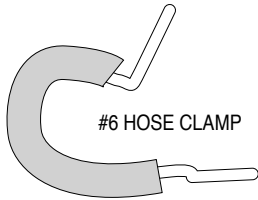
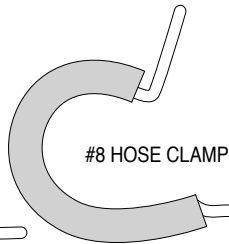
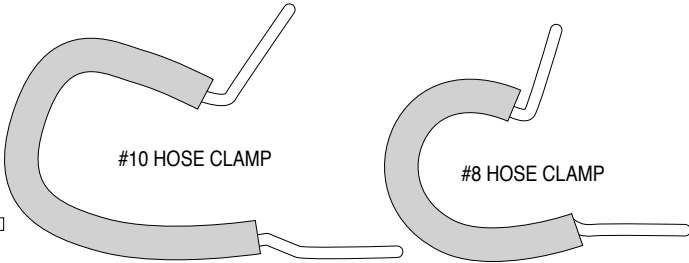
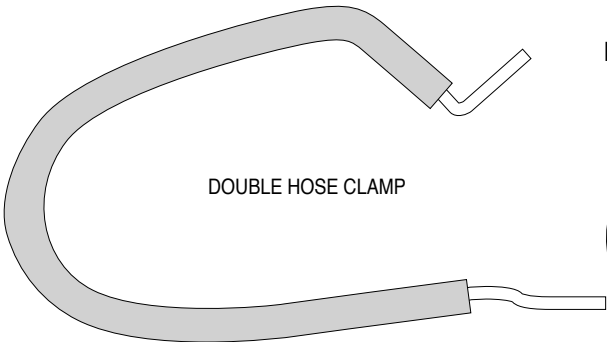
CLIPS



HOLE PLUGS



HOSE CLAMPS



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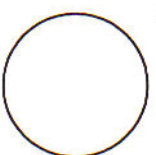


HOLE

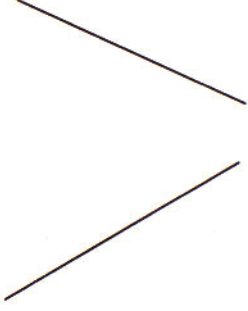
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ORIGINAL HOLE



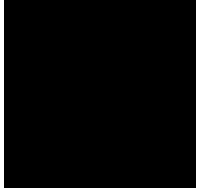
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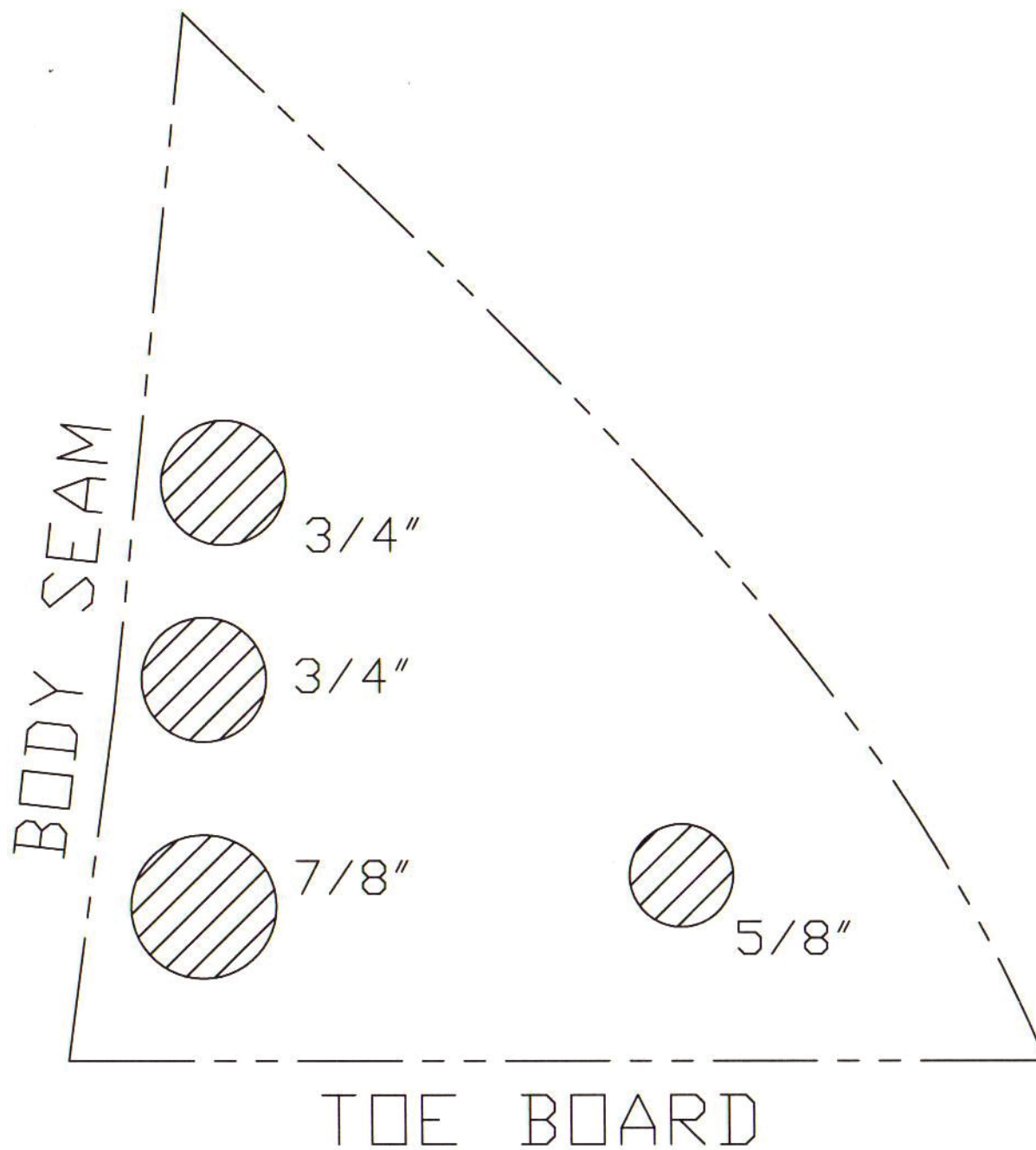
DRILL (4) HOLES

9

TEMPLATE FIREWALL



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