

# ***Installation Manual***

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***1965-66 CHEVROLET BEL AIR***  
***1965-66 CHEVROLET BISCAYNE***  
***1965-66 CHEVROLET CAPRICE***  
***1965-66 CHEVROLET IMPALA***

DOCUMENT #1-1043

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# ***Congratulations...***

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

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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

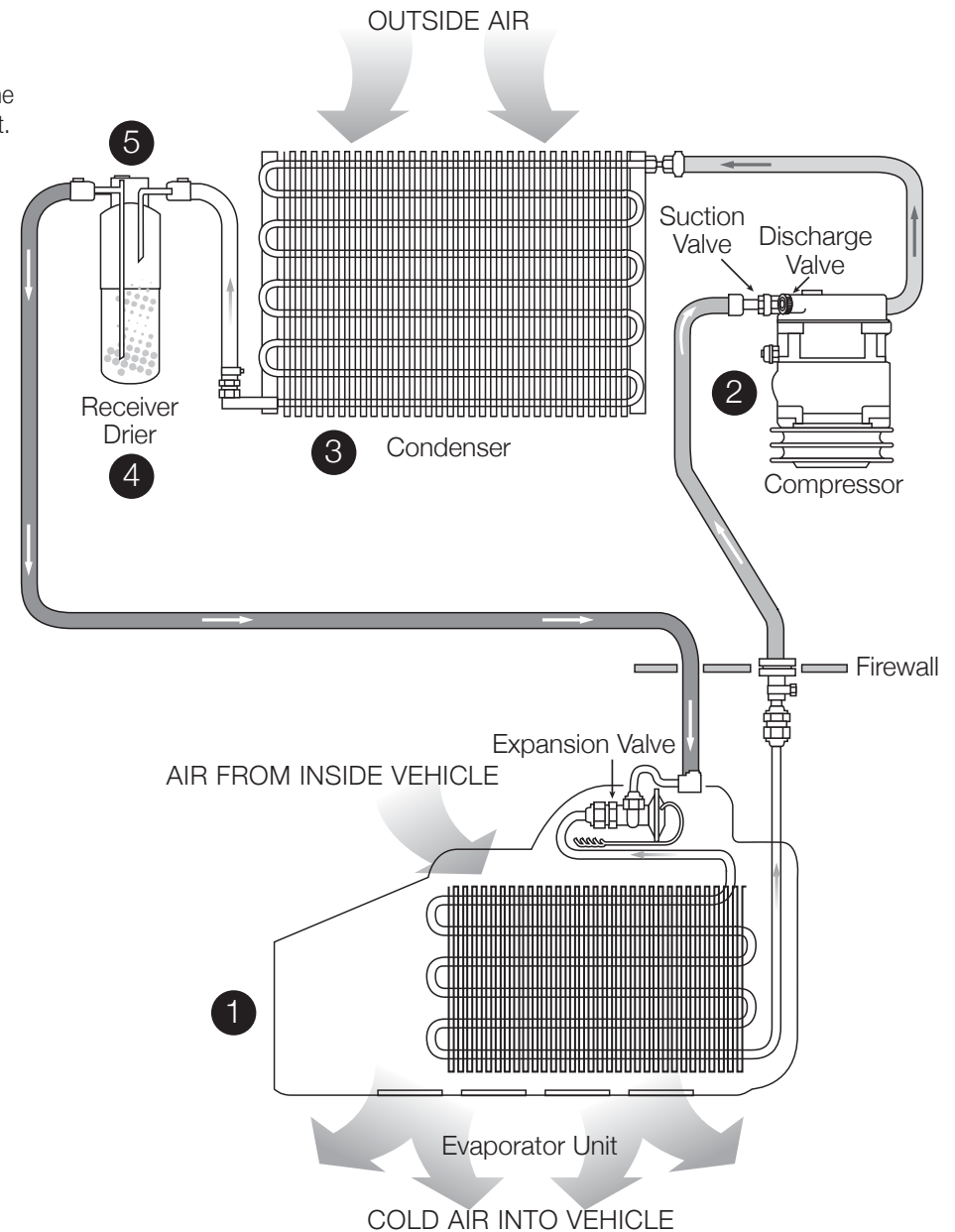
- ☐ Fittings: Use one or two drops of mineral oil (supplied with your kit) on ALL rubber o-rings, threads and where o-rings seat in fittings. Do not use thread tape or sealants.
- ☐ Measure twice (or more), cut once
- ☐ **Should you have any technical questions, or feel you have defective components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



**“PERFECT FIT SERIES”  
IN-DASH  
HEAT/ COOL/ DEFROST  
1965-66 CHEVROLET IMPALA  
WITH 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 DEHUMIDIFICATION in the defrost mode and the ability to blend the air between Face, Heat, and Defrost modes.



THE PICTURE YOU SEE SHOWS THE CONTROLS IN THE HEAT MODE. THIS MEANS THAT THE AIR WILL BE DISTRIBUTED THROUGH THE HEATER OUTLETS. THIS ALSO HAS THE TEMPERATURE LEVER IN THE COLDEST POSITION. WITH THE CONTROLS IN THIS POSITION YOU WILL GET THE AIR THROUGH THE HEATER OUTLETS AND THE OUTLET TEMPERATURE AT THE COLDEST POSSIBLE DEGREE.



CAUTION: ALL OF THE OUTSIDE VENTS MUST BE CLOSED WHEN THE SYSTEM IS IN THE A/C MODE. THIS WILL ALLOW THE A/C SYSTEM TO FUNCTION AT ITS MAXIMUM PERFORMANCE LEVEL.

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

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

FACE / DEFROST / HEAT DOOR CONTROL: When the Control Knob is pushed all the way to the RIGHT the air is distributed to the FACE outlets. In this position the compressor clutch is engaged. When the knob is pushed to the MIDDLE of the controls the air will go to the DEFROST outlets. In the Defrost position the compressor clutch is engaged for dehumidification. When the knob is pushed all the way to the LEFT the air will go to the FLOOR outlets. In the FLOOR position the compressor is not disengaged.

TEMPERATURE CONTROL: The Temperature Knob as shown is at the HOTTEST temperature position. As the lever is pushed to the LEFT temperature of the discharged air will FALL to the COLDEST point.

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



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

DRAIN RADIATOR AND DISCONNECT AND REMOVE THE BATTERY AND THE BATTERY BOX. RETAIN ORIGINAL HARDWARE.

In order to remove the heater assembly. It is necessary to remove the Blower Housing Assembly first. Carefully lift vehicle and place support stands under center of the vehicle as shown.



It is necessary to lower the inner fender well on the passenger side. Remove the passenger front tire. Remove and retain (9) bolts from around the inner fender. Lower the inner fender well to gain access to the (2) screws above and below the blower motor assembly.

Remove (7) screws around the perimeter of the Blower Housing. The (2) screws around blower motor can be accessed from below and between the fender well and fender. Remove blower assembly. Retain (2) screws around blower motor.







Attach block off behind the Hood Hinge assembly. Use the original hardware.

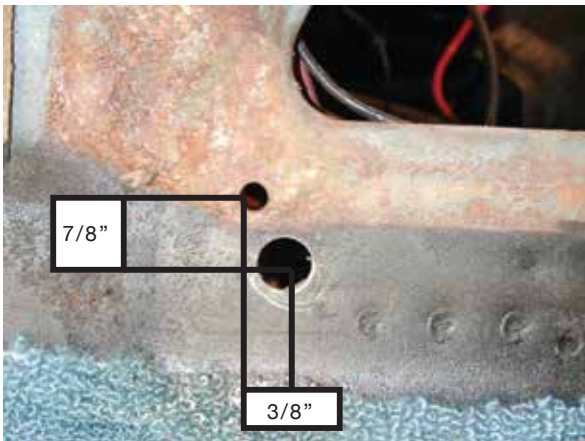


Reinstall Inner Fender Well using the original hardware. Reinstall front tire and remove the jack and stands.

Locate behind original control head the resistor connector, on heater box.

Disconnect the electrical connector. Remove heater assembly.

Locate behind dash and on firewall the hole that previously mounted the heater box. Drill (1)  $\frac{3}{4}$ " dia. hole for the drain tube as shown. Remove (2) screws located under the control head.





Remove control head and disconnect the electrical connector. Also disconnect (3) original control cables retain the original hardware.

Locate the original control assembly. Remove and discard the original blower switch. Discard all original hardware.

Locate Control Switch Drill Template from the installation instructions.

Locate to curved slot of the controls and align with the OEM hole as shown.

Mark and drill (2) holes 7/64" dia.

Locate the blower switch, (2) #6 x 3/8" pan head screws, (1) 3/16" push nut and connecting wire from the control sack kit.

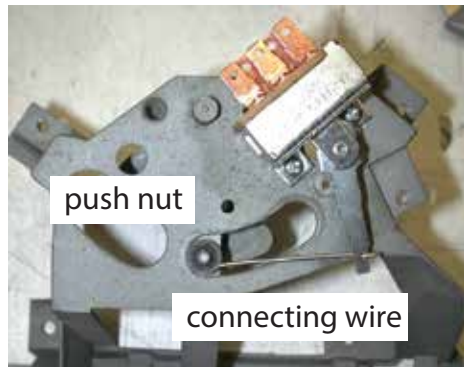
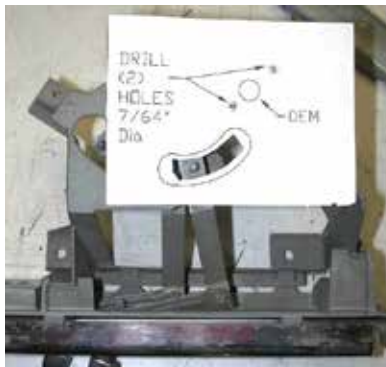
Attach control switch assembly and connecting wire to the original control head using (2) #6 x 3/8" pan head screws and (1) 3/16" push nut.

Locate wire harness from the control sack kit. Attach harness to blower switch according to the wiring diagram on next page.

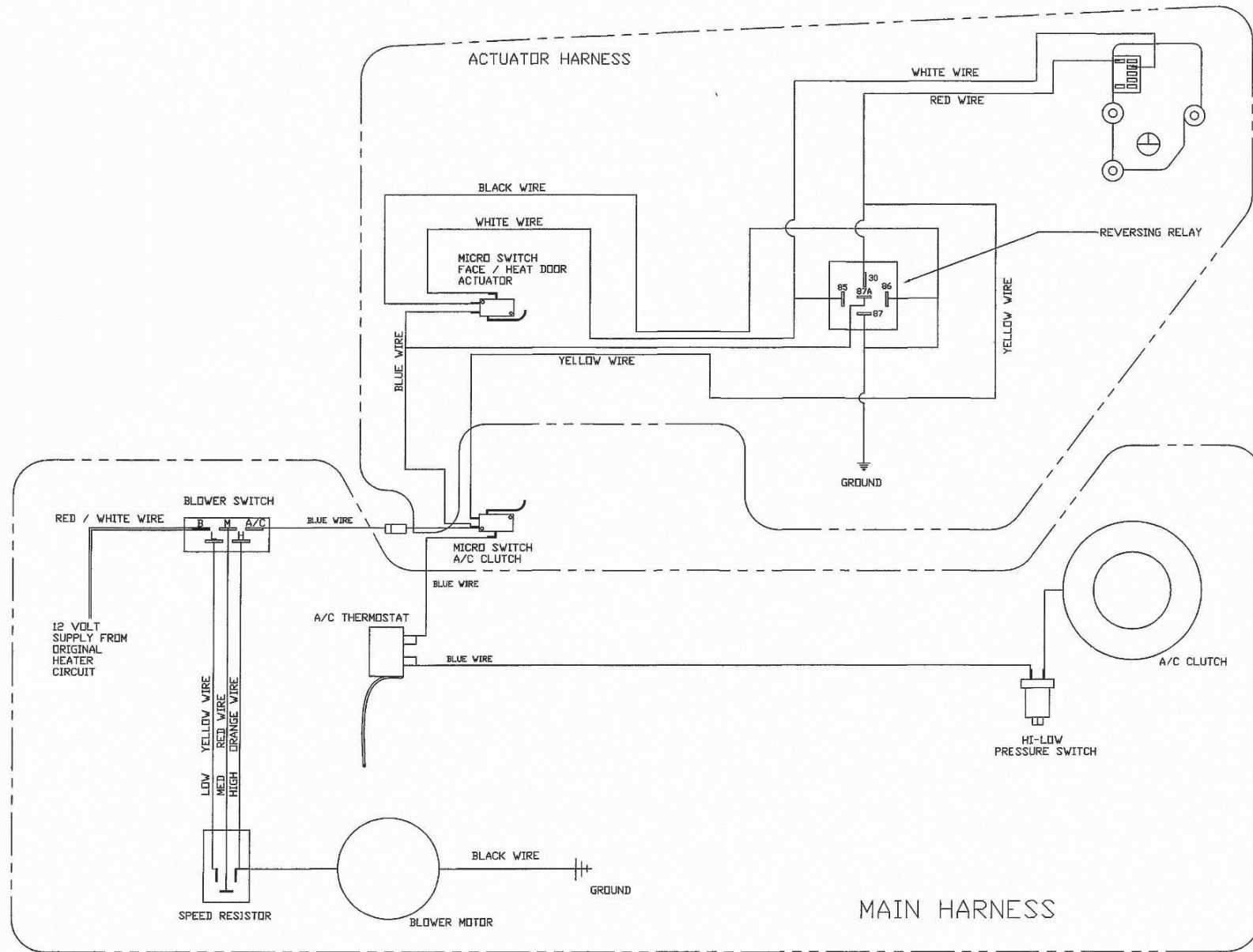
Locate in the control sack kit (1) SHORT control cable, (1) LONG Temperature control cable, (2) cable clips and (2) 3/16" push nuts.

Attach (longest) temperature control cable using original hardware to the CENTER control arm and (1) 3/16" push nut. NOTE: Cable sleeve is 1/16" from the lever arm.

Attach (shortest) Face / Heat cable to the BOTTOM control arm. Using (1) push nut, original screw and cable clip. NOTE: Cable sleeve is lined up with the cable clip.









Locate original wire harness that was attached to the blower switch. Cut the connector off. Attach (1) ¼" male spade connector to the brown wire.

Place control assembly on floor of the car.

Attach red / white striped wire from the blower switch to brown wire from the original harness. Insert light socket back into the control head. Reinstall control head using original hardware.



Drill hole for the temperature cable and clutch wire just to right of the firewall pad attachment plug.

Route the Temperature cable out through this hole.

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

Locate the evaporator, Air Distribution Duct assembly and (4) #10 x 5/8" pan head screws..

Place evaporator on the bench and attach Distribution assembly onto the evaporator using (4) #10 x 5/8" pan head screws.

Lift unit up and behind the glove box opening.







Be sure that defrost outlet from the new unit inserts into the original defrost diffuser.

Insert (1) upper rear Evaporator mounting stud through the original hole as shown. Attach using (1) 1/4" - 20 flange nut provided.

Locate in the hardware sack kit (2) #14 x 3/4" tek screws.

Attach blower support brace to the body using (2) #14 tek screws.

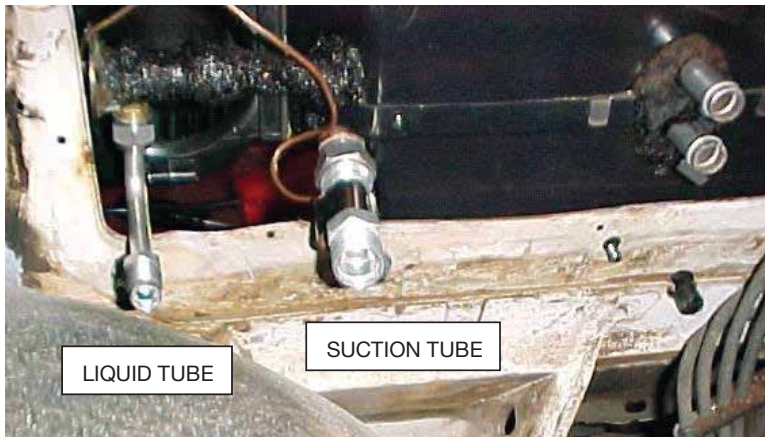
**CAUTION: BE SURE THAT THE EVAPORATOR IS LEVEL WITH THE BOTTOM OF THE DASH.**

Locate in the hardware sack kit the upper evaporator support bracket, (1) #10 x 5/8" pan head screw and (1) #14 x 3/4 tek screw.

Pre drill 1/8" dia hole in the evaporator and attach bracket using (1) #10 pan head screw.

Attach the top of bracket using (1) #14 x 3/4" Tek screw.





Locate in the hardware sack kit the following components.

- |                |                  |                    |
|----------------|------------------|--------------------|
| · Suction Tube | · (1)#6 o-ring   | · TXV Bulb Clamp   |
| · Liquid Tube  | · (1) #10 o-ring | · Refrigerant Tape |

Install the liquid line onto Expansion (TXV) valve as shown. Use #6 o-ring and (2) drops of mineral oil on the o-ring and tighten securely. Install the Suction Tube on outlet to the unit as shown. Use #10 o-ring and (2) drops of mineral oil on the o-ring and tighten securely.

Locate Sensing Coil attached to the TXV and utilizing Bulb Clamp, attach to the Suction Tube.

**CAUTION: THE SYSTEM WILL NOT FUNCTION PROPERLY IF THE SENSING COIL IS NOT CLAMPED IN THE CORRECT POSITION. SEE PICTURE.**

Wrap Suction Tube and Sensing Coil with the refrigerant tape provided. Be sure that all of the exposed metal is covered.

Locate the Firewall Block Off plate, and (6) #10 x  $\frac{3}{4}$ " hex head tek screws. On engine side of firewall attach over hookup tubes from the evaporator using (6) #10 Tek screws.

Using refrigerant tape seal around tubes at the firewall block off plate.





Route main harness across front of unit to the resistor and blower motor. Route blue clutch wire over evaporator and out through hole along with the temp cable. Secure ground from the blower motor using (1) #10 x 3/4 " hex head Tek screw. Also secure ground wire from servo motor to the center brace using (1) #10 tek screw.



REFER TO THE WIRING DRAWING FOR PROPER CONNECTIONS.

Hang wire harness on the clips

Attach (2) blue wires to the micro-switch and blue pig tail located next to the face / heat door crank arm. Refer to wiring diagram for correct connections.

Attach Face / Heat cable to door on side of the center duct assembly using (1) #8 screw.

Locate cable wire in the 3rd hole from the pivot of the crank arm.



Locate in the hardware sack kit the (4) remote louver assemblies, and the #10 x 3/4" hex head tek screws.

Mount the (2) remote louver assemblies with 2.5" dia flex hose desired location of center dash.



Mount the (2) remote louver assemblies with 2" dia flex hose desired location of Driver side and Passenger side of dash.





Locate Glove Box provided in the kit and install using original hardware. Install (3) screws through the door. Install (2) screws in the 2 sides. Top of the glove box requires only (1) screw.

Reinstall glove box door. Attach using original hardware.

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

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



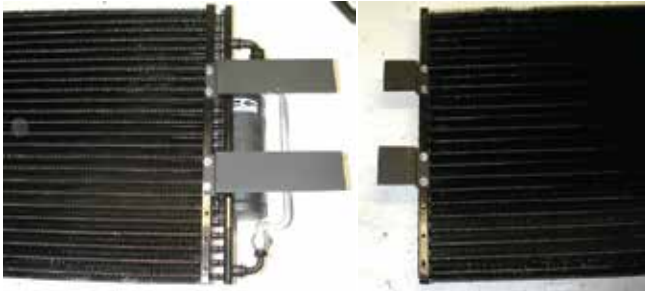
**INSTALL THE COMPRESSOR ADAPTER KIT AND COMPRESSOR AT THIS TIME PER THE MANUFACTURERS DIRECTIONS.**

Remove fan shroud.

Locate Filter / Drier, Drier Mounting Bracket, Aluminum Liquid tube, (2) #6 o-rings, and (2) #10 x 3/8" hex head screws.

Install filter drier to the condenser in fifth hole from bottom as to allow the Liquid Tube to attach as shown.

Install a few drops of mineral oil to the o-ring fittings, and secure.



Locate the Condenser, (2) left condenser mounting brackets and (4) #10 x 3/8" hex head screws.

Attach brackets to the condenser. The top bracket in 4 hole from the top as shown. Attach lower left condenser bracket to condenser on fifth hole from the bottom.

Locate the Condenser, (2) right condenser mounting brackets, and (4) #10 x 3/8" hex head screws.

Attach bracket to condenser in 4th hole from the top as shown.

Lower bracket attach to 5th hole from the bottom.

Remove the hood latch assembly retain original hardware. Also loosen (6) radiator mounting bolts.

Carefully insert Condenser Assembly through the Radiator Mounting Bulkhead as shown.

The (4) condenser mounting brackets are clamped between the radiator and its mating bulkhead.

Tighten the radiator mounting bolts.





Locate the Discharge Tube and (1) #8 o-ring. Attach tube to fitting on the condenser. Do not tighten.

Rotate lower fitting up to the radiator bulkhead. Locate and drill (1) hole 13/16" diameter.

Insert bulkhead fitting through the hole and tighten both fittings securely.

Locate liquid tube, Hi / Low pressure switch assembly, wire harness, (1) #6 o-ring, tube support bracket, # 6 tube clamp, (1) #8 x 3/8" screw and (1) #8-32 x 3/8 screw and nut.

Attach Hi / Low switch assembly to drier outlet from the filter / drier using (1) #6 o-ring and a few drops of mineral oil.

Attach wire harness to the pressure switch and route wires along the liquid tube.





Route Liquid Tube Assembly across and behind head light assembly and back facing rear of the car.

Locate the support bracket and screws. Attach to the bulkhead brace as shown.

Locate the liquid hose and (2) o-rings.

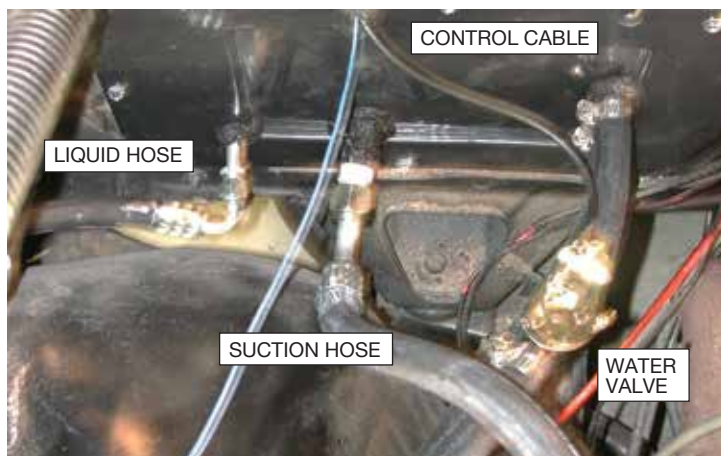
Attach straight fitting to tube from the drier. Route between inner fender well and fender up to fitting at the firewall. Attach both fittings using (1) #6 o-ring and a few drops of mineral oil.



Locate the Discharge Hose and (2) #8 o-rings.

Attach discharge hose to lower fitting below battery and 90deg end with service port to the compressor using (2) #8 o-rings and a few drops of mineral oil.

Locate the Suction Hose and (2) #10 o-rings. Attach suction hose end with the service port to the compressor. The other end to fitting at the firewall. Use (2) #10 o-rings and a few drops of mineral oil for each fitting.



Locate the water valve and (3) worm gear clamps from the hardware sack kit. Cut 6" of heater hose from the RETURN HOSE. Attach this piece to top fitting at the firewall. The water valve is installed on the other end of the 6" piece. Attach supply line from the engine to the bottom hose connection. Set control lever in the Cold position and be sure that the water valve is closed.

Locate insulation tape and seal around cable at firewall.

Reinstall battery, battery box, and fan shroud 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**

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

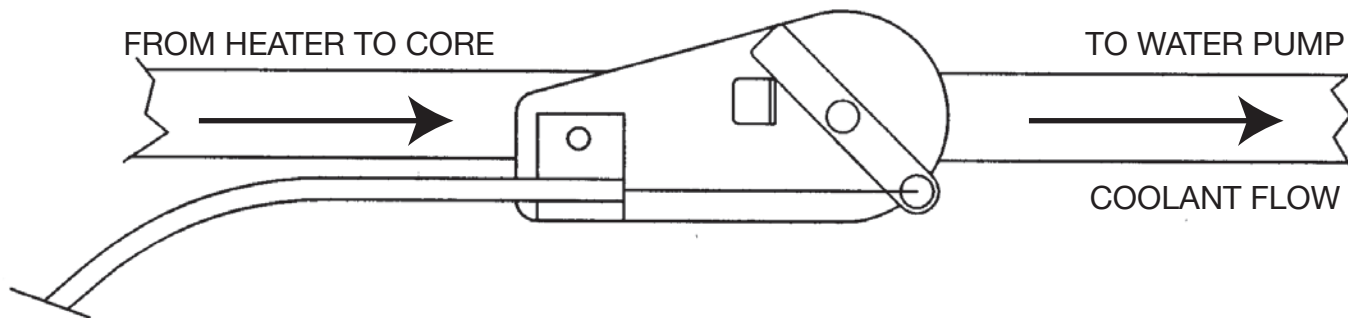
## IMPORTANT!

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**

# 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!**

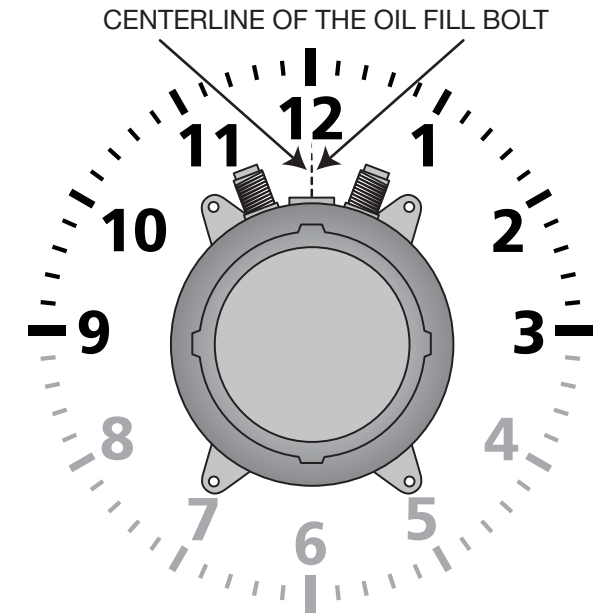
**RECOMMENDED TEST CONDITIONS:** (After system has been fully charged and tested for basic operation)

- 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

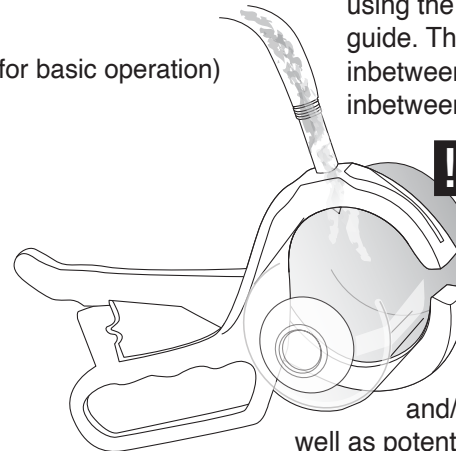
**ACCEPTABLE OPERATING PRESSURE RANGES:**

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

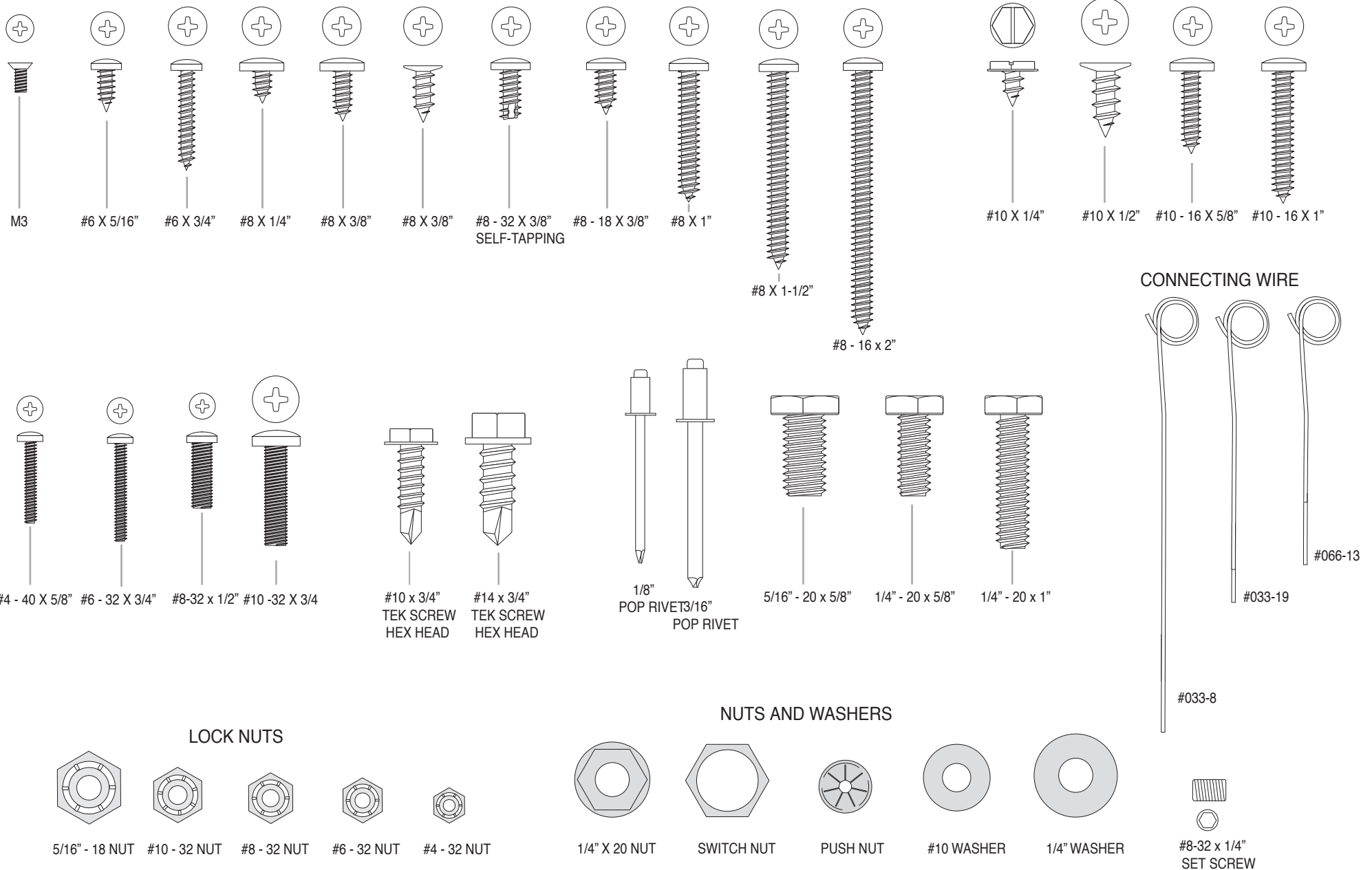
Get the technical support you want the moment you need it, with no wait times. Simply **SCAN** the **QR code** and be directly taken to our support section to troubleshoot all things A/C.



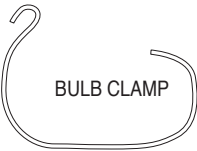
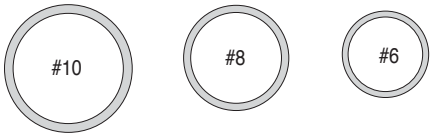


## Classic Auto Air Hardware Reference Guide

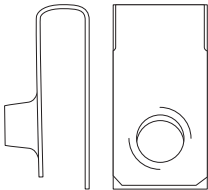
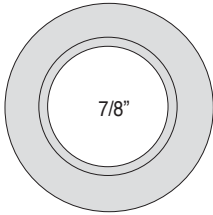
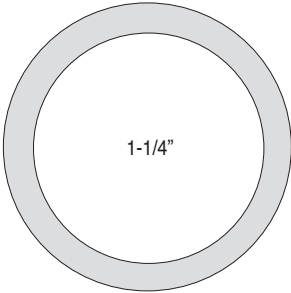
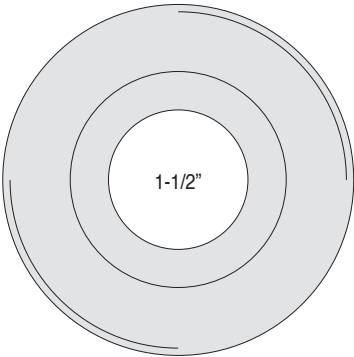
This is our basic line-up of hardware. No single kit will not contain all of these, but you can use this guide to match-up hardware for shape and size (all of these are actual size.)



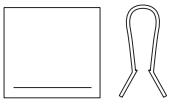
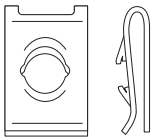
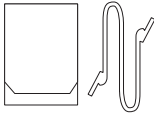
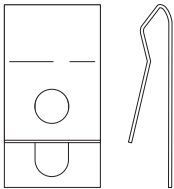
ORINGS



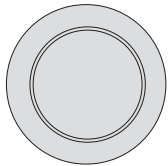
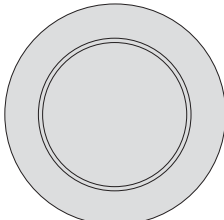
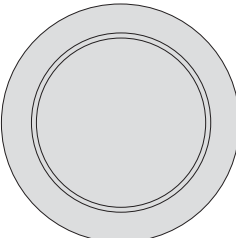
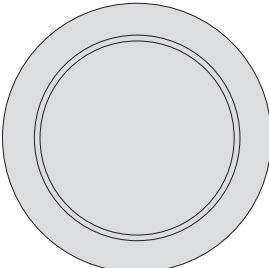
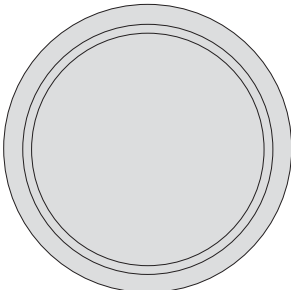
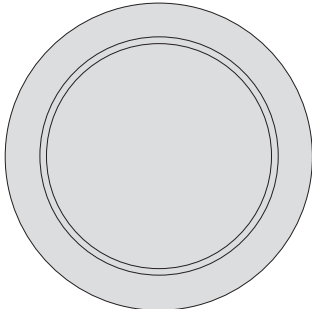
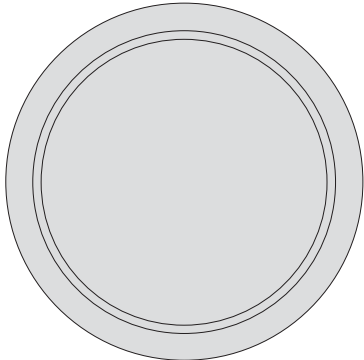
GROMMETS



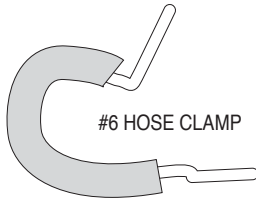
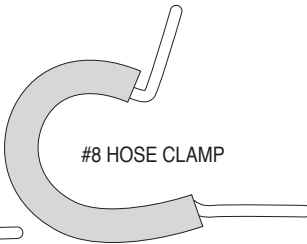
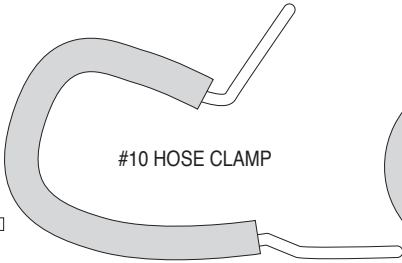
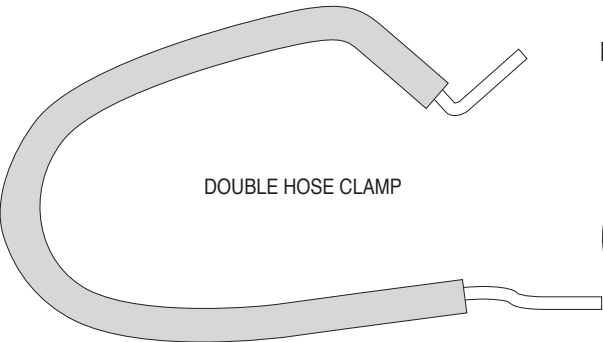
CLIPS



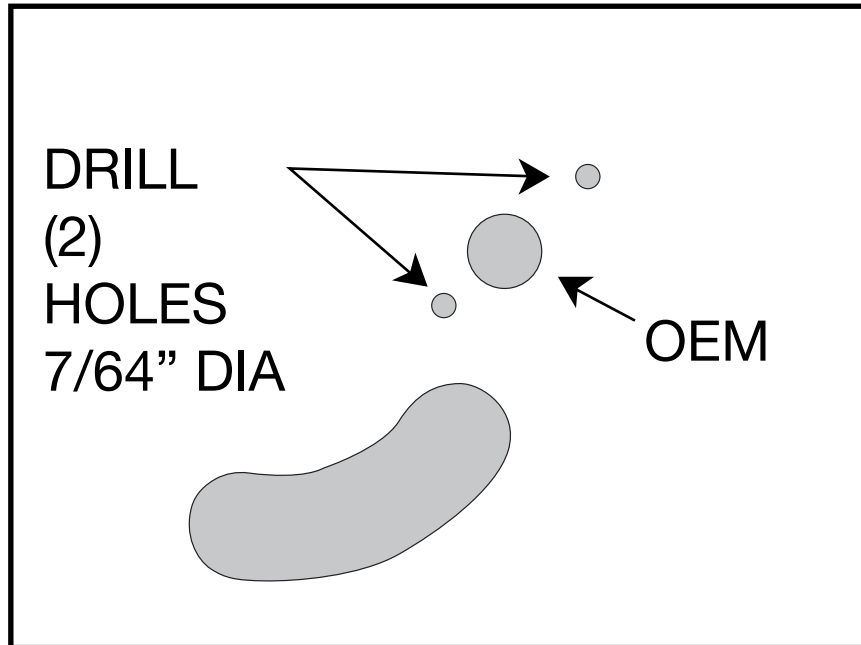
HOLE PLUGS



HOSE CLAMPS







## SWITCH LOCATION TEMPLATE 1965 CHEVROLET IMPALA

IF YOU PRINTED THIS MANUAL  
PLEASE READ THIS...

Just as a cautionary step, please  
measure this box and make sure it  
is 1" x 1". Some copiers/printers  
may not print at 100% of actual size.

