

Installation Manual

1964 - 1966 Chevrolet Pickup

DOCUMENT #1-1032

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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 Truck. 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

Flex Hose 2"dia x 1ft – 1 ea.

Flex Hose 2"dia x 2ft – 3 ea.

Flex Hose 2"dia. x 3ft. – 1ea.

Flex Hose 2"dia. x 4ft. – 1ea.

Sack Kit Hardware

Kit Control

Glove Box

Firewall Block Off (2)



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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

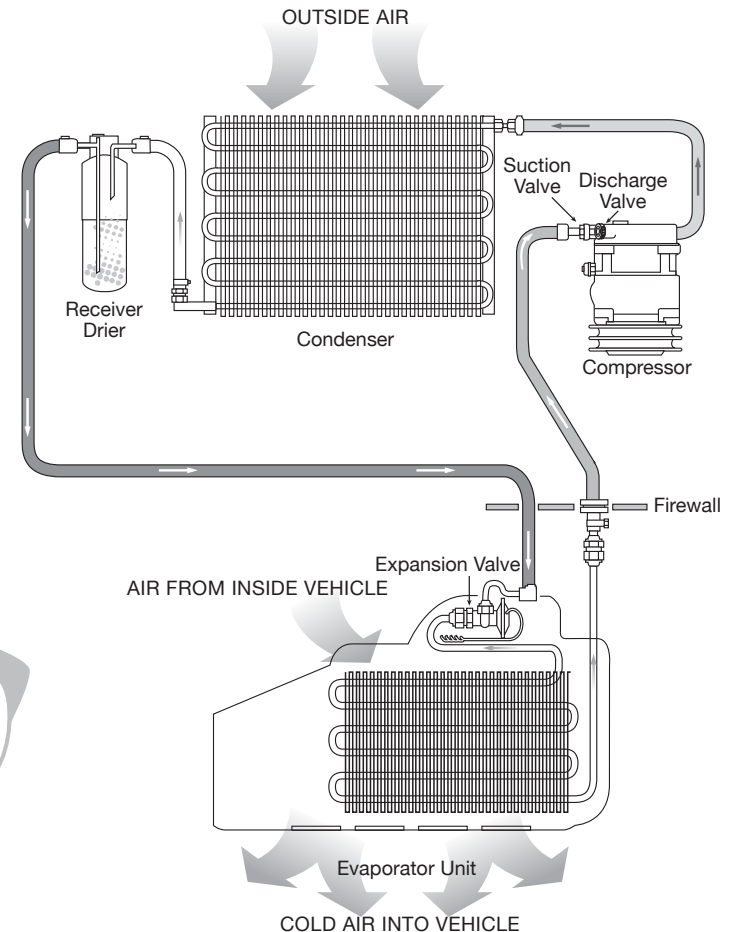
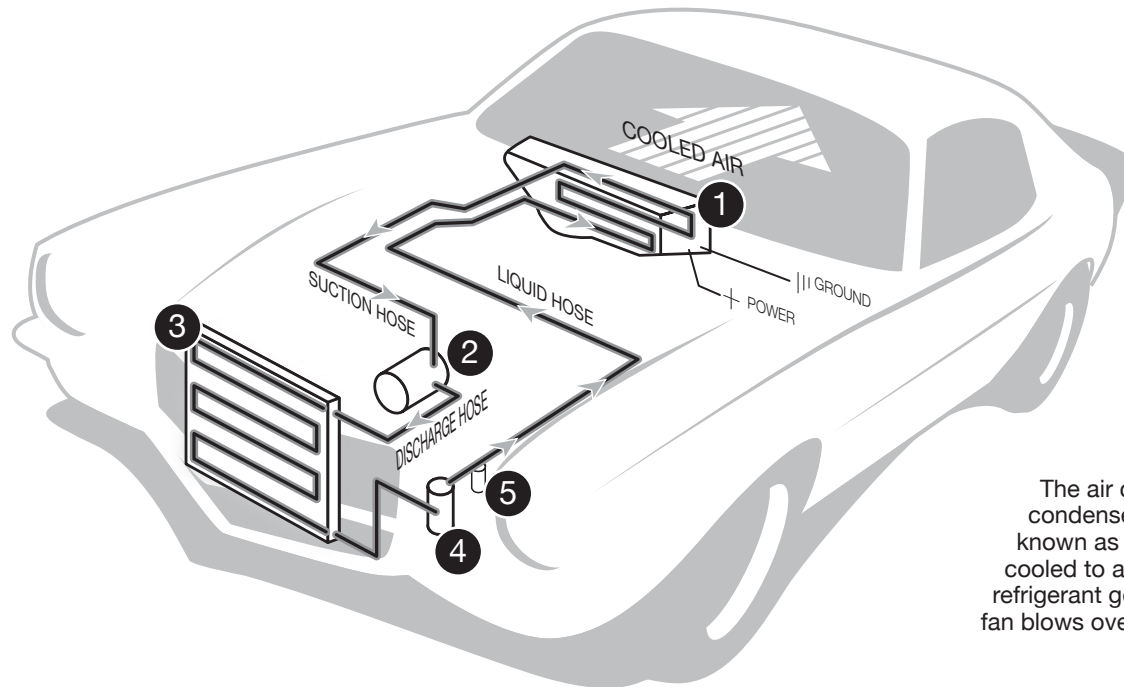
Procedures, During Installation:

- ☐ 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”
IN-DASH
HEAT/ COOL/ DEFROST
1964 - 1966 CHEVROLET PICKUP
STANDARD 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.



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

“PERFECT FIT”
IN-DASH
HEAT/ COOL/ DEFROST
1964 - 1966 CHEVROLET PICKUP
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.

And the ability to blend air between Face and Heat / Defrost modes.

MODE DOOR LEVER



TEMPERATURE LEVER

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



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

THE FOLLOWING SUMMARY WILL DESCRIBE EACH OF THE CONTROL LEVERS FUNCTION FOR STANDARD CONTROLS.

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

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

TEMPERATURE CONTROL: The temperature Knob as shown is in the COLDEST temperature position. As the lever is pulled out the temperature of the discharged air will rise to the HOTTEST point.

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

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

When the Mode control knob is pushed all the way IN the Air Conditioning is activated the compressor clutch is on. When the compressor is activated the Temperature Lever will control the air from maximum cold through maximum heat.

THE FOLLOWING SUMMARY WILL DESCRIBE EACH OF THE CONTROL LEVERS FUNCTION FOR DELUXE CONTROLS.

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

FACE AND FLOOR / DEFROST MODE: When the Control Lever is in the upper position it will direct the air to the FACE LOUVERS. When the lever is pushed all the way down the air will be distributed to the HEAT and DEFROST ducts. The cable can be moved any position from top to bottom. This will give blend between all distribution outlets.

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

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

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

When the Mode control lever is in the top position the Air Conditioning is activated the compressor clutch is on. When the compressor is activated the Temperature Lever will control the air from maximum cold through maximum heat.

YOU CAN NOW BEGIN THE INSTALLATION
CAUTION: DISCONNECT BATTERY GROUND CABLE



Remove Glove box door and glove box. Retain glove box door and it's original hardware. Discard the glove box housing.

Under the glove box opening locate defrost / floor distribution box. Remove (3) screws around the housing flange. Remove (2) control cables. One cable is attached to the floor / defrost door. One cable is attached to the air shutoff door.

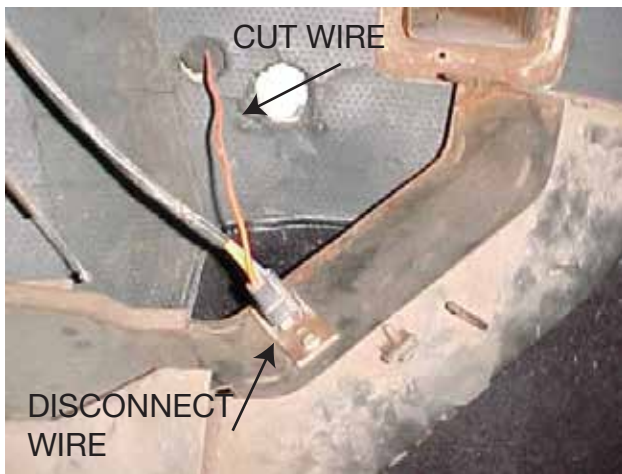
On left side of the housing remove and discard the support screw.



AIR SHUTOFF DOOR
CABLE ATTACHMENT



DEFROST / FLOOR DOOR
CABLE ATTACHMENT



Rotate the housing.

Located on the back is a speed control resistor, disconnect wire connector. Cut the wire that goes through firewall and connects to original heater motor.

Remove and discard housing.

Locate (2) nuts above the blower outlet. Remove and discard.

Drain radiator and then remove heater hoses from the heater connections. Also remove (5) screws that attach heater assembly to the firewall.

Discard the original heater assembly and retain original hardware.





5 SCREWS REMOVE AND RETAIN

NOTE: THE 5TH SCREW IS ON THE LEFT SIDE OF THE HEATER BOX.

Remove and discard original Switch / Cable assembly. Retain switch trim bezel.

Locate on the back of the cover plate. (4) mounting tabs. Straighten these tabs and remove and retain the cover plate.

Set aside the cover plate for later modifications and reinstallation. Discard the original Switch Assembly..

If truck is equipped with deluxe heater remove the control head. Retain original mounting hardware and cable clips.

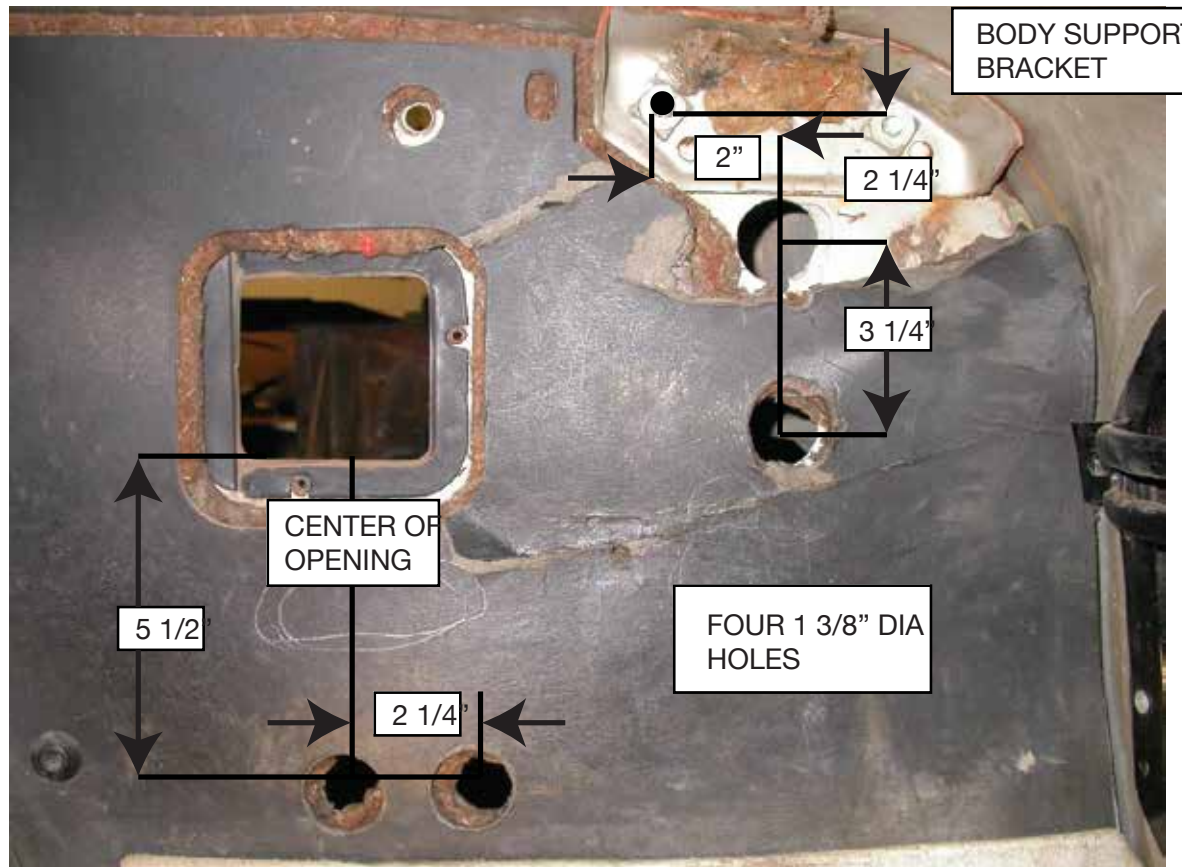


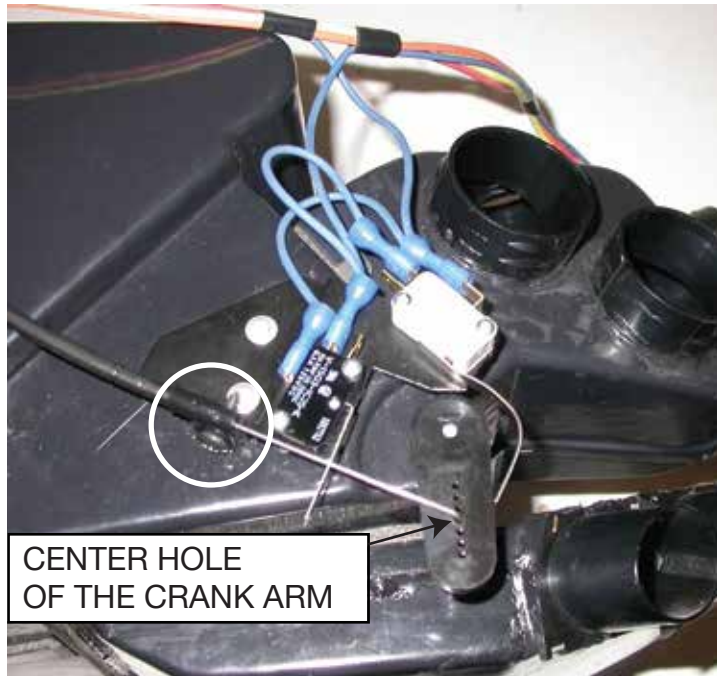


When removing control head disconnect electrical plug at blower switch. Cut Brown wire off back of the connector housing as shown.

Discard original wire harness.

Behind glove box opening the following modifications to the firewall are required. Hole locations are for the heater and air conditioning hoses. Carefully lay out as shown. Cut (4) 1 3/8" holes using a good quality hole saw.





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

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

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

For trucks with deluxe controls use cable clip supplied in kit.

Locate wire harness from the control sack kit. Attach (4) blue wires to the micro switches in parallel. Refer to the wiring diagram.

Attach resistor plug to the resistor by the motor. Attach (2) blue wires to thermostat and the 2 pin blower connector to blower motor.

Locate the defrost / heat duct assembly from the unit box, and (2) #10 x 5/8" pan head screws.

Attach the duct to back of the evaporator through the metal u-clips.

Carefully slide Evaporator into position behind glove box opening.

Allow approximately 1/8" between top of the Evaporator and the body.

Line the edge of the mounting bracket to the edge of the indentation in the body.

LINE UP THE BRACKET TO THE
EDGE OF THE INDENTATION IN THE BODY.



Locate in the Hardware Sack Kit (2) #14 x $\frac{3}{4}$ " Hex Head Tek Screws. Attach the evaporator to the body.

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

Locate on the Evaporator the bracket to the right and under the blower motor as shown.

Drill $\frac{9}{32}$ " Dia. hole through bracket, insulation and the floor.

Locate from the hardware sack kit (1) $\frac{1}{4}$ - 20 x 1" hex head screw and (1) $\frac{1}{4}$ - 20 flange nut. Insert the screw through the drilled hole and Attach nut from behind the passenger front tire. Tighten securely.

Locate the support bracket, (1) #10 x $\frac{3}{4}$ " tek screw, and (2) #8 x $\frac{3}{8}$ " pan head screws from the hardware sack kit.

Attach bracket to firewall using the #10 screw.

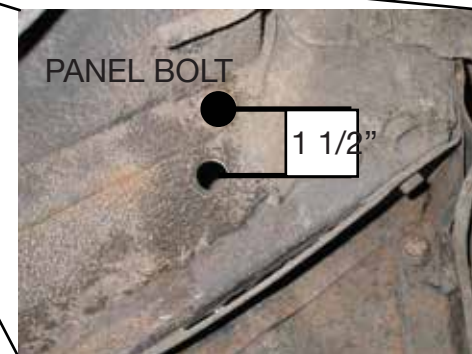
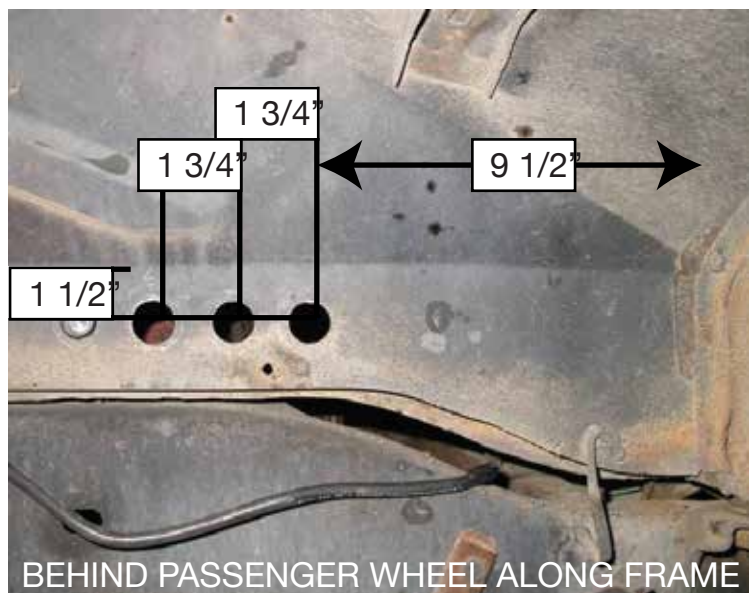
Attach to bottom of the unit using (2) #8 screws.



Remove the front passenger wheel.

Locate and drill (3) $\frac{7}{8}$ " diameter holes in the inner fender panel as shown in picture to the right.

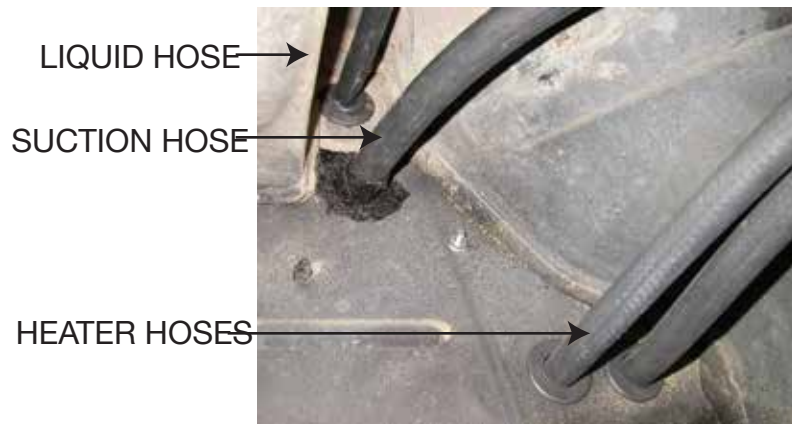
The $9\frac{1}{2}$ " dimension is located at the junction of fender panel and radiator bulkhead panel.





Locate (3) hole grommets from the hardware sack kit.

Install grommets into the previously drilled holes in firewall. Leave the one hole without a grommet.



Locate the 42" long liquid hose (smallest diameter) with the 90 deg and the 45 deg fittings.

From the inner fender insert the 90 deg end through top hole with the grommet. And attach to the expansion valve using (1) #6 o-ring and a few drops of mineral oil.

Route blue clutch wire from thermostat through the grommet as shown.



Locate the suction hose.

Insert 90 deg fitting end of hose from the inner fender and attach to evaporator coil as shown. Use a #10 o-ring and a few drops of mineral oil.

Locate (1) #8 worm gear clamp and carefully attach sensing bulb from the expansion valve to metal on the suction fitting.

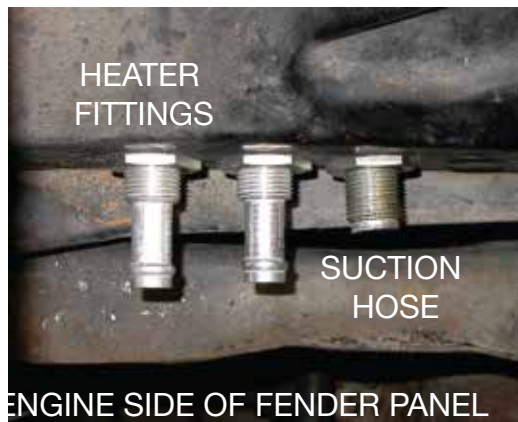
Be sure that the sensing bulb is off set from the bottom of the tube as shown in the picture.

Locate in the hardware sack kit the refrigerant tape. And wrap all exposed metal surfaces to prevent condensation.

Also seal the hose to the firewall using refrigerant tape.

Locate (2) heater hose bulkhead fittings from the hardware sack kit.

Insert though the front (2) 7/8" dia holes previously drilled and attach using the nuts provided.



ENGINE SIDE OF FENDER PANEL



WHEEL SIDE FENDER PANEL



Locate (2) 40" pieces of heater hose and (2) #8 worm gear clamps from the unit box. Attach hoses to bulkhead fittings using the worm gear clamps.

Route heater hoses across to the firewall and insert through lower (2) grommets into interior of the truck.

Route heater hoses up and attach to heater tubes on back of the evaporator using (2) #8 worm gear clamps.

Access clamps through hole in the firewall.

Locate the firewall block off and air inlet block off from the unit box.

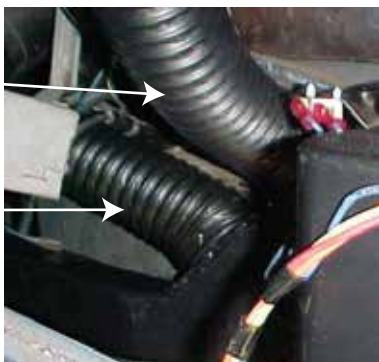
Attach over the holes using (3) #10 x $\frac{3}{4}$ " tek screws on the firewall block off, and #14 x $\frac{3}{4}$ " tek screws on the air inlet block off.

ATTACH HOSE TO
ADAPTOR WITH
#10 X 5/8 SCREWS



12" X 2" DIA
FLEX HOSE

18" X 2" DIA
FLEX HOSE



Locate and drill (1) hole 11/16" diameter to the left and slightly down from the drain nipple on bottom of the evaporator.

Locate drain tube from the hardware sack kit and attach to drain nipple and then insert through the hole.

Locate in the hardware sack kit (2) 2" x 2 1/2" Defrost Hose adaptors and install over the original Defrost outlets.

Locate in the kit (1) piece of 2" dia. x 3ft. of flex hose.

Cut off (1) piece 12" long and install it between the right hose adaptor on the defrost / heat duct and the passenger side defrost plenum.

Cut off (1) piece 18" long and install it between the left hose adaptor on the defrost / heat duct and the drivers side defrost plenum.



TRUCKS WITH STANDARD HEAT SYSTEMS:

Locate in the Control Kit the following items.

- 1) Blower Switch Assembly
- 2) Control Knob (fan)
- 3) Control Knob (heat)
- 4) Control Knob (temp)
- 5) Template Control
- 6) Temperature Cable

Locate the control template on last page of the instructions. Cut out template along the edge and tape it to the original control face.

Drill holes as shown on the template.

Reinstall the control face plate.

Attach wire harness to the blower switch using the diagram on page 16.

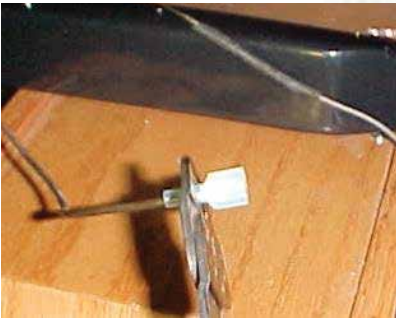
Install the blower switch on to control face plate. Insert shaft through the plate and the switch bezel. The switch nut supplied will just fit into the bezel. Tighten the switch from the back side.

Reinstall the control face plate into the dash.

Insert door control cable through center hole in the control face plate. Attach using the switch nuts provided.

Insert temperature cable through bottom hole in the control face plate. Attach using the switch nuts provided.





Attach Fan, Heat, and Temp knobs to Control shafts as shown.

Route temperature control cable behind heat duct and down to heater hoses below the unit. Insert cable through right grommet and out into the wheel well.

Attach a male insulated 1/4" spade terminal to the brown wire that was cut.

Connect to the Red / White stripe wire that comes from the new blower switch.
NOTE: CHECK "HEAT" CABLE FOR SMOOTH OPERATION AND FULL DOOR TRAVEL.

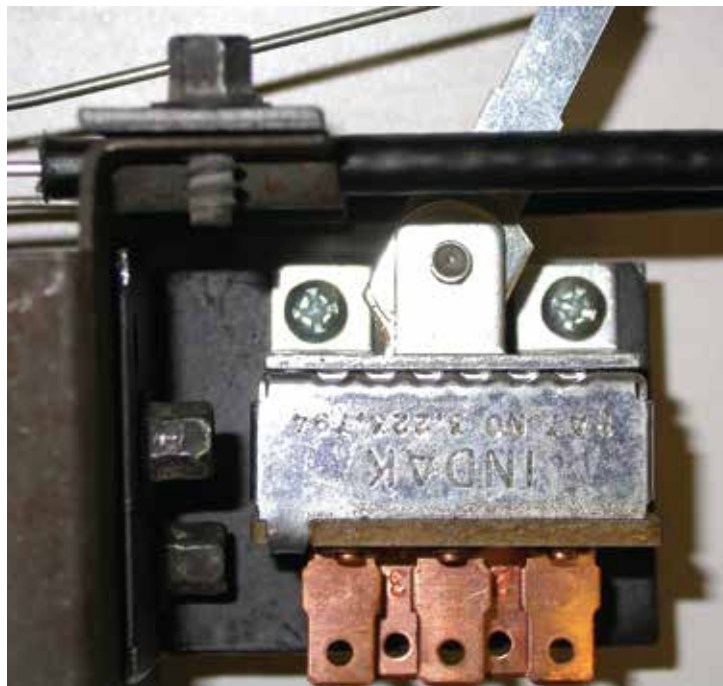


TRUCKS WITH DELUXE HEAT SYSTEMS:

Remove the original blower switch. Retain the mounting hardware.

Locate the switch mounting bracket. Attach to the bottom of control head using the original hardware.





Locate blower switch supplied in the switch kit and (2) #6 x 3/8" pan head screws.

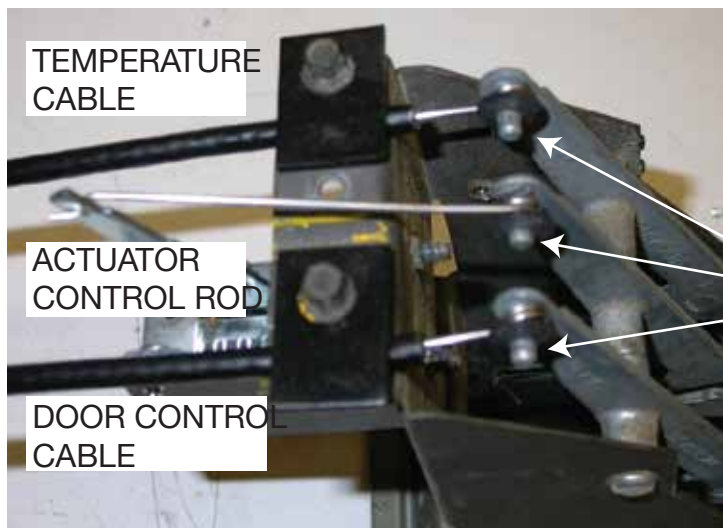
Attach switch to the switch bracket using the #6 screws.

Locate longest of the control cables supplied and (1) push nut. Attach cable to heat lever using the original hardware. Attach push nut over the lever drive pin.

Locate the actuator control rod and (1) push nut. Attach to the switch and then to the center control lever. Attach push nut over the lever drive pin.

Locate control cable that is attached to the unit in the truck. Attach cable to the defrost lever using original hardware. Attach push nut over the lever drive pin.

Install wire harness to the switch. Refer to the wire harness schematic below.

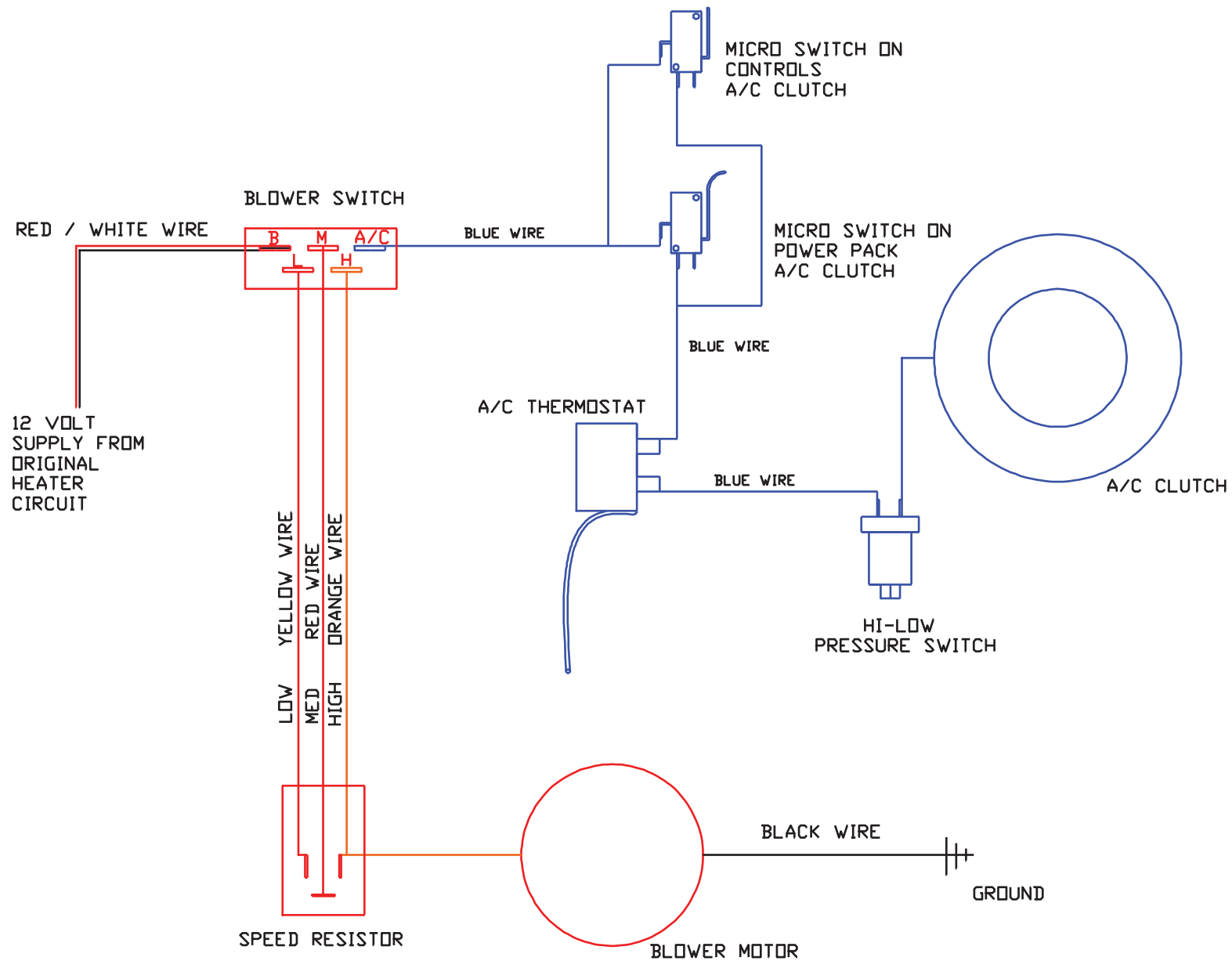


TEMPERATURE
CABLE

ACTUATOR
CONTROL ROD

DOOR CONTROL
CABLE

3 PUSH NUTS



Reinstall the control head using original hardware.



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 flex hose up and over evaporator behind the glove box.

Attach other end to hose adaptor on back of the passenger louver assembly.



Locate 2" flex hose 48" long.

Cut 2" flex duct to 44" long. Attach to last outlet on the face duct. Route over radio and across behind instruments to the drivers side of steering column.

Locate the last louver and (2)
#10 x 3/4" tek screws.

Attach housing to bottom of the dash using the #10 screws.

Insert louver into housing and snap into place.



Attach 44" flex hose to the back hose adaptor.

Locate in kit, the New Glove Box.

Install along with Glove Box Door using the original hardware.

Locate the water control valve, (2) #8 worm gear clamps, (1) double hose clamp, and (1) #10 screw and nut.

Cut 5 1/2" from the firewall. Install the water valve using the worm gear clamps. Attach temperature cable and adjust so that when knob is all the way in water valve is off.

Using the double hose clamp, with screw and nut attach the heater hoses to the fender.





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.

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

Remove Bulkhead supports on the drivers and passenger side. Retain all original hardware.

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





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

Locate following components from the under hood components box.

Condenser
Receiver Drier / Hi -Low pressure switch
Drier mounting bracket
Discharge Hose.
Liquid Hose (2)
Right and Left condenser mounting brackets
(4) #10 x 3/8 hex washer head screws
(2) #10 x 3/4" tek screws



Locate and cut (1) 1 3/8" dia. hole under battery box in radiator bulkhead.

Locate (1) grommet supplied and install into the hole.

Attach Hi / Low pressure switch to top of the drier using a few drops of mineral oil.

Using the drier bracket and #10 tek screws install the drier assembly to the passenger side radiator bulkhead between the core opening and the grille.

Locate #6 liquid hose with the 90 deg bulkhead fitting on one end.

Attach end with the bulkhead through the hole behind the head light previously drilled. The straight end connects to drier using (1) #6 o-ring and a few drops of mineral oil.

Also attach switch boot to top of the pressure switch.





Locate under the fender the liquid hose from the firewall.

Route over body brace and attach it to the bulkhead fitting behind the head light using (1) #6 o-ring and a few drops of mineral oil.

Drill (1) ½" dia hole to the left of the fitting and install the plasti grommet from the kit. Route wire from pressure switch through grommet and connect to blue wire from the thermostat.



Locate Condenser, Short condenser mounting bracket, long condenser mounting bracket, and #6 liquid hose assembly.

Attach Hose Assembly to lower connection on condenser. Use #6 o-ring and a few drops of mineral oil.

Attach brackets to the condenser using (4) #10 x 3/8" hex head screws. Brackets are located in the 4th hole from top of the condenser.

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

The condenser mounting brackets are designed to be clamped between fan shroud mounting bracket and the bulkhead. The top (2) bolts need to be removed and the others loosened. Slide condenser between and rest the condenser brackets on second set of bolts. The 2 top bolts can now be reinstalled. Tighten all mounting bolts.





Attach #6 hose to drier inlet using (1) #6 o-ring and a few drops of mineral oil.

Locate the discharge hose.

Insert end without service port through grommet and around front of the bulkhead.

The hose will route between the drier assembly and condenser mounting bracket. Attach to upper condenser fitting using (1) #8 o-ring and a few drops of mineral oil.

Insert second wire from pressure switch through same grommet as the hose. This will hookup to the compressor clutch.

Reinstall the battery, original fan (or 6 blade heavy duty), fan shroud, and radiator. Use the original hardware.





Locate the Suction Hose and attach to compressor using (1) # 10 o-ring. Also attach Discharge hose to compressor using (1) #8 o-ring adding a few drops of mineral oil to each connection. Tighten securely.

Route Suction hose from the compressor to #10 bulkhead fitting on the fender. Use (1) #10 o-ring and a few drops of mineral oil. Tighten both ends securely.

Reinstall the Bulkhead support cover both sides, and the Hood Latch mounting bracket. Use the 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 COR-
RECT OIL CHARGE. DO NOT ADD OIL TO SYSTEM.

134a SYSTEMS 24 oz OF REFRIGERANT
Recommend that power fuse is 25amp minimum

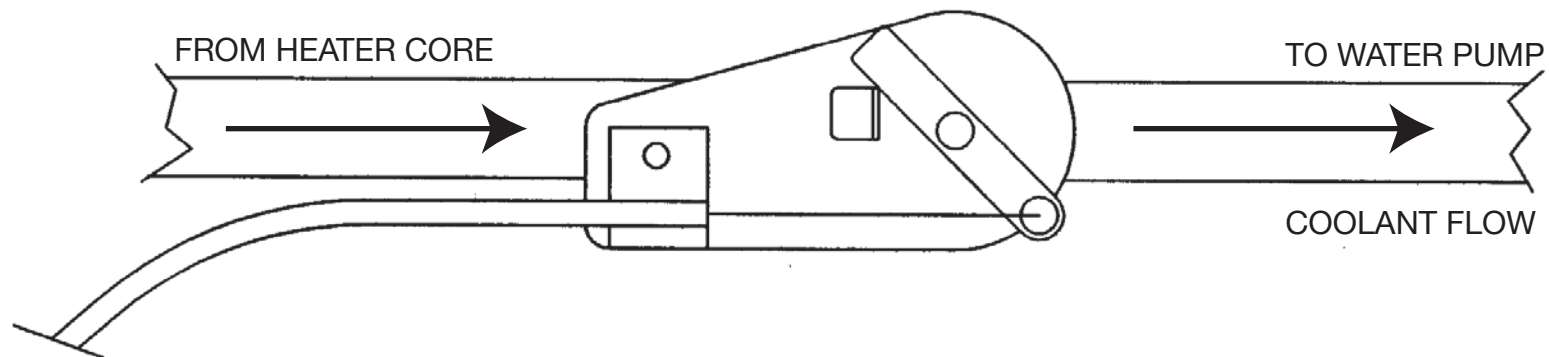
IMPORTANT!

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!**

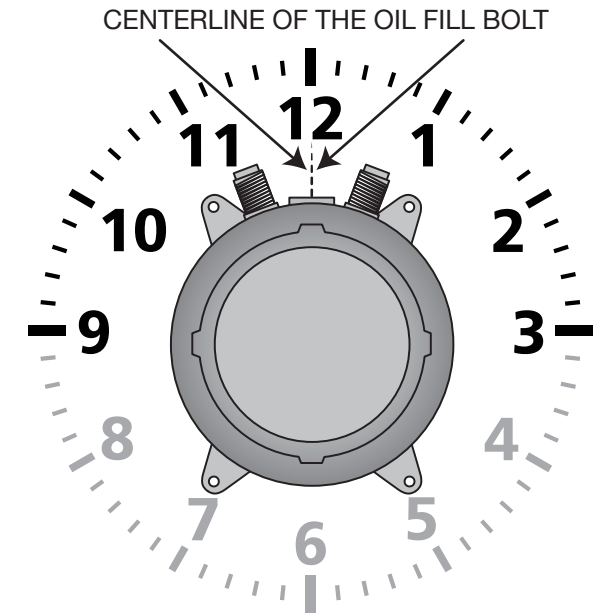
RECOMMENDED TEST CONDITIONS: (After system has been fully charged and tested for basic operation)

- 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

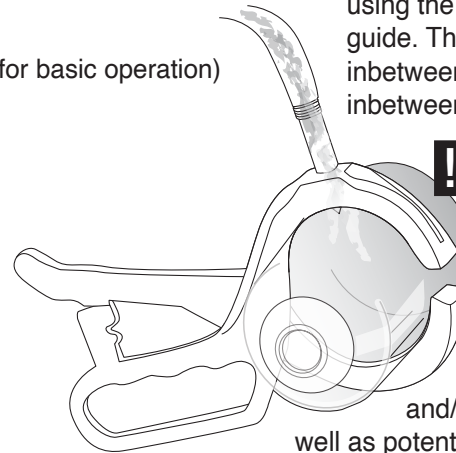
ACCEPTABLE OPERATING PRESSURE RANGES:

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)...

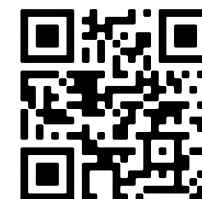
There is a blockage in the system. Remove hoses and blow compressed air through in both directions. If pressures don't change its possible that your expansion valve is stuck closed and would have to be replaced.

*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

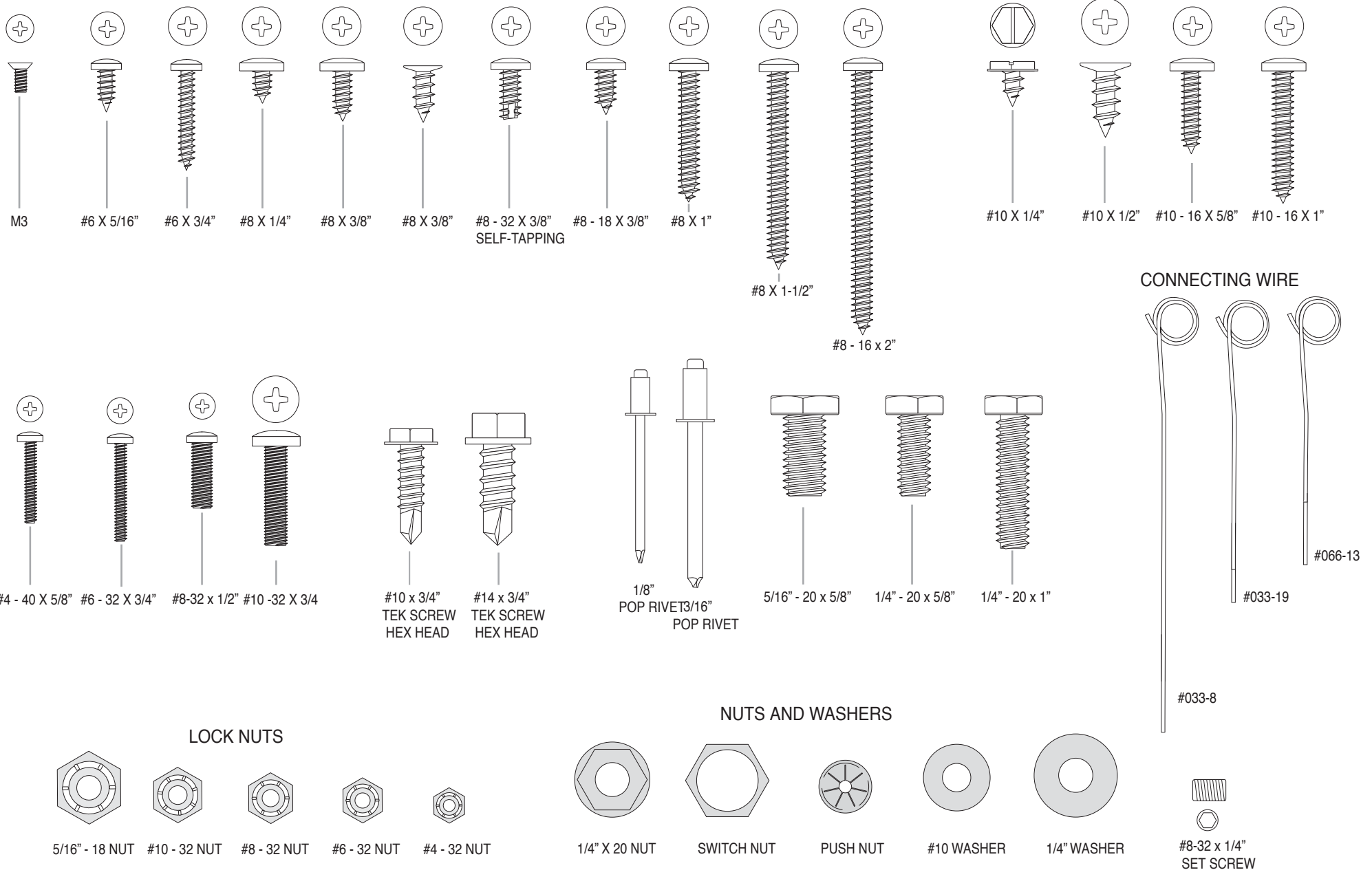
Get the technical support you want the moment you need it, with no wait times. Simply **SCAN** the **QR code** and be directly taken to our support section to troubleshoot all things A/C.



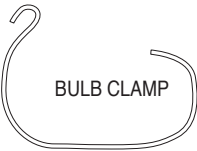
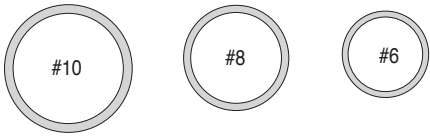


Classic Auto Air Hardware Reference Guide

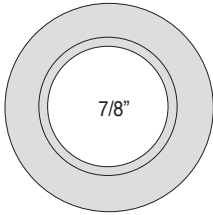
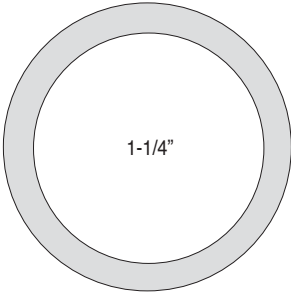
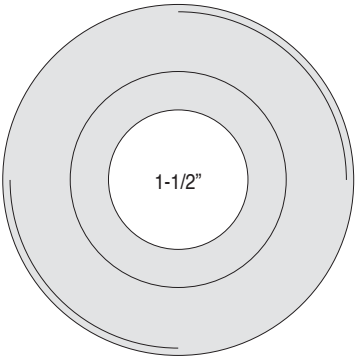
This is our basic line-up of hardware. No single kit will not contain all of these, but you can use this guide to match-up hardware for shape and size (all of these are actual size.)



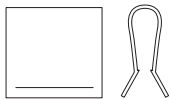
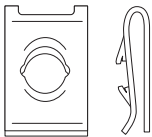
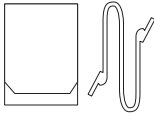
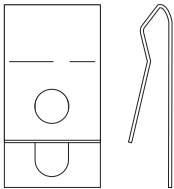
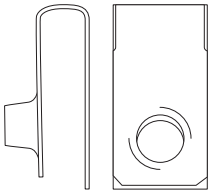
ORINGS



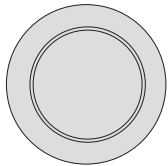
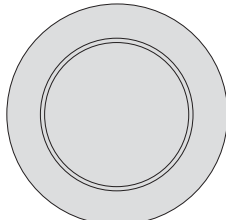
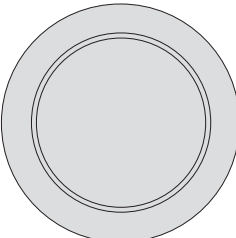
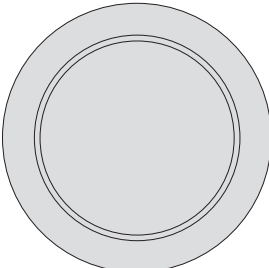
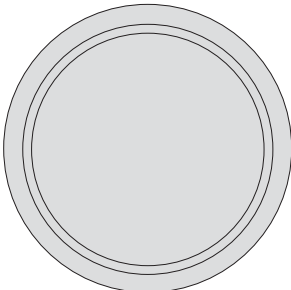
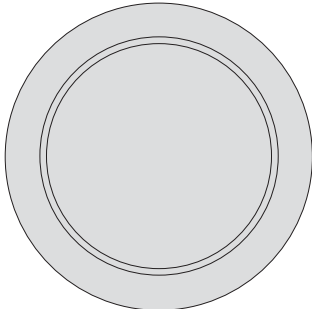
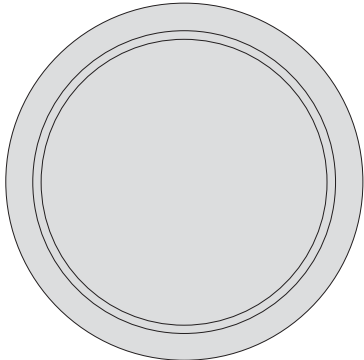
GROMMETS



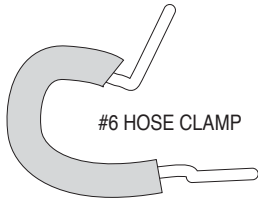
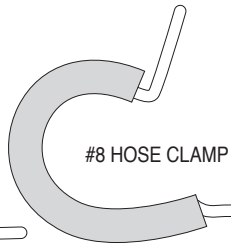
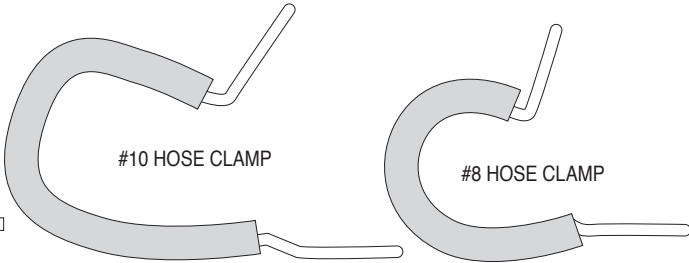
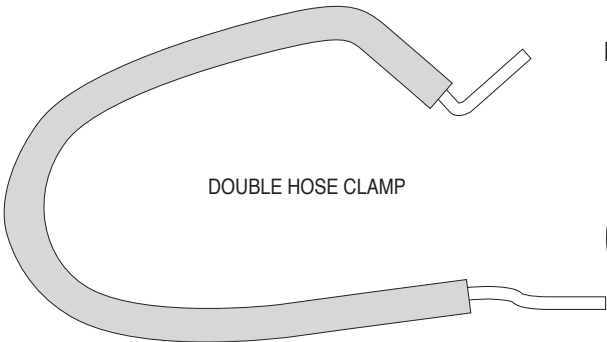
CLIPS



HOLE PLUGS



HOSE CLAMPS



**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.

TEMPLATE CONTROL

ORIGINAL SWITCH
HOLE



DRILL (2)
7/16" DIA
HOLES



