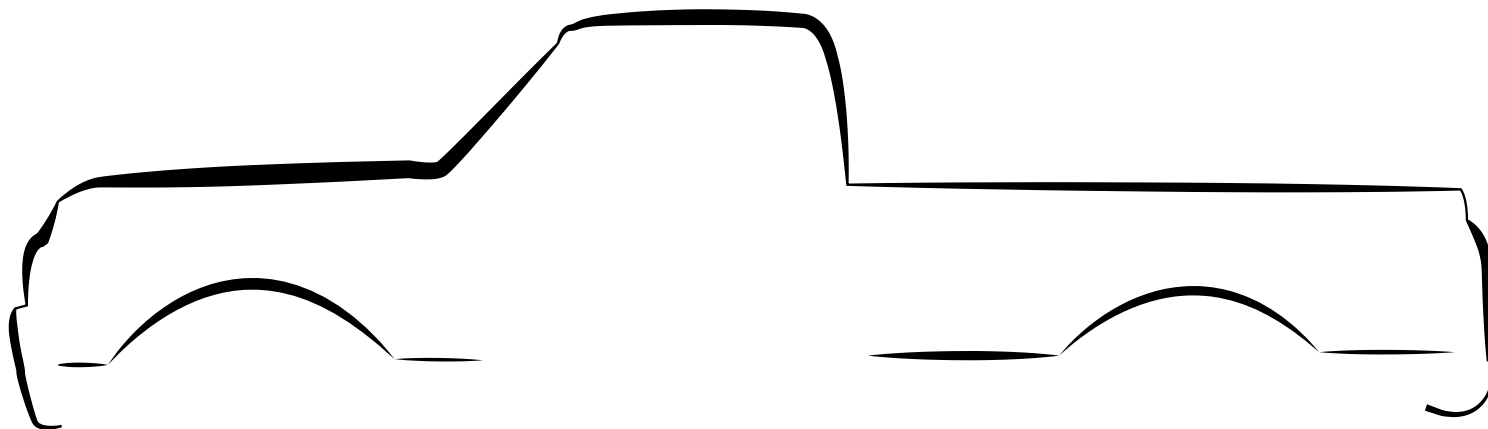




Installation Manual

1973-87 Chevrolet Pickup

DOCUMENT #20-3034 VERSION A

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Congratulations...

You have just purchased the highest quality, best performing A/C system ever designed for your 1973-87 Chevrolet Pickup.

To obtain the high level of performance and dependability our systems are known for, please pay close attention to the following instructions. Our installation steps and procedures are derived from a long history of research and development and the combined experience achieved thru thousands of successful installations (and feedback from customers like you). Please remember that our #1 goal is that you'll have a successful installation and a system that performs at a very high level for many years to come.

Before starting, carefully read the instructions from beginning to end and follow the proper sequence. On the next page you'll find a safety and general checklist that you should read before starting your installation.

Thank you from our entire staff.



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 During the installation you might find the opportunity to repair or upgrade non-working or out of date components.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

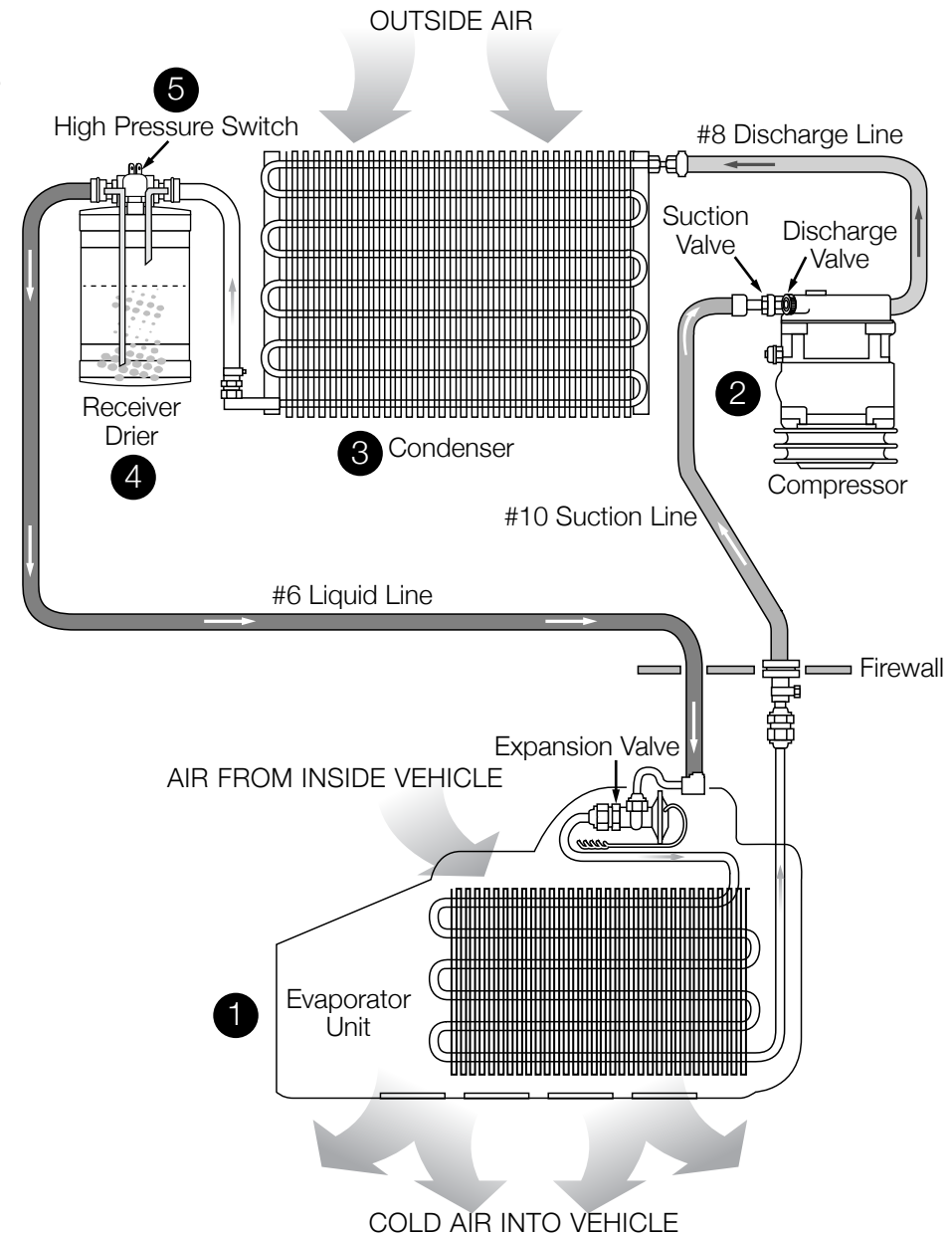
- ☐ Fittings: Use one or two drops of mineral oil (supplied with your kit) on ALL rubber o-rings, threads and rear of bump for o-ring where female nut rides. Do not use thread tape or sealants.
- ☐ Measure twice (or more), cut once
- ☐ **Call us immediately if you have any technical questions, feel you have any defective components or have any missing items. We are here to help!**

YOU CAN NOW BEGIN THE INSTALLATION...

A Basic Overview of Automotive A/C....

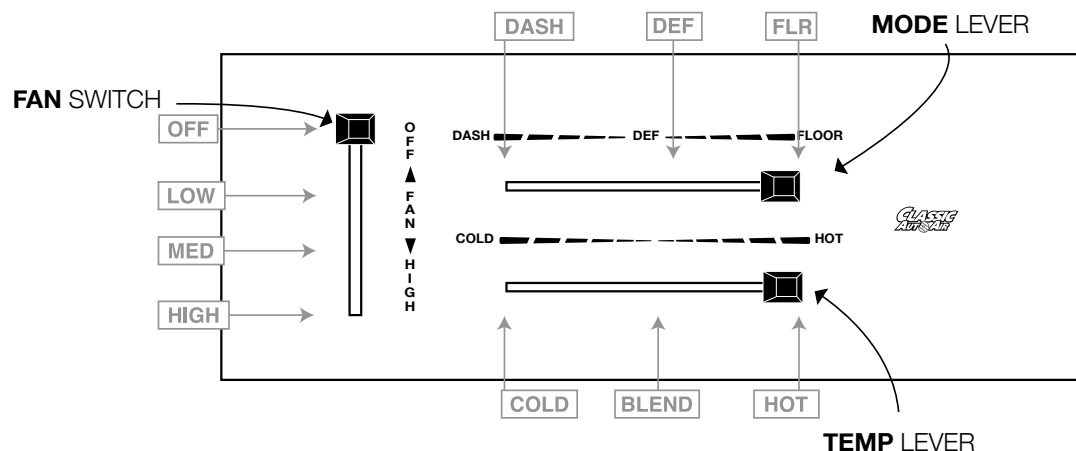
- 1 Evaporator with Blower Fan:** In order to remove the heat from the air in the vehicle, the A/C evaporator allows the refrigerant to absorb the heat from the air passing over it. The blower fan moves cool air out into the car interior.
- 2 Compressor:** The compressor pumps and circulates the refrigerant 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.



Control & Operating Instructions

Your new **Smart Series A/C** 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, Heat, and Defrost modes simultaneously. To illustrate the various ways you can adjust the airflow direction and temperature - we've provided these handy illustrations and chart to show exactly how you can adjust your **Smart Series A/C** for maximum comfort...



There are 11 levels of adjustment within the range of the DASH/DEF lever

FAN

UP

DOWN

BLOWER

OFF

LOW

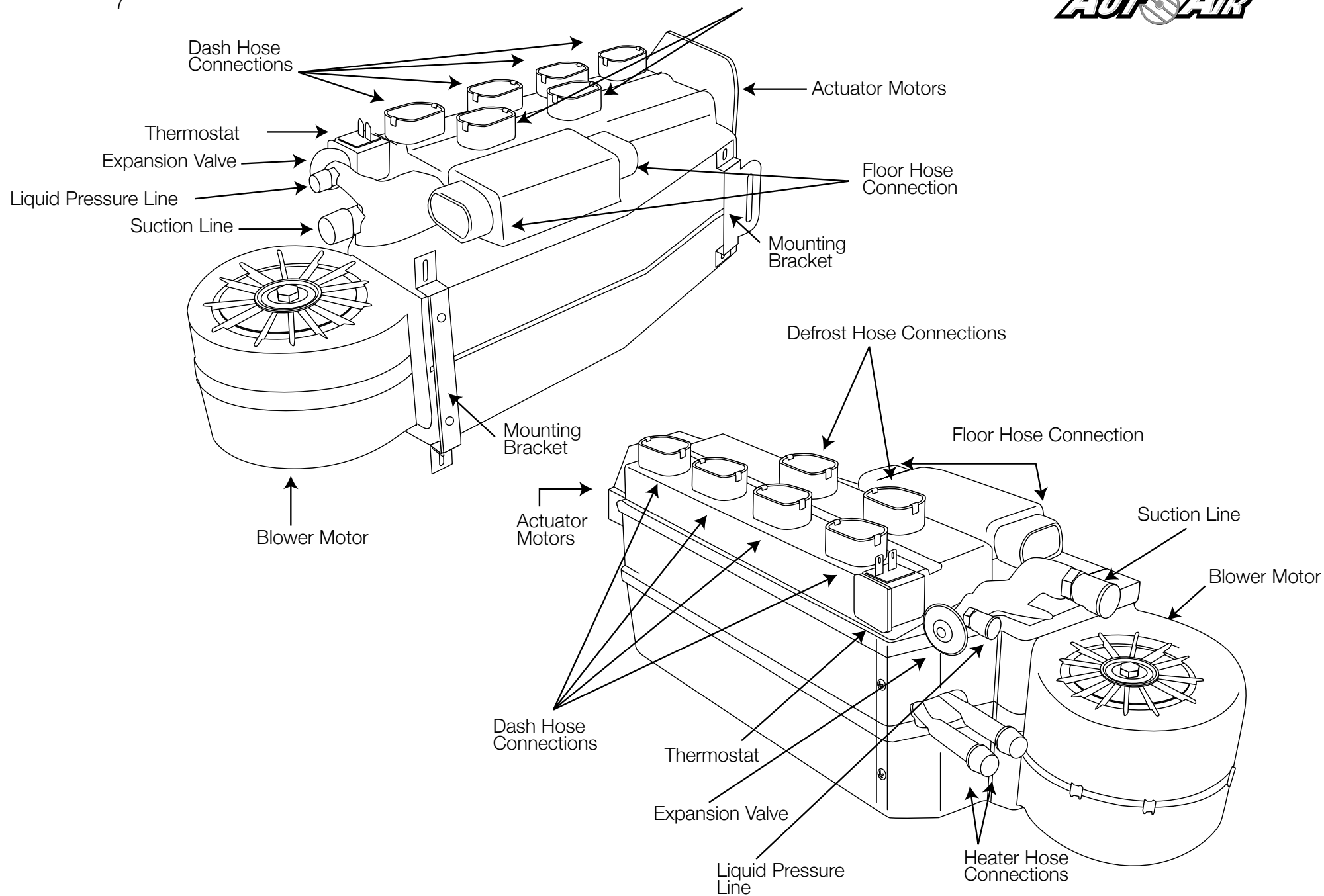
MED

HIGH

MODE		DASH										FLOOR	
POSITION	Dash A/C 100%	Dash A/C 80% Defrost 20%	Dash A/C 60% Defrost 40%	Dash A/C 40% Defrost 60%	Dash A/C 20% Def 80%	Defrost 100%	Floor Defrost 20% 80%	Floor Defrost 40% 60%	Floor Defrost 60% 40%	Floor Defrost 80% 20%	Floor Defrost 100%		
COMPRESSOR	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON		

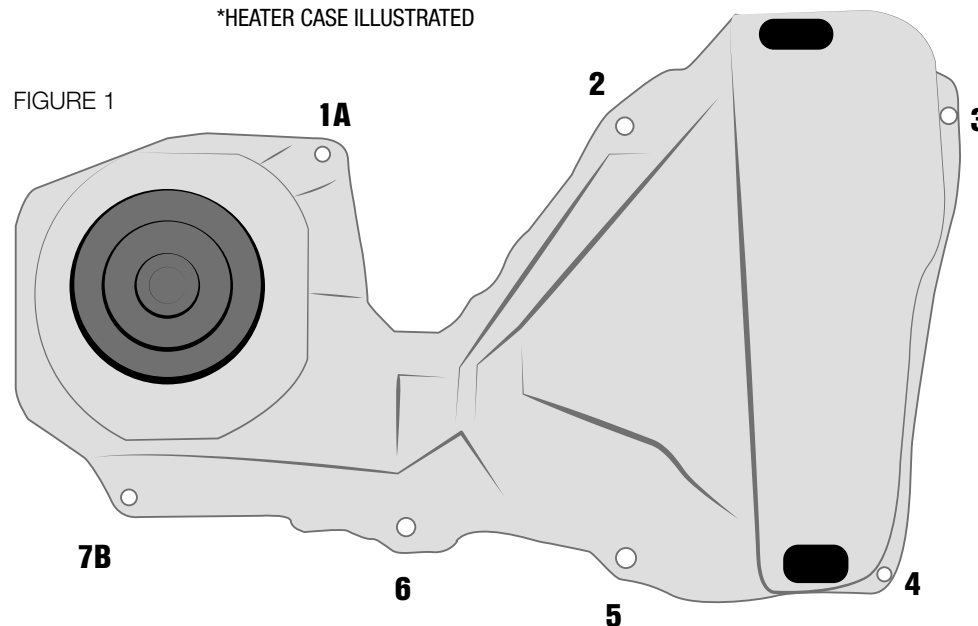
There are 11 levels of adjustment within the range of the DASH - DEF - FLOOR lever

TEMP	COLD HOT										
VALVE POSITION	CLOSED - 0%	OPEN - 10%	OPEN - 20%	OPEN - 30%	OPEN - 40%	OPEN - 50%	OPEN - 60%	OPEN - 70%	OPEN - 80%	OPEN - 90%	OPEN - 100%
COMPRESSOR	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF



*HEATER CASE ILLUSTRATED

FIGURE 1



In order to remove your heater assembly it is necessary to remove the heater case housing first.

Located on the engine side of the firewall, remove seven (7) bolts around the perimeter of the heater case housing (see Figure 1). Remove the housing (Discard).

NOTE: To remove the two bolts at locations **1A** and **7B**, it may be necessary to lower the inner fender. Retain these screws.

Drain coolant from radiator. Remove the heater hoses from heater coil and firewall (see Figure 2).

You will also cut a power lead to the blower motor. This will not be re-used.

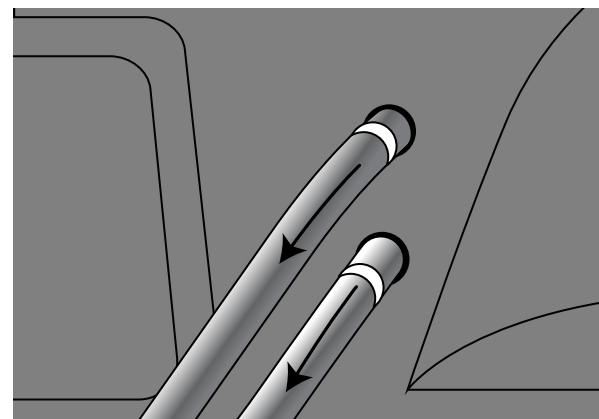


FIGURE 2



Remove the following factory parts: unit, defrost ducts, controls, wiring and glovebox.

The removal of the Original Heater Assembly can be accomplished by disconnecting three control cables. Disconnect the two cables that are located on the top of the heater (see figure 3). Remove the screw and disconnect the cable located towards the middle of the dash on the left side (see figure 4). Disconnect the electrical harness from the assembly. Also remove attachment screw located on the right side of the heater assembly (see figure 5).

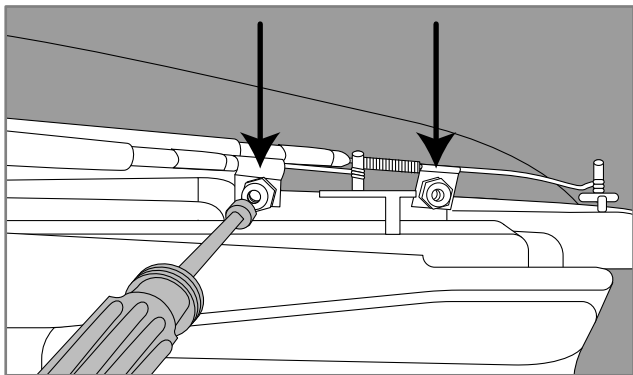
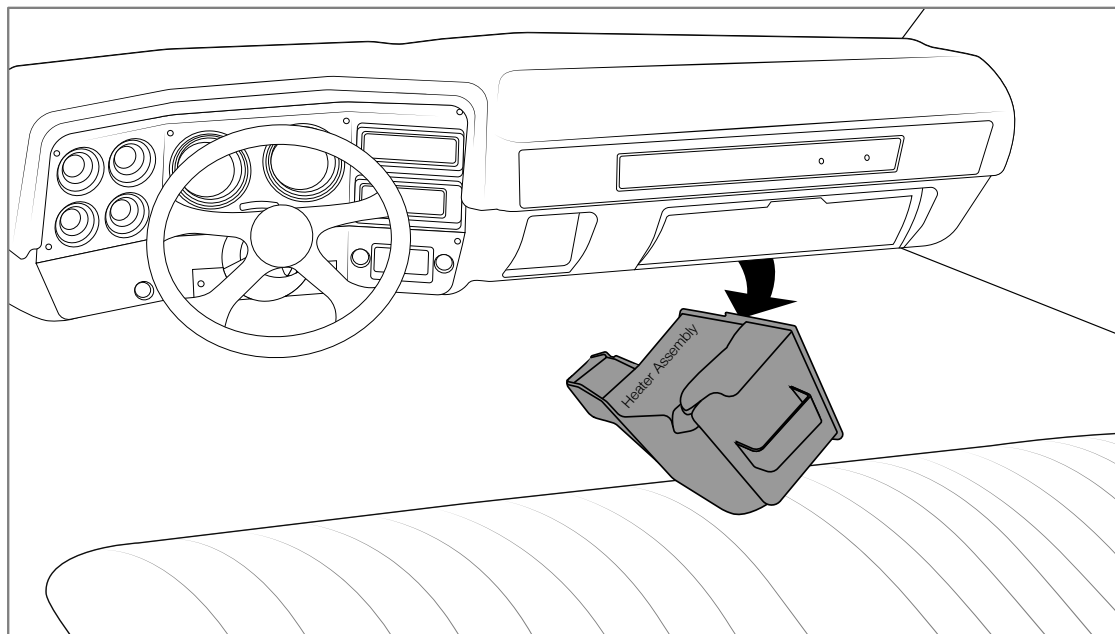


FIGURE 3

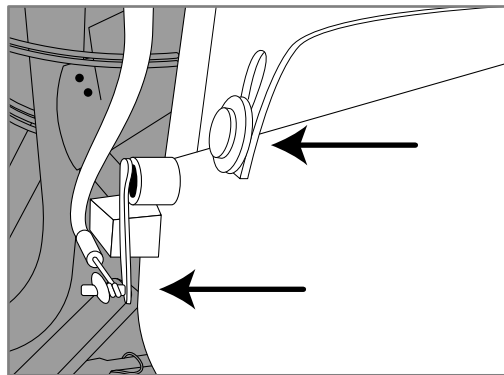


FIGURE 4

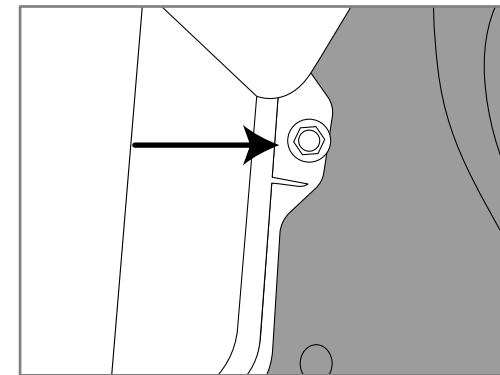
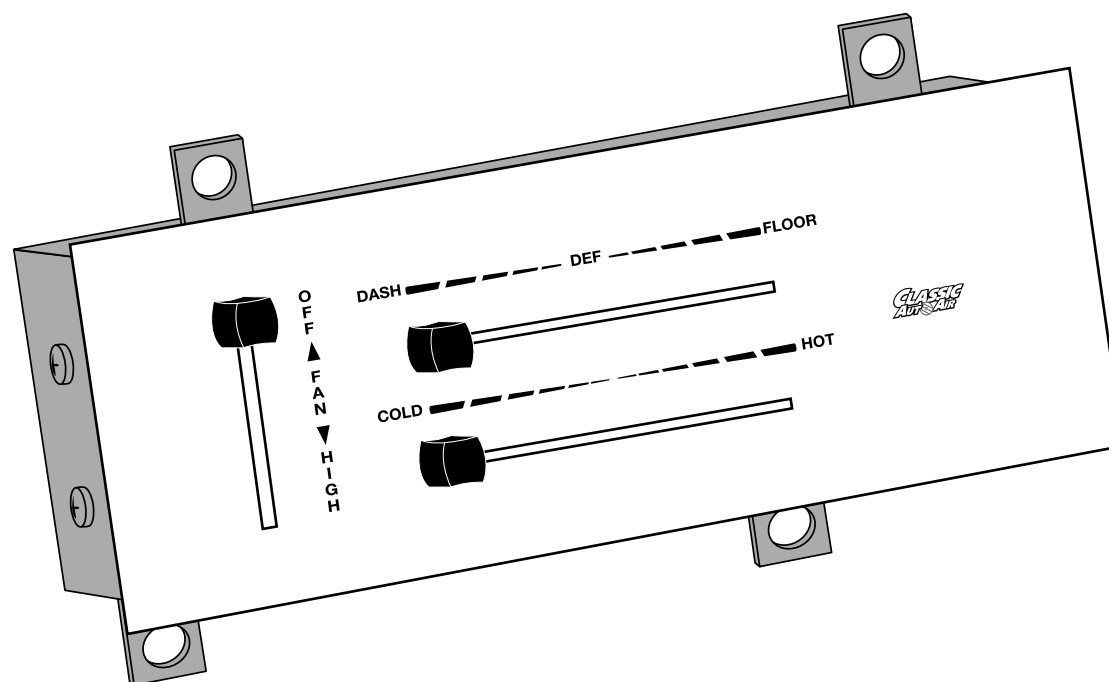


FIGURE 5

THESE ARE THE PARTS YOU WILL FIND IN THE CONTROL BOX

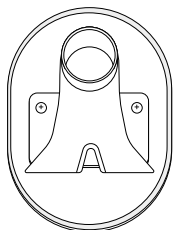
(D.E.R. Controller)



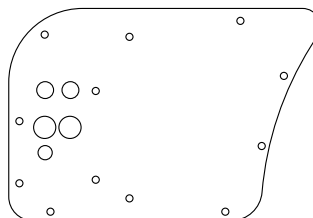
*D.E.R. Control
PN#16-4034*

THESE ARE THE PARTS YOU WILL FIND IN BAG KIT B

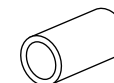
You will use all of these parts and hardware during the next series of installation steps.



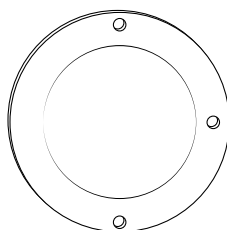
Kick panel, Inlet (2)
PN#10-2034-2



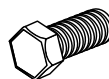
Block Off, Firewall
PN#10-2034-1



1 1/2" Spacer (2)
PN#X111



Block Off, Inlet
PN#10-1033-3



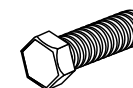
1/4"-20 X 5/8 HH Bolt (10)
PN#25C62HHB5Z



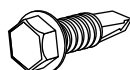
1/2" Spacer (2)
PN#X107



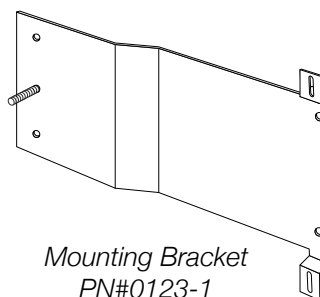
1/4"-20 Nut (14)
PN#25CNFLZ/S



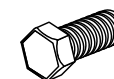
1/4"-20 X 1" HH Bolt (2)
PN#25C100HHB5Z



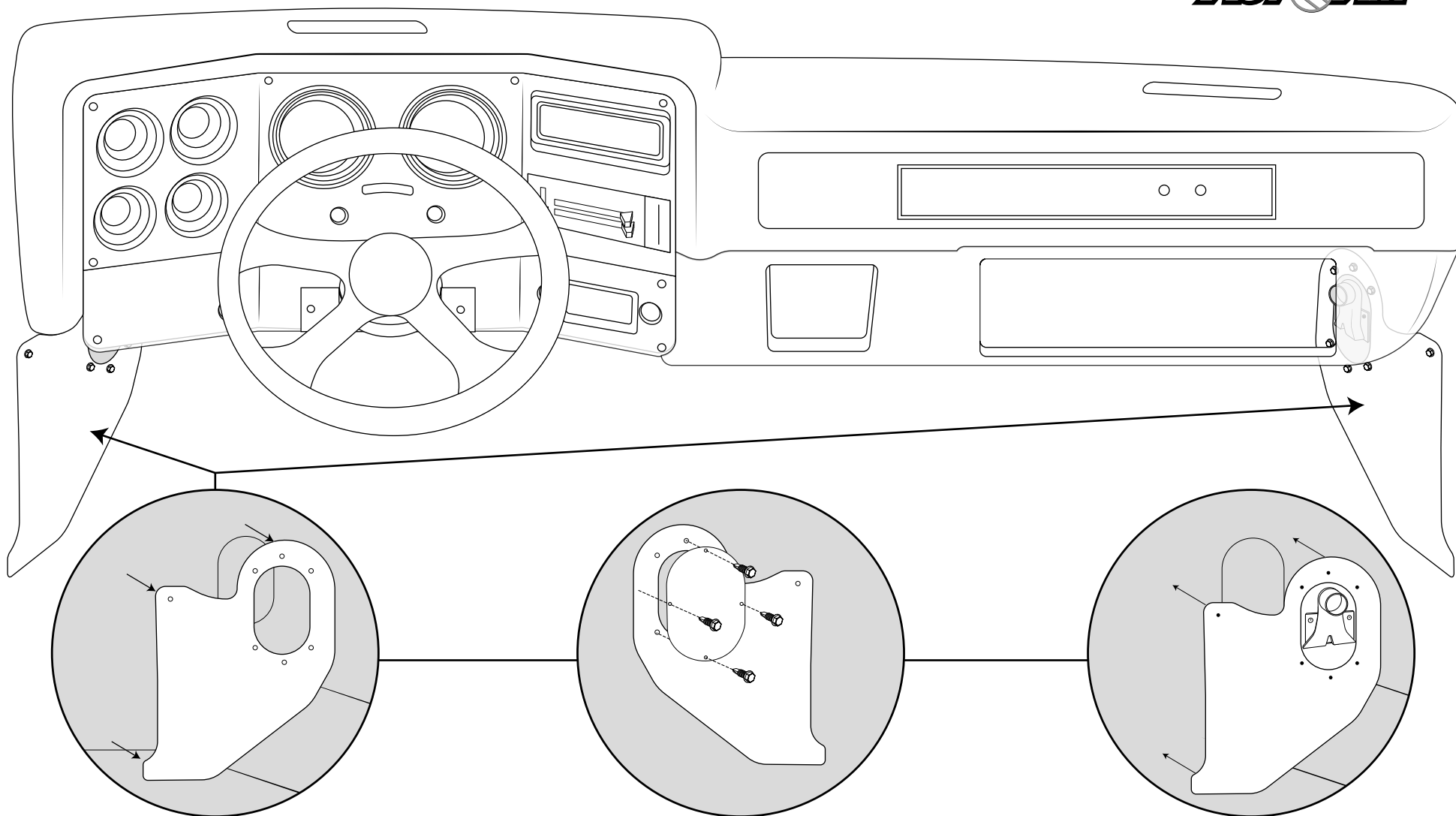
#10 x 3/4" Tek Screws (11)
PN#10B75HW3Z



Mounting Bracket
PN#0123-1



1/4"-20 X 2.5" HH Bolt (2)
PN#25C250HHB5Z

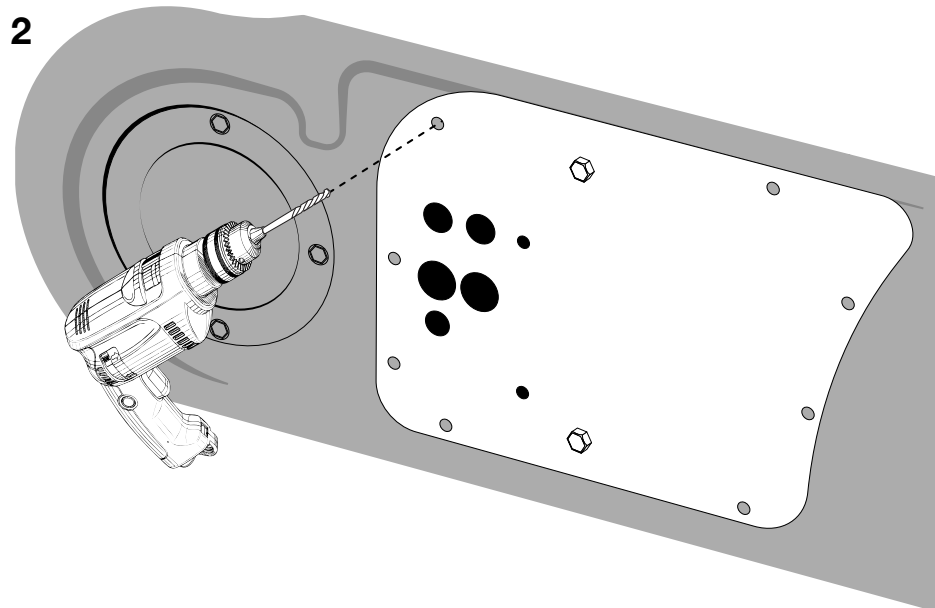
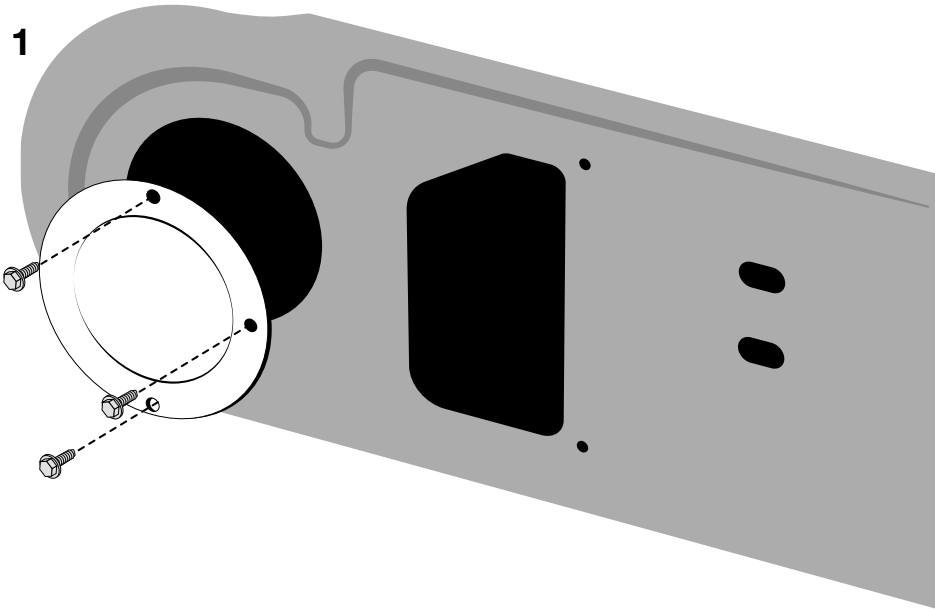


1 Remove kick panel on driver and passenger sides. Place the driver side kick panel onto a flat surface with bottom facing up. Locate provided kick panel inlets PN#10-2034-2 and (8) #10 x 3/4" tek screws.

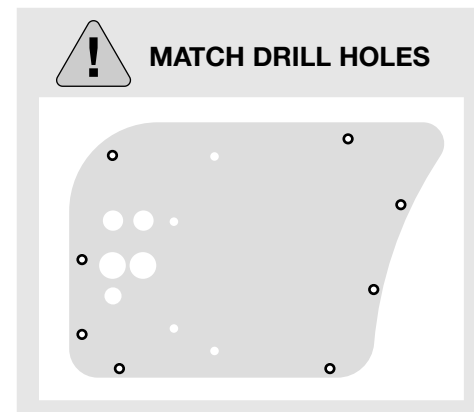
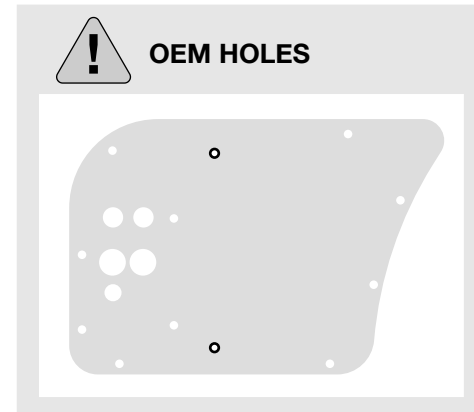
2 Place kick panel inlet on the back of the kick panel as shown and attach with tek screws. Repeat on passenger side kick panel.

3 Re-attach both kick panels with original hardware

1973-87 HEATER ONLY PREP

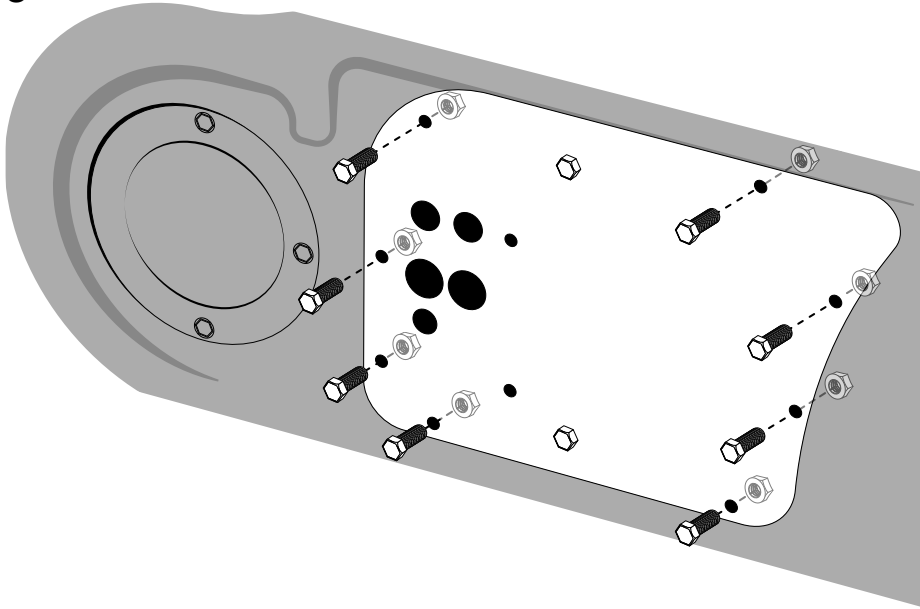


- 1 Within the engine compartment area, install fresh air inlet block off PN#10-1033-3 (from bag kit B) over the OEM fan opening using (3) #10 x 3/4 tek screws.
- 2 Using the OEM holes shown below, attach the firewall block off plate to the firewall with (2) 1/4 - #20 x 5/8" bolt and 1/4"-20 nut. Mark remaining holes and match drill.



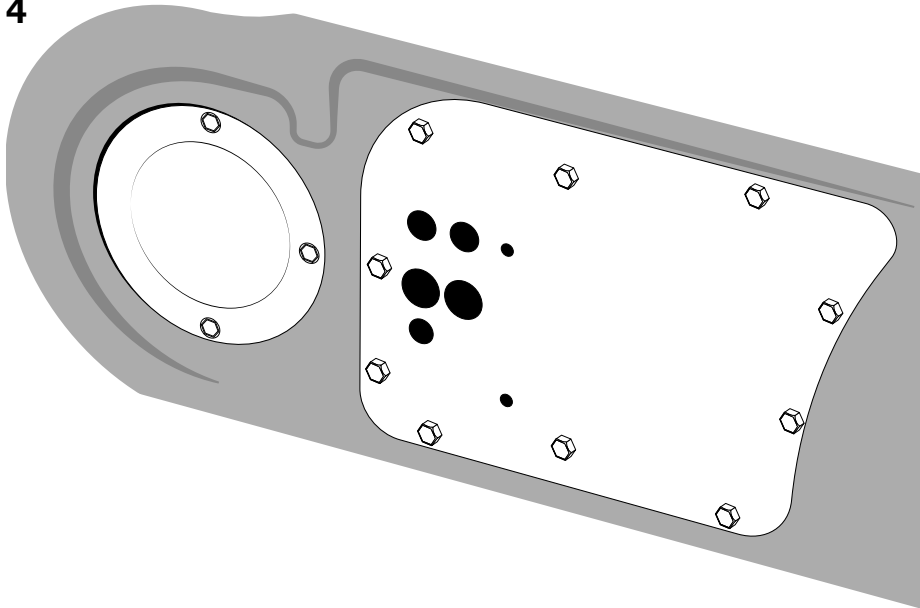
1973-87 HEATER ONLY PREP

3



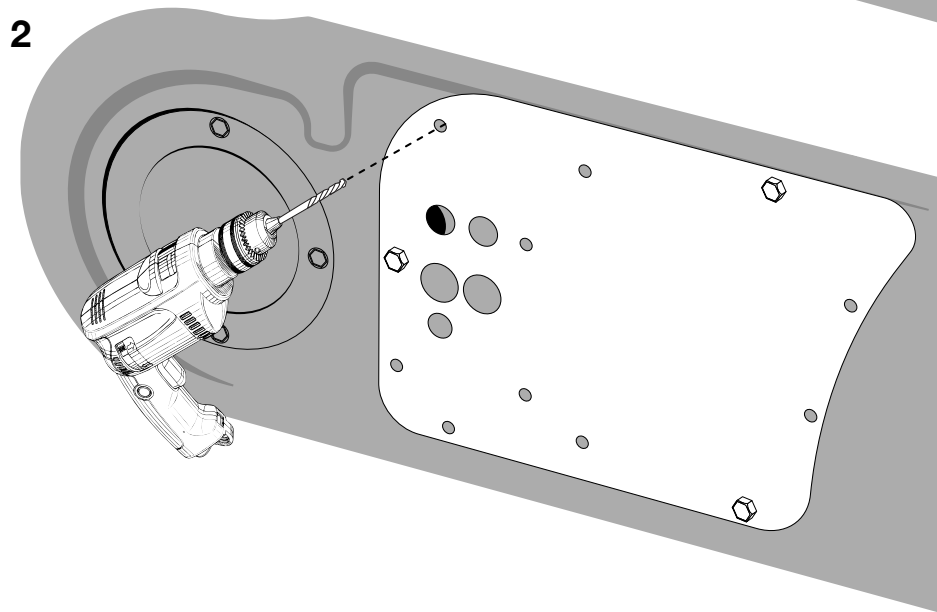
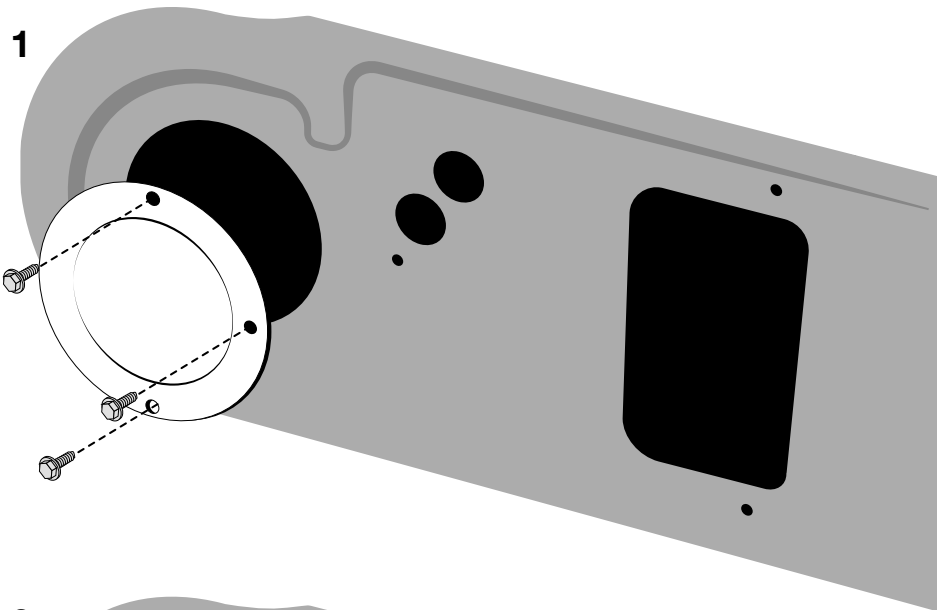
3 Attach firewall block off plate to firewall using 1/4 - #20 x 5/8" bolts and 1/4"-20 nuts provided in bag kit B.

4

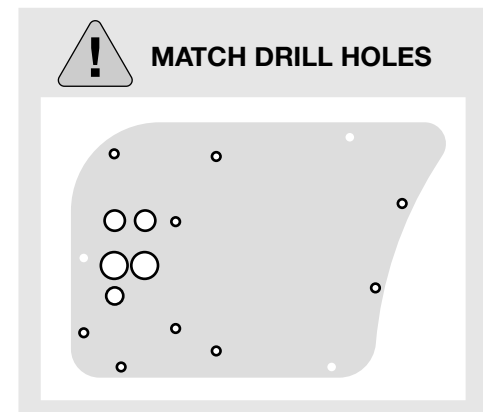
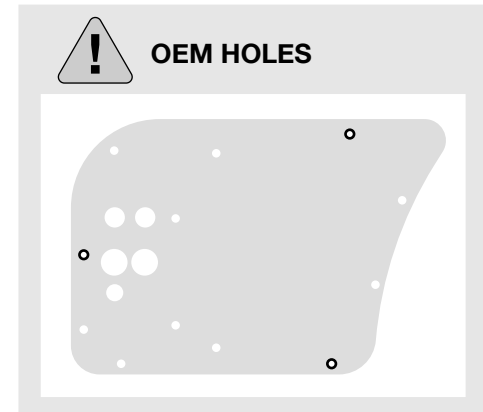


4 After installing the fresh air inlet block off and the firewall block off your firewall will look like this.

1973-87 FACTORY AIR PREP

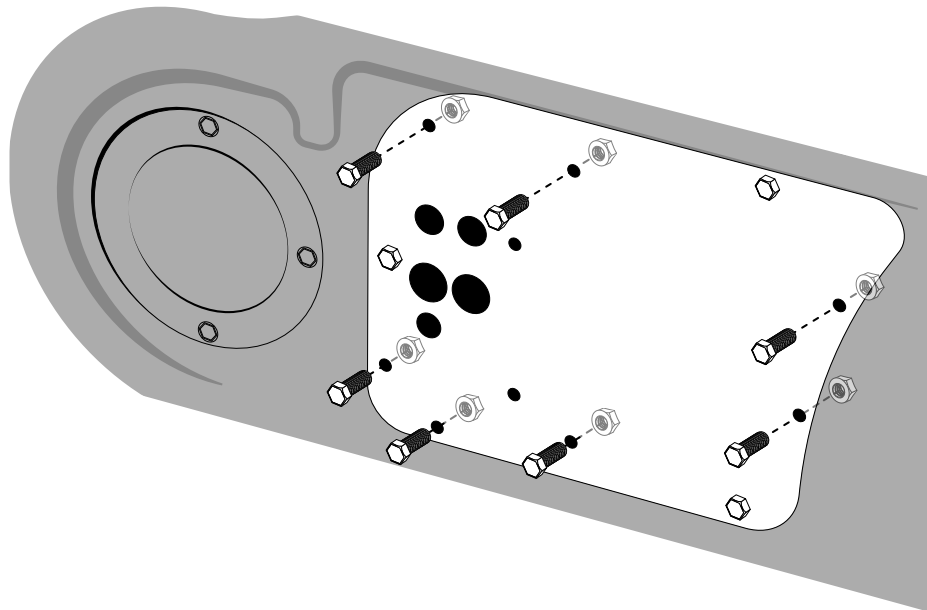


- 1 Within the engine compartment area, install fresh air inlet block off PN#10-1033-3 (from bag kit B) over the OEM fan opening using (3) #10 x 3/4 tek screws.
- 2 Using the OEM holes shown below, attach the firewall block off plate to the firewall with 1/4 - #20 x 5/8" bolts and 1/4"-20 nuts. Mark remaining holes and match drill.

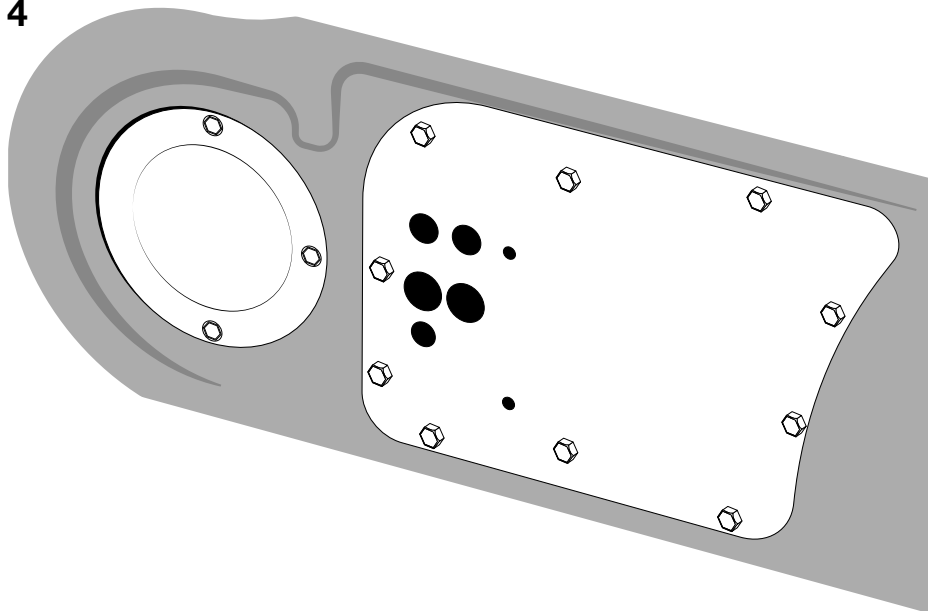


1973-87 FACTORY AIR PREP

3



4



3 Attach firewall block off plate to firewall using (7) 1/4 - #20 x 5/8" bolt and (7) 1/4"-20 nuts provided in bag kit B.

4 After installing the fresh air inlet block off and the firewall block off your firewall will look like this.

Locate the following:

Mounting bracket

(2) 1/4"-20 X 1" HH bolts

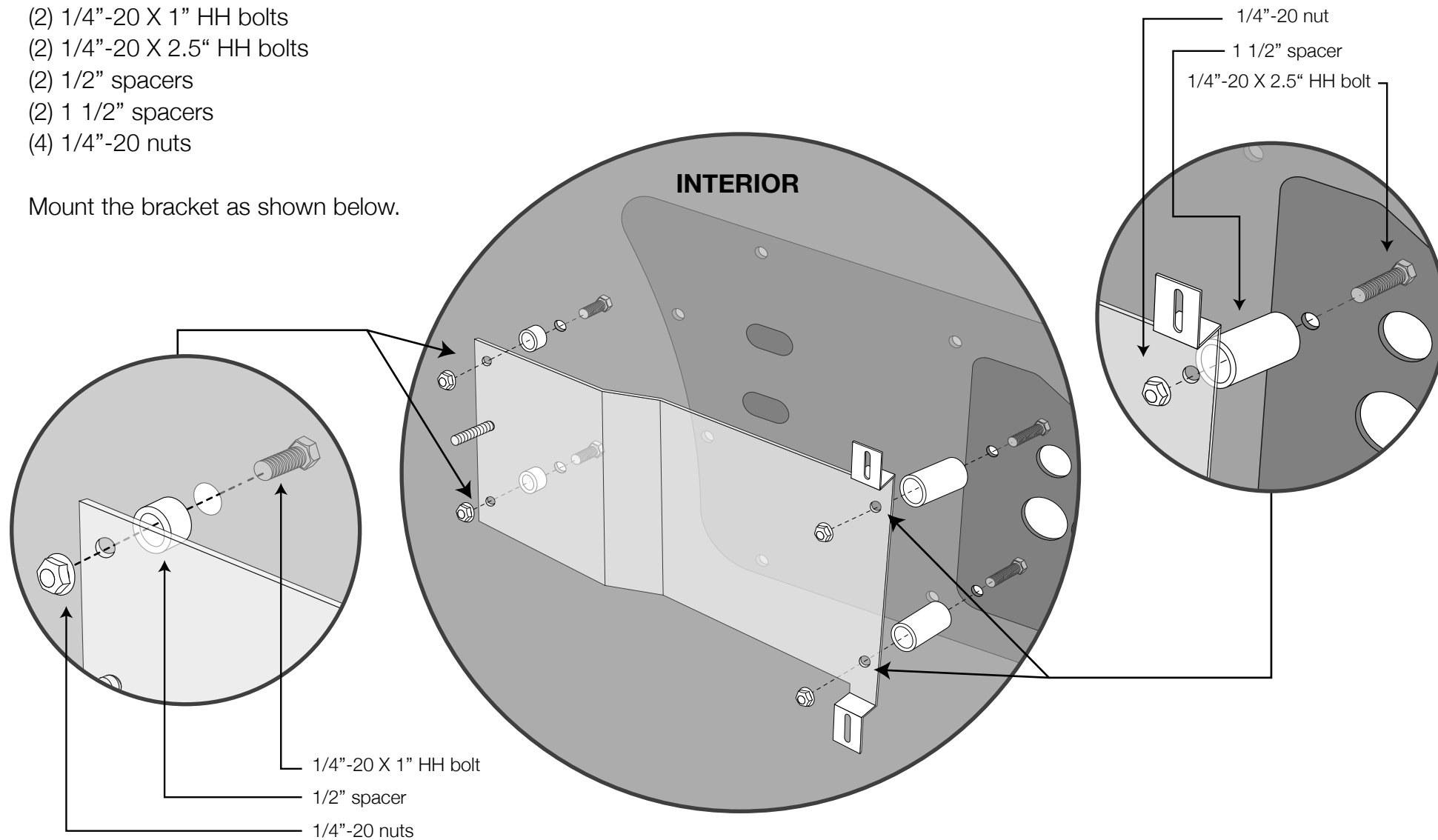
(2) 1/4"-20 X 2.5" HH bolts

(2) 1/2" spacers

(2) 1 1/2" spacers

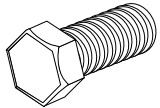
(4) 1/4"-20 nuts

Mount the bracket as shown below.

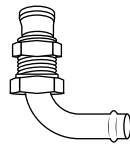


THESE ARE THE PARTS YOU WILL FIND IN BAG KIT C

You will use all of these parts and hardware during the next series of installation steps.



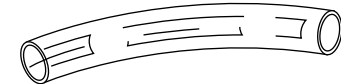
1/4"-20 X 5/8 HH Bolt (2)
PN#25C62HHB5Z



Fitting 5/8 90° (2)
PN#0027-53



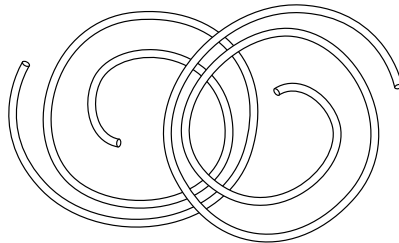
Suction Tube
PN#8-2034-1



Clear Plastic Drain Tube
PN#31004845



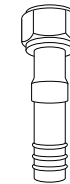
1/4"-20 Nut (3)
PN#25CNFLZ/S



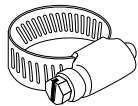
5/8" Heater Hose (2)
PN#34-50004



Liquid Tube
PN#0123-5



Fitting 5/8 Straight
(2) PN#14-1100



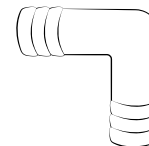
Worm Gear Clamps (10)
PN#6274 IDEAL



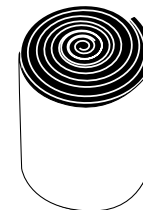
#6 O-Ring
PN#011G



#10 O-Ring
PN#015G

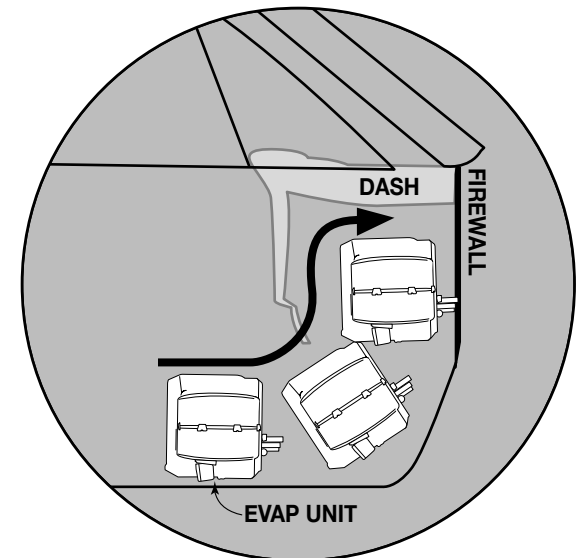
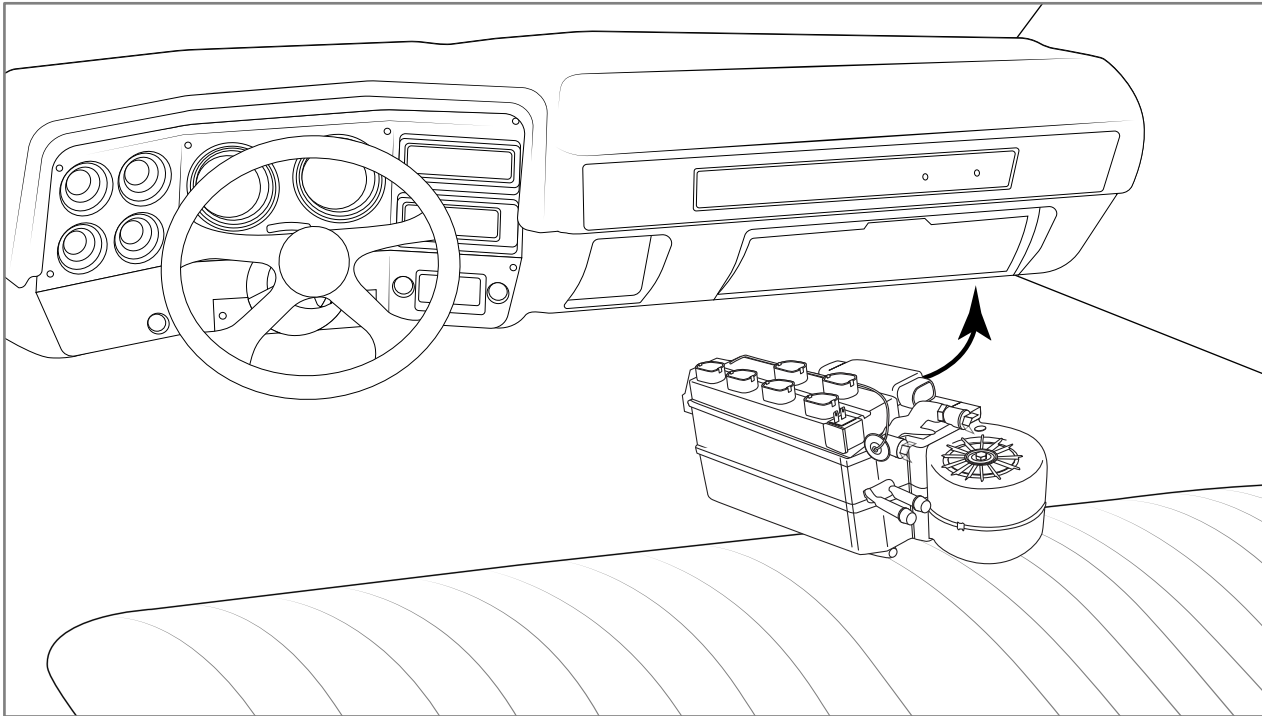


90 Degree Elbow



Refrigerant Tape

Place evaporator on floor panel. Roll unit up behind the glove box opening.



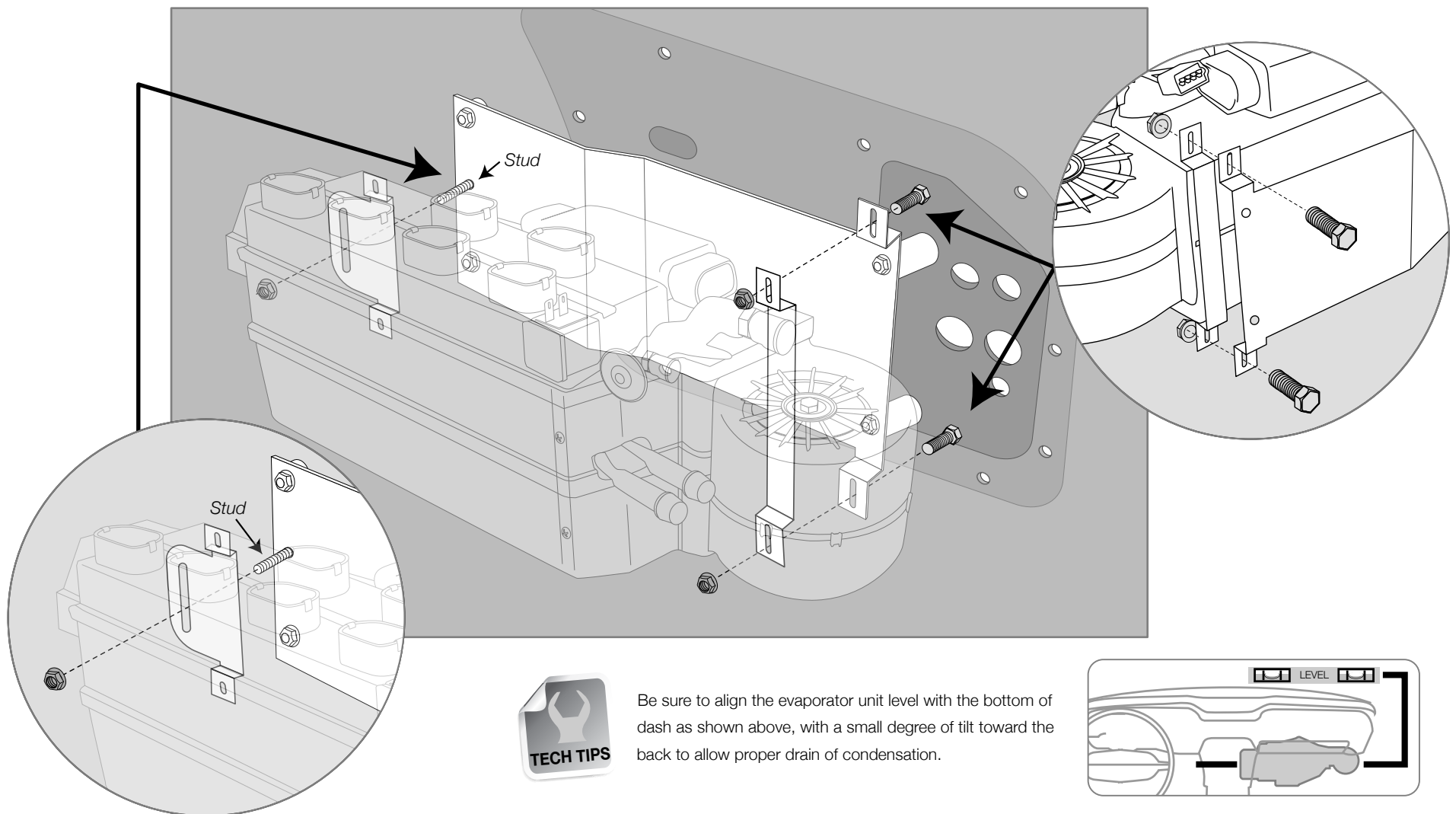
Installing the evaporator will require attention and detail. The tubes will need to be inserted through the block off plate first.

Locate the following:

(2) 1/4"-20 X 5/8 HH bolts

(3) 1/4"-20 nuts

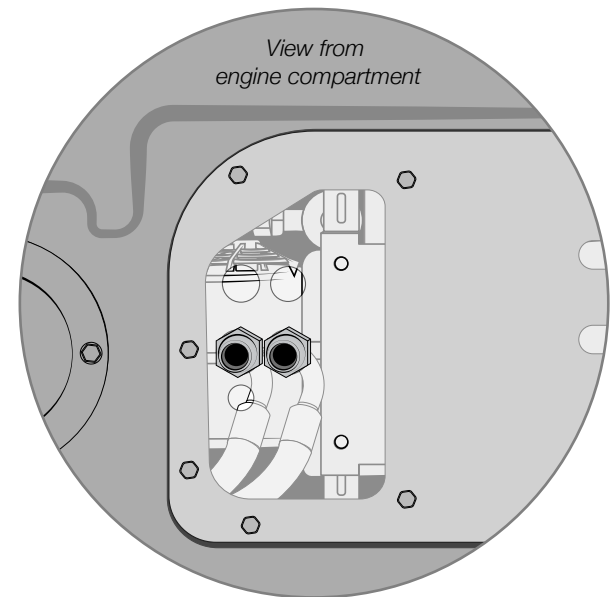
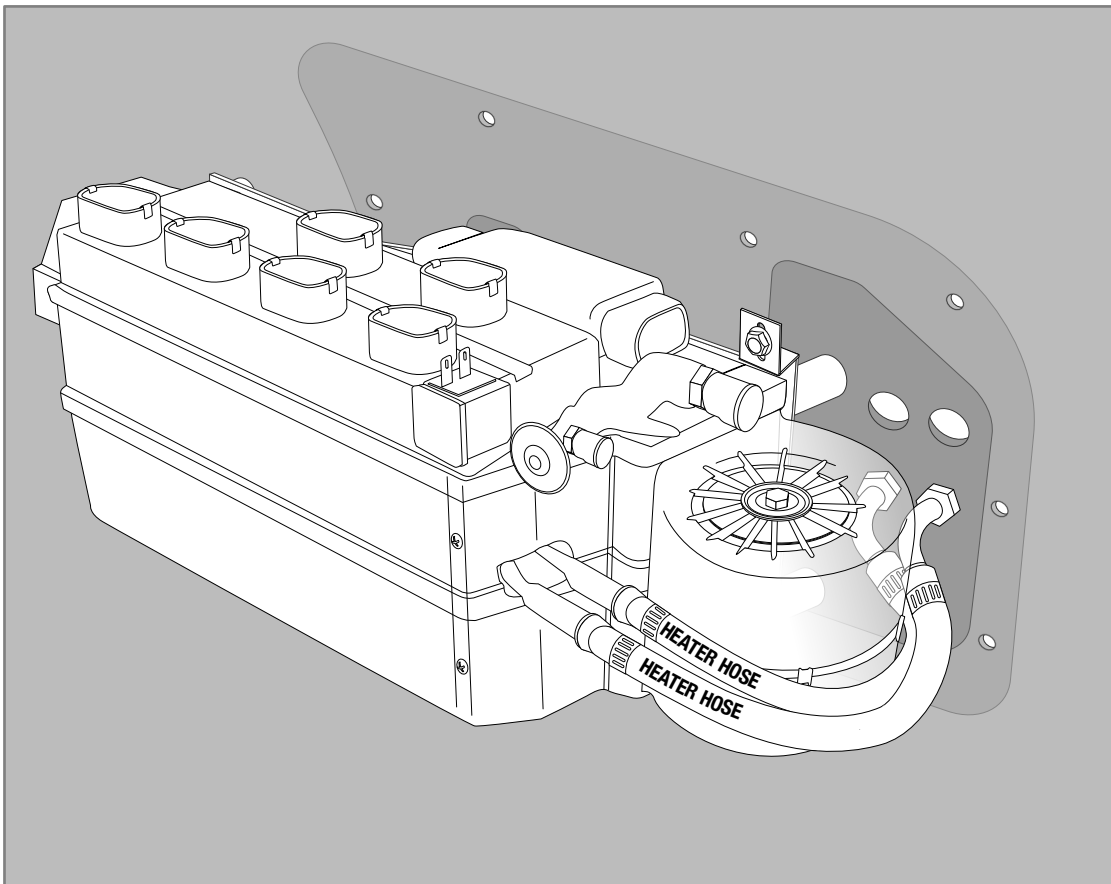
Place the bracket on the left side of the unit on the mounting bracket stud and secure with a 1/4"-20 nut. The right side will be attached using (2) 1/4"-20 X 5/8 HH bolts and (2) 1/4"-20 nuts. Use the image below as reference.



Locate the following:

- (2) 5/8" heater hoses
- (4) worm gear clamps
- (2) 5/8" 90° fittings

Attach the 5/8" heater hoses to the heater hose connections on the unit and secure with a hose clamp. Attach the other end of each 5/8" heater hose to a 5/8" 90° fitting secured with another worm gear clamp as shown below.



Locate the following:

Liquid Tube

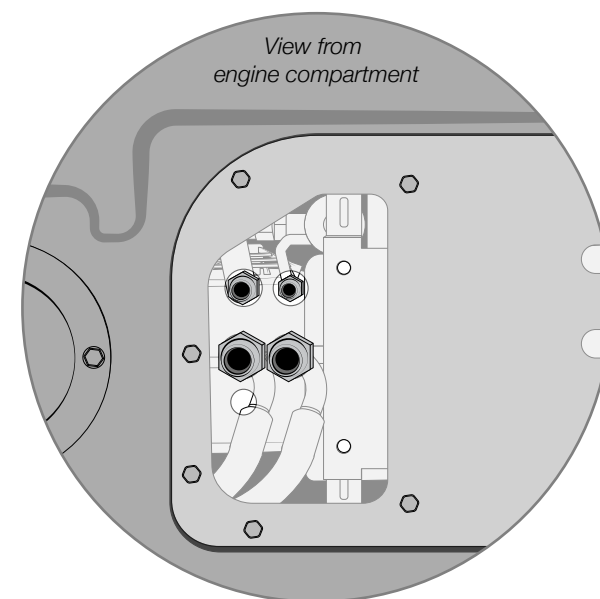
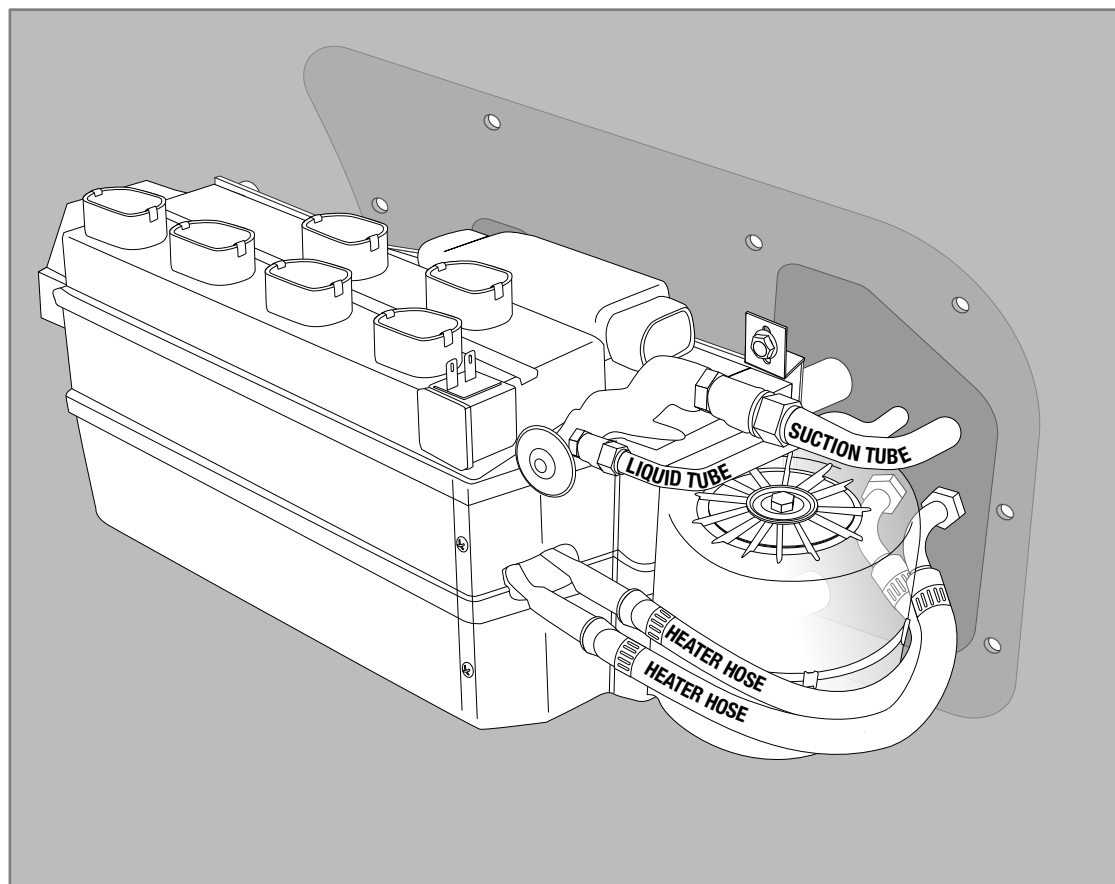
Suction Tube

#6 O-Ring

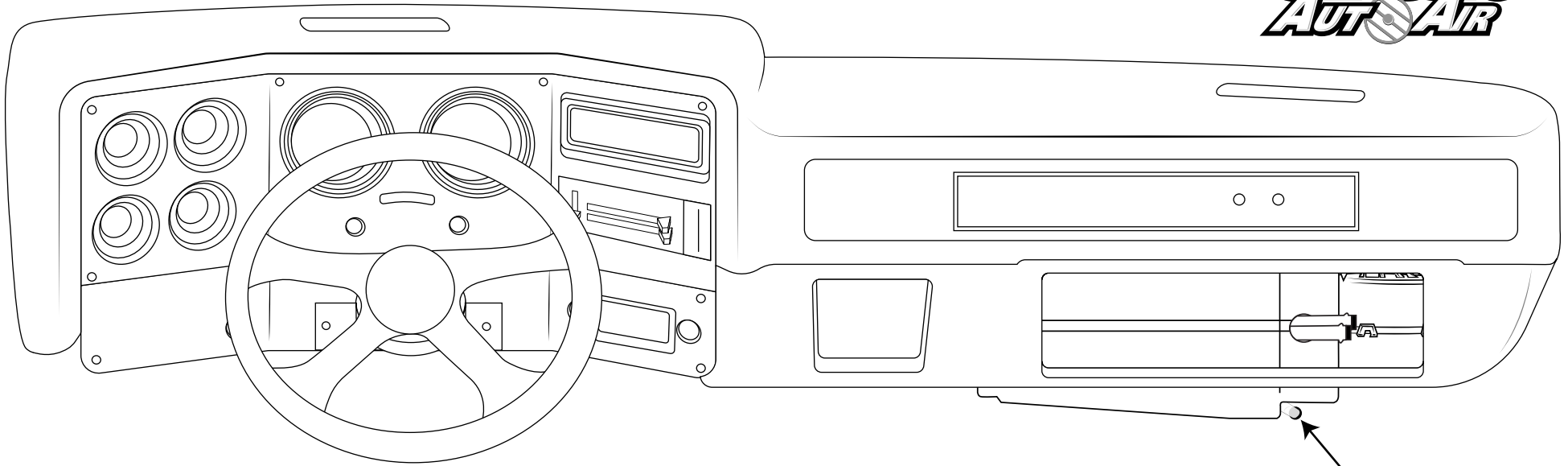
#10 O-Ring

Install the liquid Tube onto the expansion valve as shown. Use #6 o-ring and (2) drops of mineral oil on the o-ring and tighten securely.

Install suction Tube to the outlet on the unit as shown. Use #10 o-ring and (2) drops of mineral oil on the o-ring and tighten securely.



DRAIN TUBE

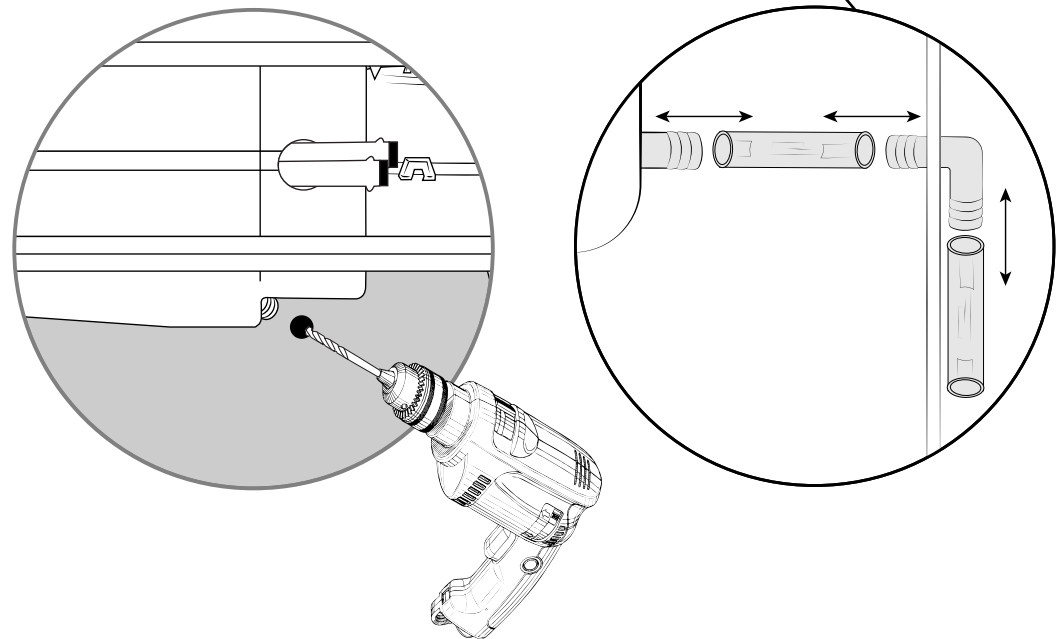


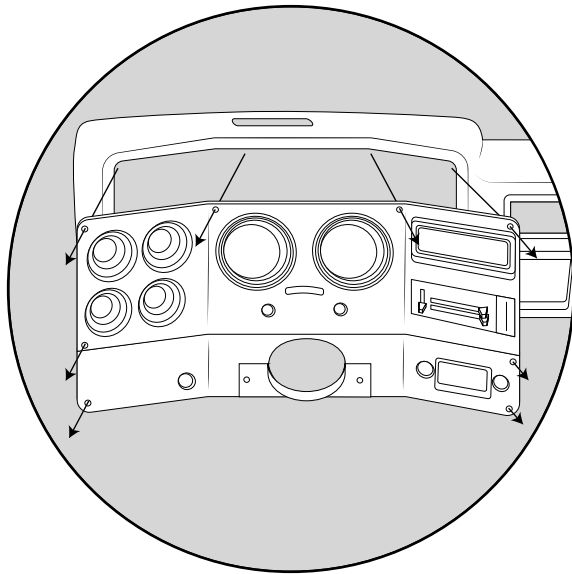
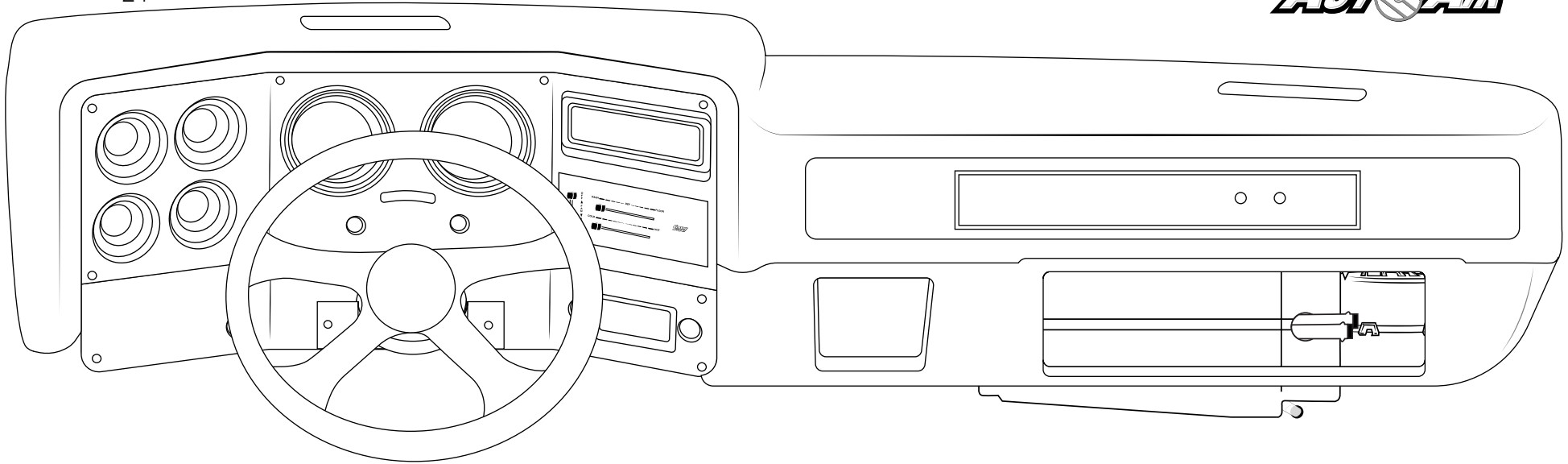
THIS IS FROM INSIDE THE VEHICLE!

Locate drain nipple on evaporator and drill a 3/4" hole below the nipple on the firewall. This will allow condensation to drain properly.

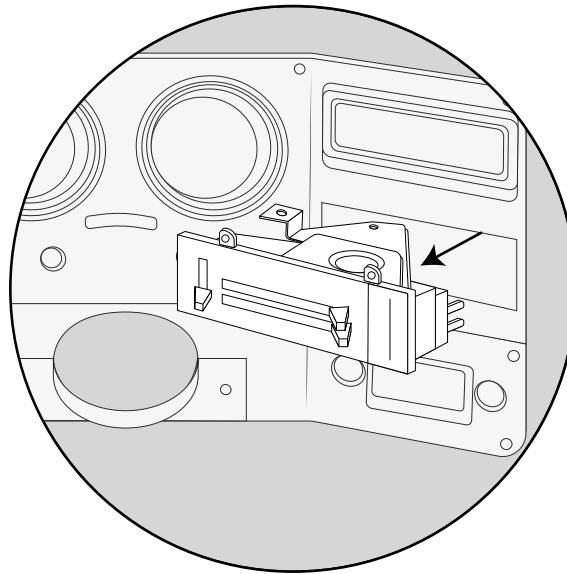
Attach drain tube as shown.

All condensation will now drain out into the engine bay.

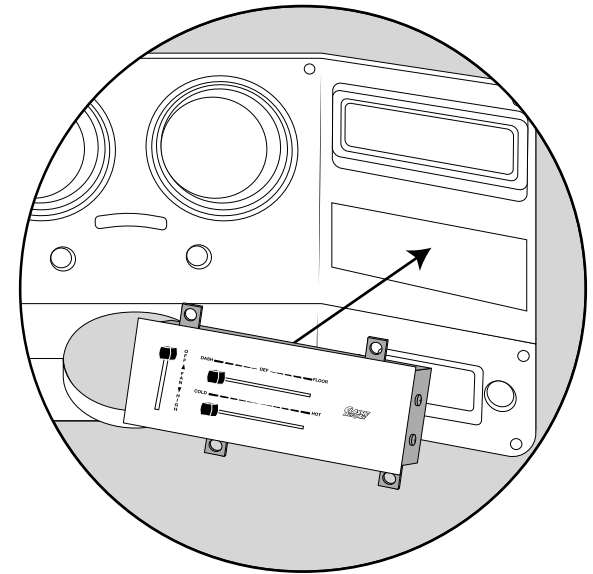




1 Remove the factory dash cluster bezel and retain hardware.



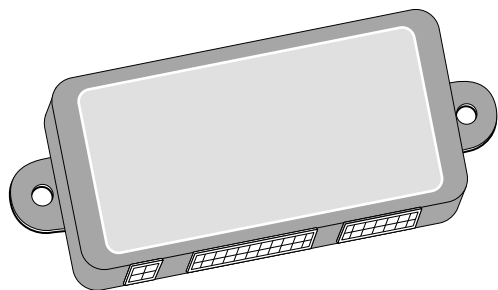
2 Remove factory control head and discard. Retain hardware.



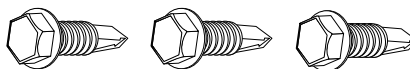
2 Locate D.E.R. control and mount in the factory position with the factory hardware.

THESE ARE THE PARTS YOU WILL FIND IN BAG KIT C

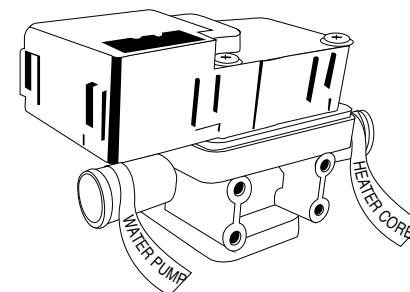
You will use all of these parts and hardware during the next series of installation steps.



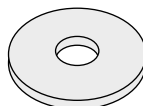
ECU
16-2500



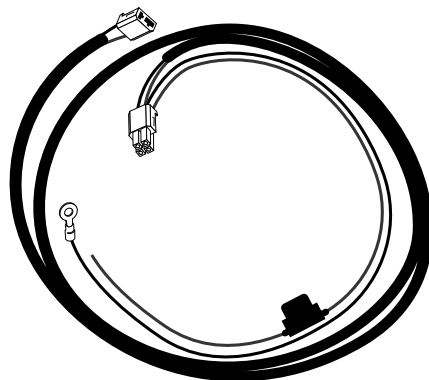
Three #10 - 16 x 3/4" Tek Screws



Electronic Water Control Valve
PN# 16-1023



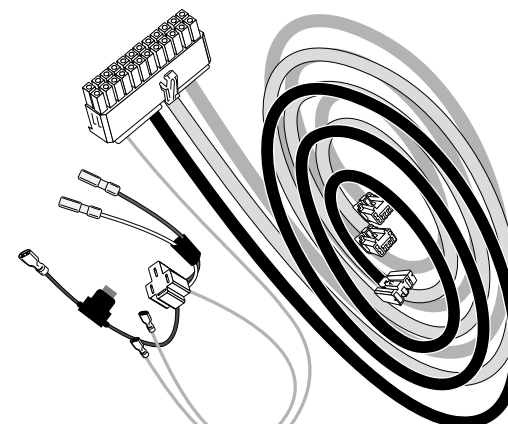
Firewall Grommet



HARNESS POWER SUPPLY
0125-5



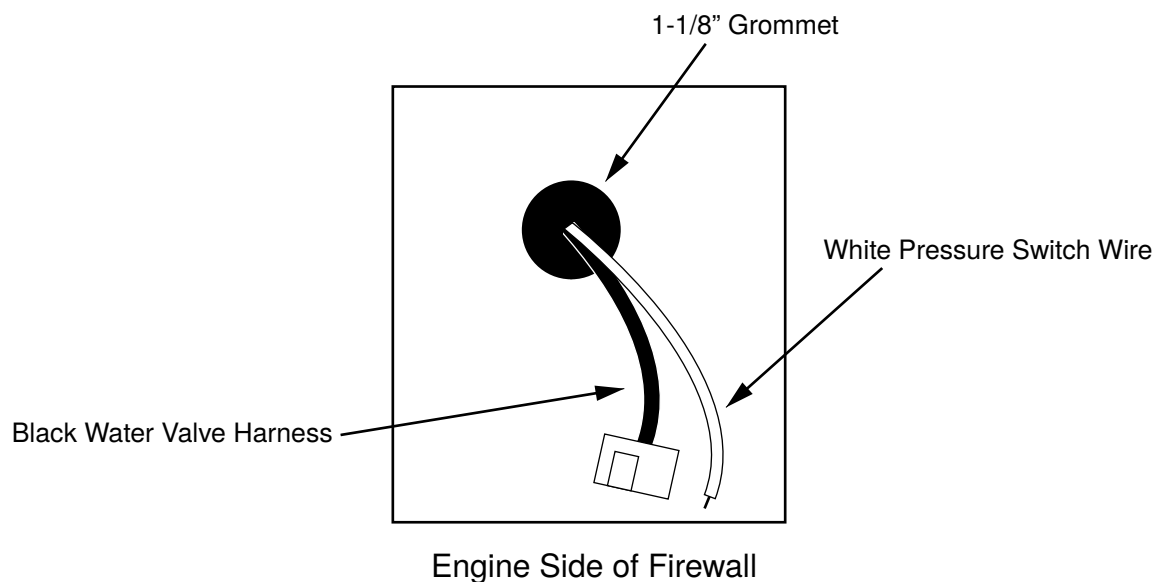
Relay
30-13373



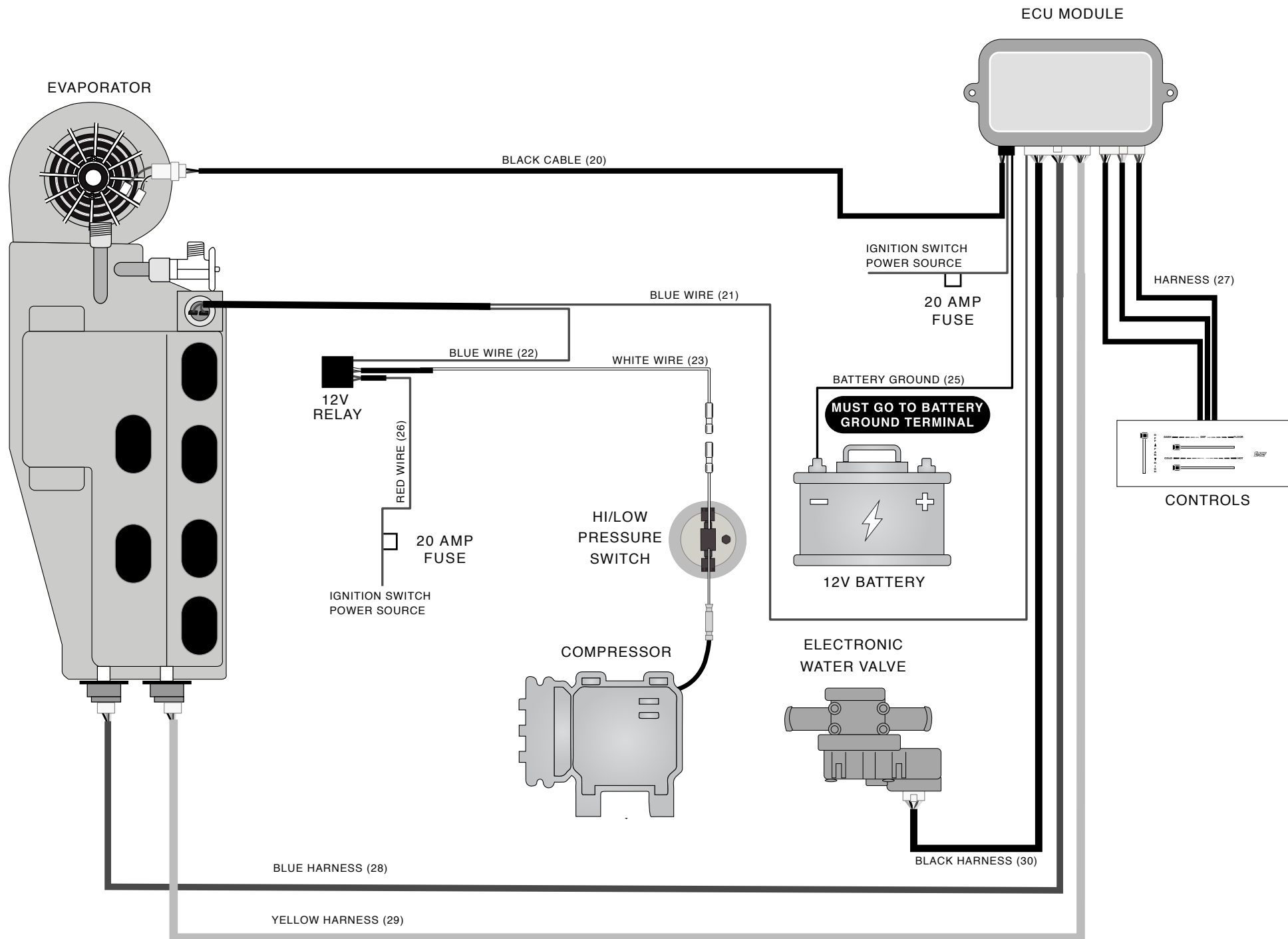
HARNESS
0125-7A

NOTE: The following wire harness installation steps are shown in the wiring diagram on the next page.

- Install the output (servo) wire harness according to the wire diagram.
- Drill a 1-1/8 inch hole in firewall or firewall block off plate.
- Run the black water valve harness and white pressure switch wire through the 1-1/8 inch hole in the firewall.
- Wrap the 1-1/8 inch grommet around the wires and insert into the hole.



- Install the power supply wire harness according to the wire diagram.
- Mount the ECU with (2) #10-16 x 3/4" Tek screws.
- Secure the relay with the remaining #10-16 x 3/4" Tek screw.



IMPORTANT NOTICE: PROPER INSTALLATION OF WATER VALVE

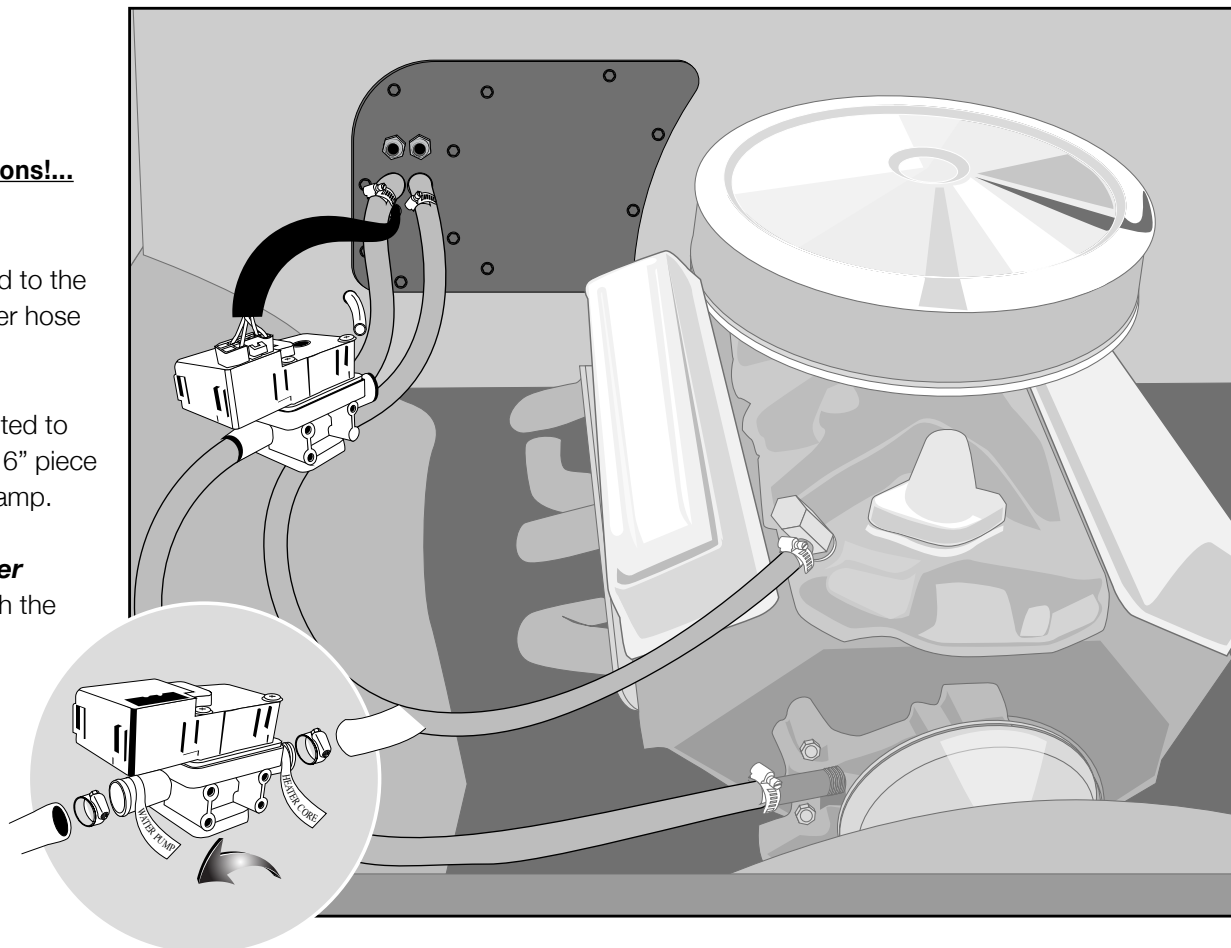
Your water valve MUST be installed per these instructions!...
(If not, your system will not work properly.)

The **right** heater tube connection on firewall will be routed to the water connection on intake manifold using 5/8" dia. heater hose with the supplied worm gear clamp.

The **left** heater tube connection on the firewall will be routed to the water valve connection labeled **heater core**, using a 6" piece of 5/8" heater hose attached with supplied worm gear clamp.

Connect the remaining outlet on water valve labeled **water pump** to the water pump using 5/8" dia. heater hose with the supplied worm gear clamp.

**FOLLOW THESE
TAGS... CHECK IT
TWICE BEFORE
PROCEEDING!**



THE NEXT FEW PAGES COVER VENT INSTALLATION. PAY ATTENTION TO THE VEHICLE YEAR AT THE TOP OF EACH PAGE TO ENSURE YOU PROPERLY INSTALL YOUR VENTS.

1973-80 HEATER ONLY - PAGE 30

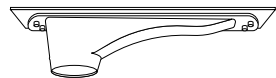
1981-87 HEATER ONLY - PAGE 34

1973-87 FACTORY AIR - PAGE 38

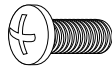
1973-80 HEATER ONLY

You will use all of these parts and hardware during the next series of installation steps.

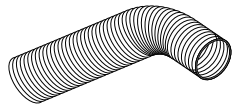
Bag E



Adapter, Defrost (2)
PN#2-2034-1



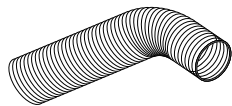
#10-32 x 12 PHP (4)
PN#10F5OPPHZ



2" Duct Hoses, 2ft (3)



#10-32 Nut (4)
PN#10FNNEZ



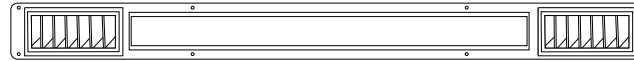
2" Duct Hoses, 6ft



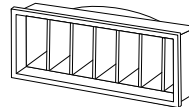
Zip-Ties (8)

Vent Kit

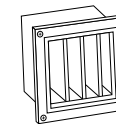
2-2034 (73-80)



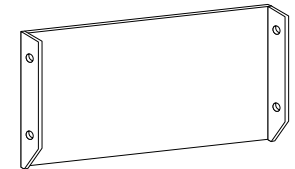
Vent Bezel
PN#2-2034-5



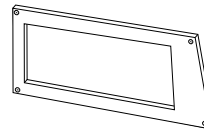
Vent
PN#2-1060-3



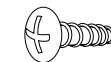
Vent
PN#10.364.05



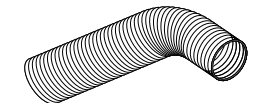
Glove Box Panel
PN#0123-24



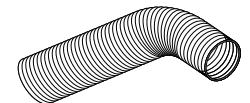
Bezel
PN#0123-25



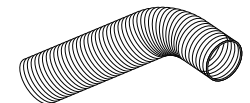
#6 x 1/2" Black PHP Screw (4)
PN#SB57



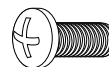
2" Duct Hoses, 2ft (2)



2" Duct Hoses, 5ft



2" Duct Hoses, 6ft



#8-32x1/2 PHP (4)
PN#8C5OPPHZ



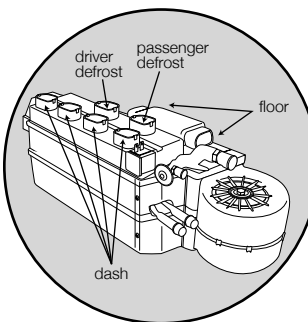
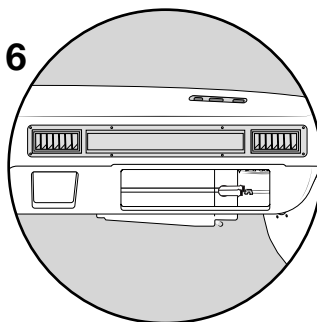
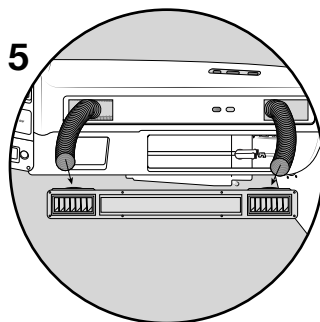
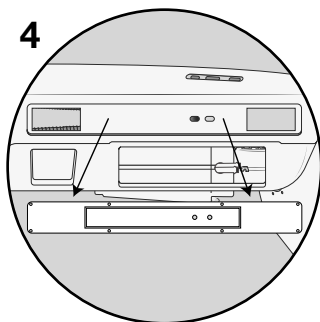
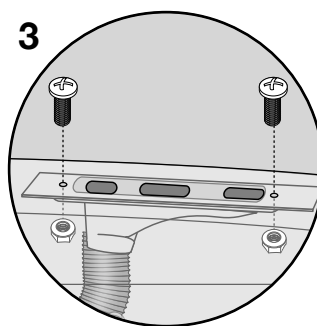
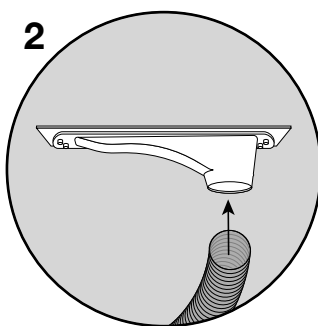
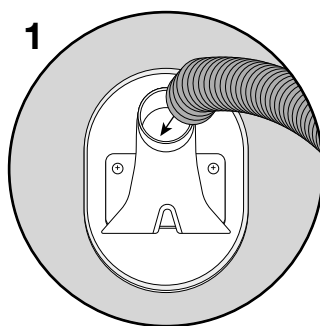
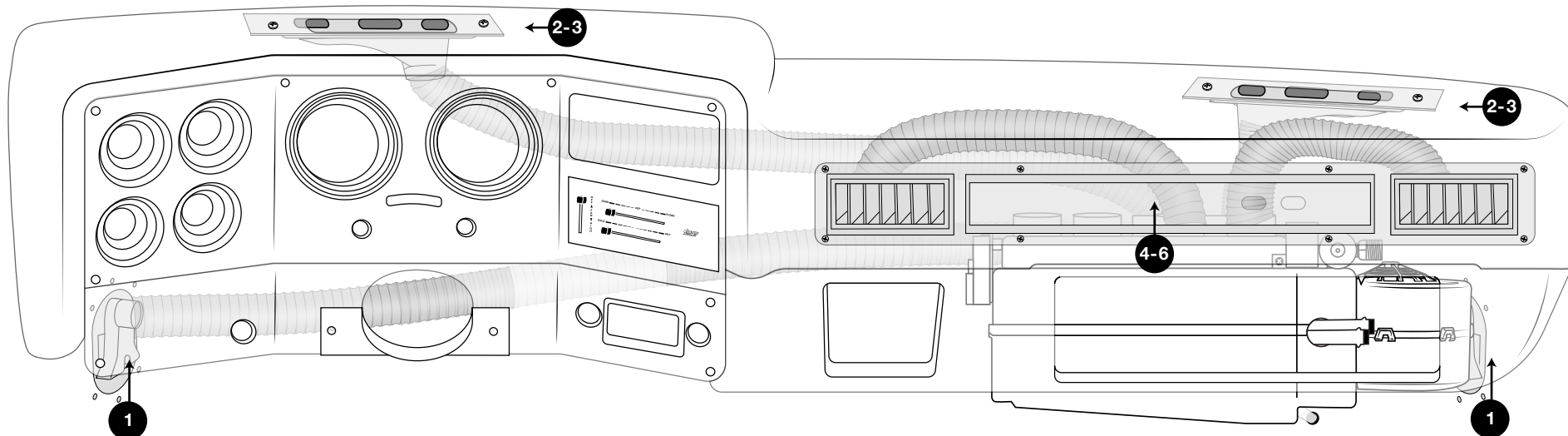
#8-32 Nut (4)
PN#X9



Zip-Ties (8)

Illustrations **NOT** shown actual size

1973-80 HEATER ONLY



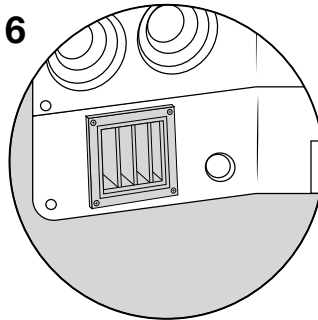
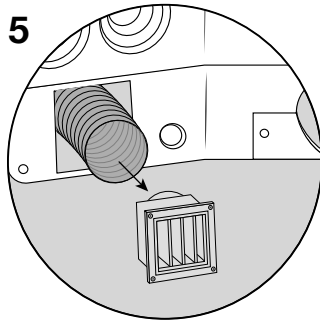
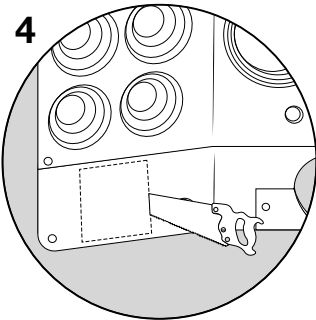
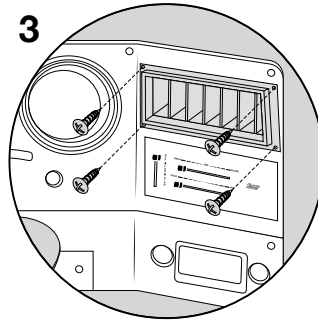
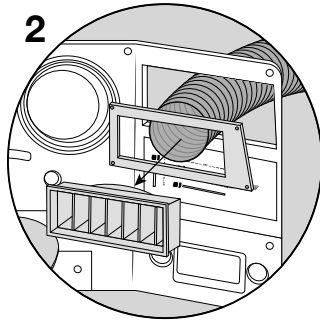
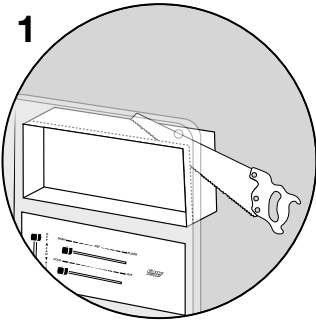
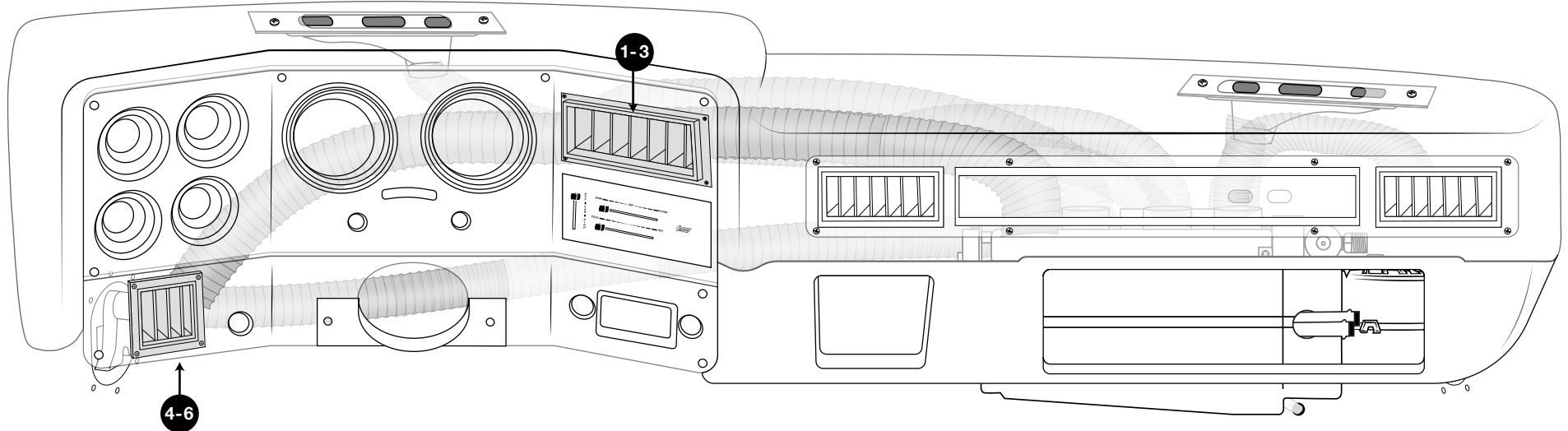
1 On the **driver's side**, attach **6ft** hose to the floor hose connection on evaporator to the previously installed kick panel floor dumps. Repeat on the **passenger's side** with the **2ft** hose. Secure with zip-tie.

2-3 On the **driver's side**, attach **2ft** hose from defrost outlet on evaporator to the defrost adapter. Repeat on the **passenger's side** with a **2ft** hose. Secure with zip-tie. Mount both defrost adapters to the top of the dash with (4) #10-32 x 1/2 PHP and (4) nuts as shown.

4 Remove the factory vent bezel and discard.

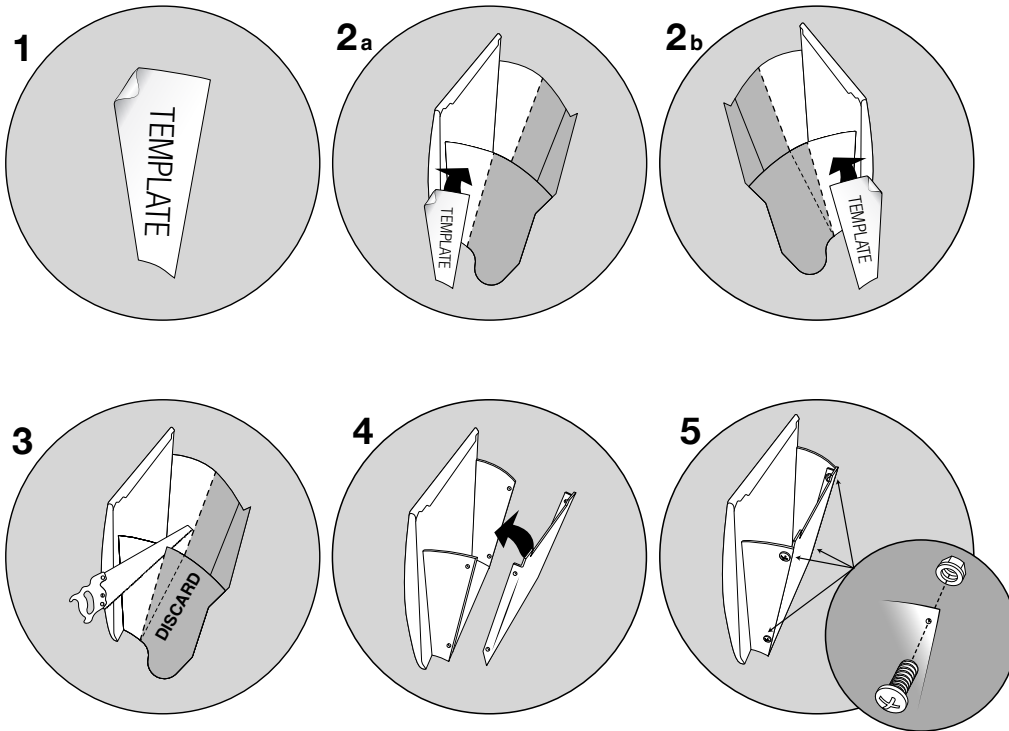
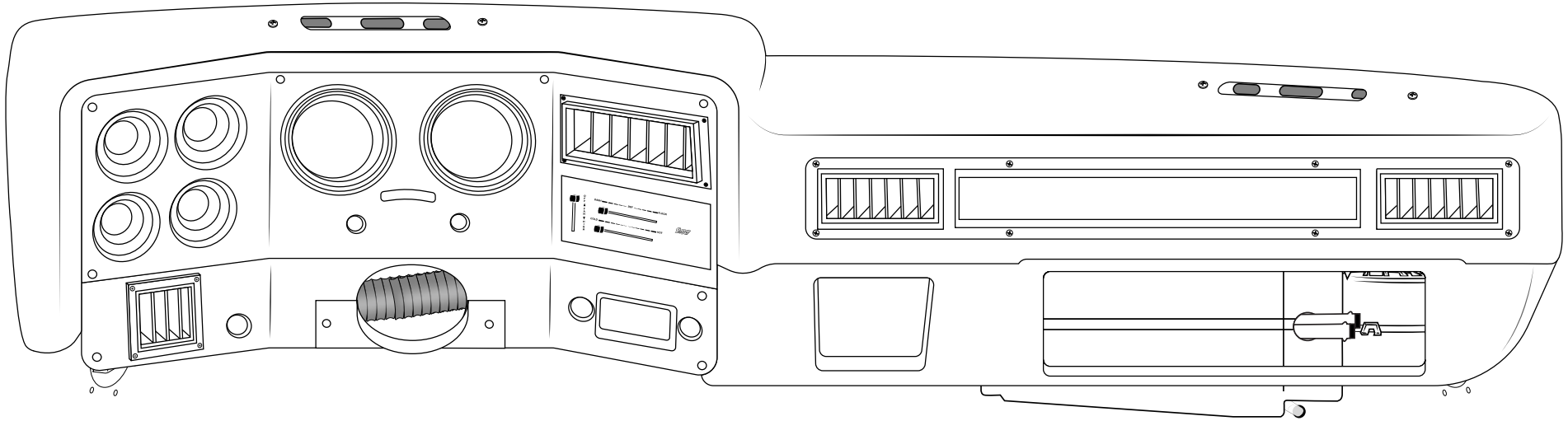
5-6 Attach **2ft** hoses from the evaporator to the vents at this time. Secure with zip-tie. Align bezel with pre-existing holes and attach to dash using (6) nylon nuts.

1973-80 HEATER ONLY



- 1 Locate the dash cluster previously removed. In order for your vent to fit, you will need to cut open the factory change compartment above the control by removing the back as shown above.
- 2 Attach the bezel to the vent as show. Attach **4ft** hose from the evaporator to the vent at this time. Secure with zip-tie.
- 3 Attach the vent using (4) #6 x 3/4 black PHP screws.
- 4 Using your vent as a guide, mark a hole for the vent in the lower left corner of the gauge cluster. Cut hole.
- 5 Attach **6ft** hose from the evaporator to the adapter at this time. Secure with zip-tie.
- 6 Mount the vent to the gauge cluster.
- 7 Re-install gauge cluster using original hardware.

1973-80 HEATER ONLY

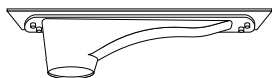


- 1 Locate the glove box modification template provided in the back of the install manual.
- 2 Using the template, mark the outside of the glove box as shown. Repeat on opposite side. Mark the bottom of the glove box connecting each end.
- 3 Cut the box on the marked lines with a hack saw and discard.
- 4 Locate glove box panel provided.
- 5 Attach the supplied glove box with (4) #8-32 x 1/2 PHP and (4) nuts as shown.

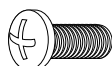
1981-87 HEATER ONLY

You will use all of these parts and hardware during the next series of installation steps.

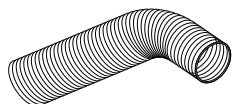
Bag E



Adapter, Defrost (2)
PN#2-2034-1



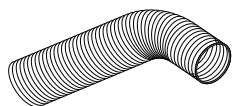
#10-32 x 12 PHP (4)
PN#10F5OPPHZ



2" Duct Hoses, 2ft (3)



#10-32 Nut (4)
PN#10FNNEZ



2" Duct Hoses, 6ft

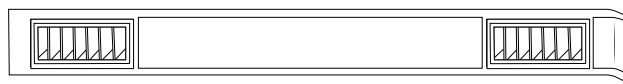


Zip-Ties (8)

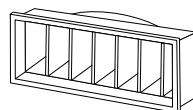
Illustrations **NOT** shown actual size

Vent Kit

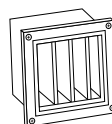
2-2034 (81-87)



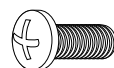
Vent Bezel
PN#0123-20



Vent
PN#2-1060-3



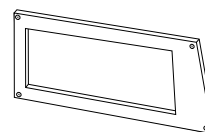
Vent
PN#10.364.05



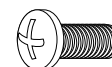
#10-32 x 1/2 PHP (4)
PN# F50PPHZ



Speed Nut (11)
PN#SD188008



Bezel
PN#0123-25



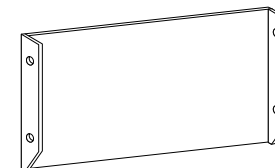
#8-32 x 1/2 PHP (4)
PN#8C50PPHZ



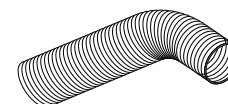
#10-32 Nut (4)
PN# 10FFNEZ



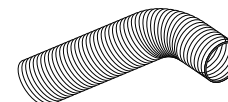
#6 x 3/4 Black PHP Screw (4)
PN#SB57



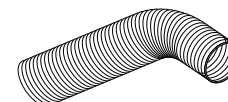
Glove Box Panel
PN#0123-24



2" Duct Hoses, 2ft (2)



2" Duct Hoses, 4ft



2" Duct Hoses, 6ft

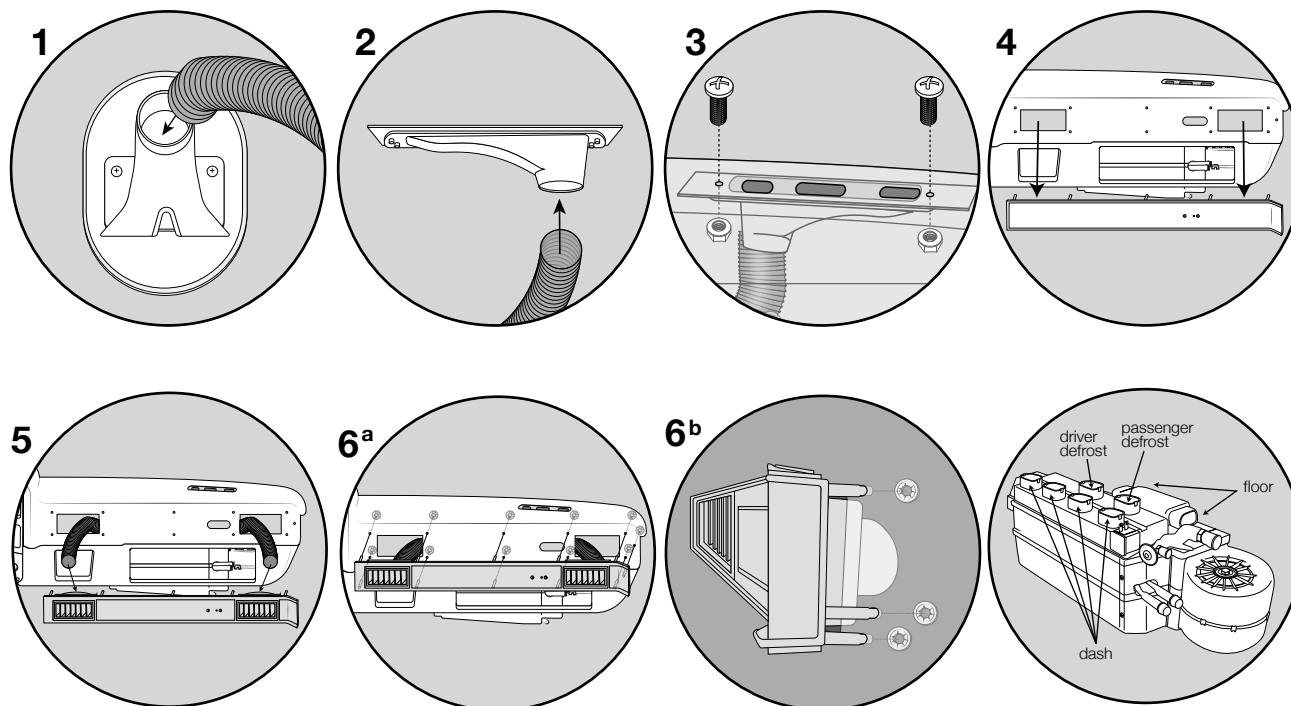
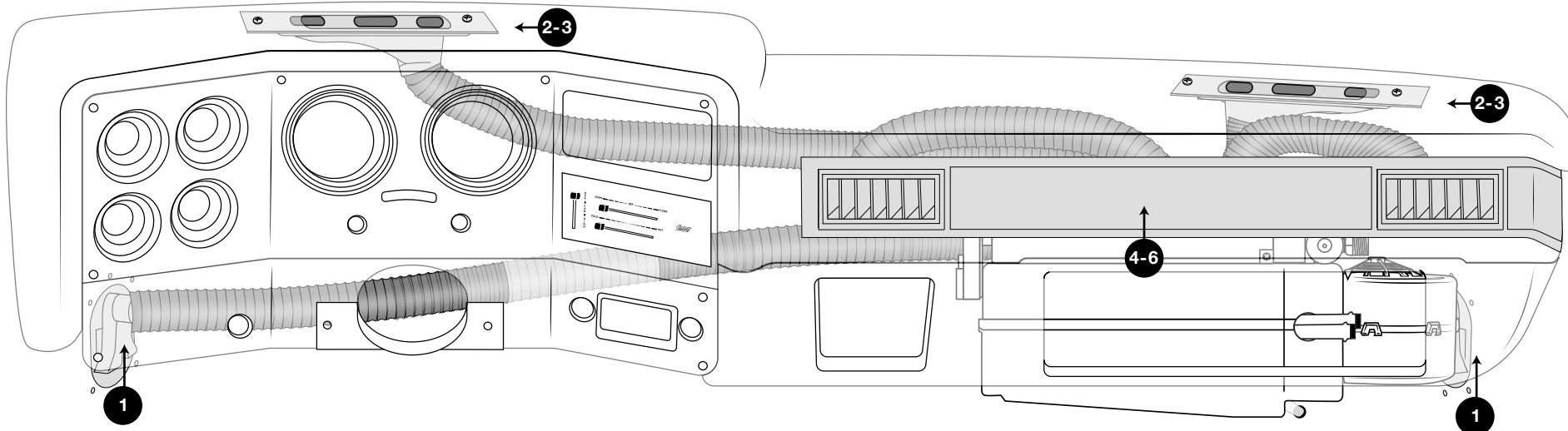


#8-32 Nut (4)
PN#X9



Zip-Ties (8)

1981-87 HEATER ONLY



1 On the **driver's side**, attach **6ft** hose to the floor hose connection on evaporator to the previously installed kick panel floor dumps. Repeat on the **passenger's side** with the **2ft** hose. Secure with zip-tie.

2-3 On the **driver's side**, attach **2ft** hose from defrost outlet on evaporator to the defrost adapter. Repeat on the **passenger's side** with a **2ft** hose. Secure with zip-tie. Mount both defrost adapters to the top of the dash with (4) #10-32 x 1/2 PHP and (4) nuts as shown.

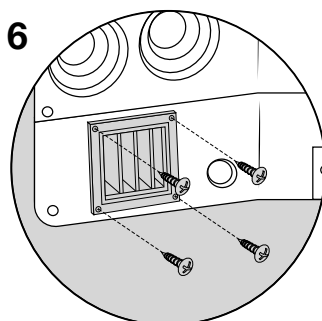
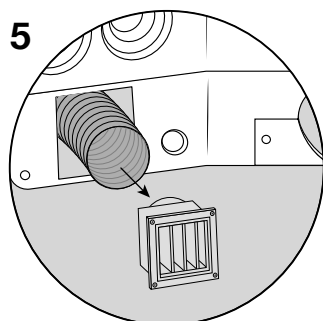
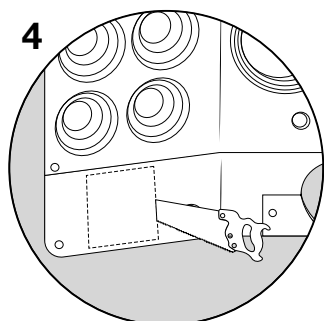
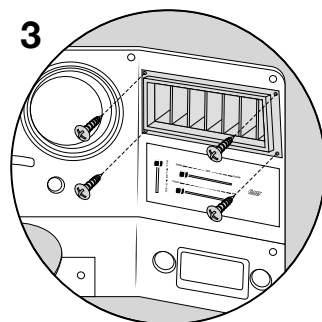
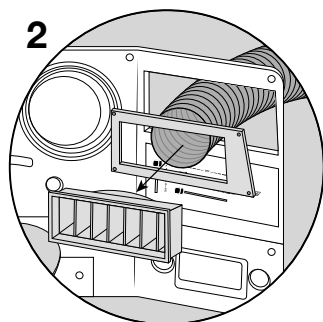
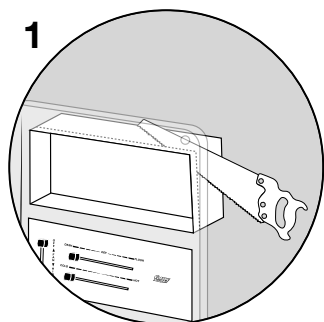
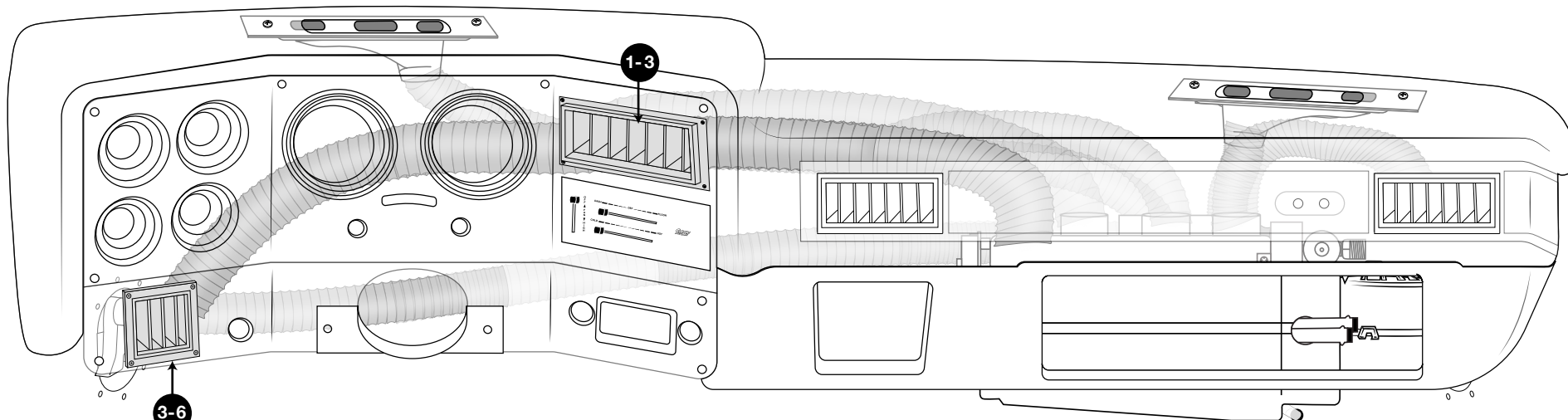
4 Remove the factory vent bezel and discard.

5-6 Attach **2ft** hoses from the evaporator to the vents at this time. Secure with zip-tie. Align bezel with pre-existing holes and attach with provided vent bezel to dash using (11) speed nuts.



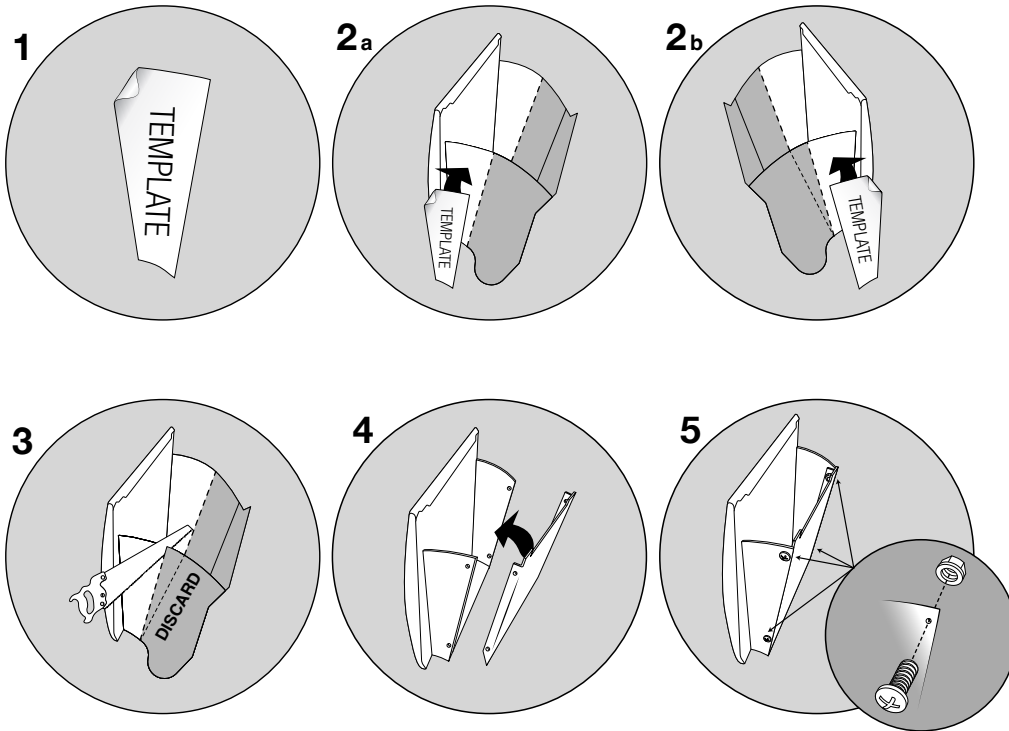
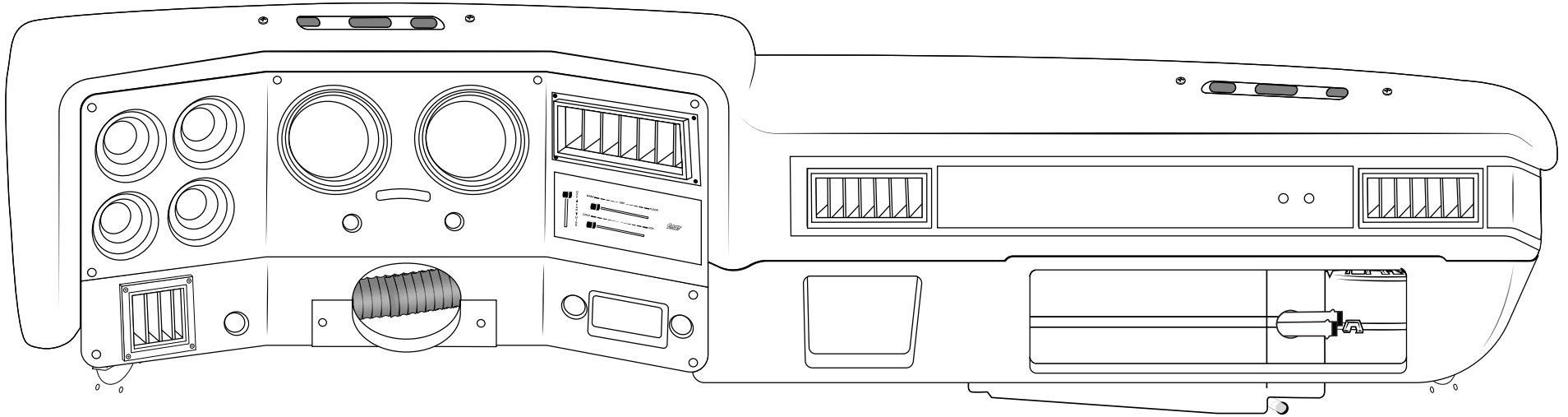
The smoother the route of the flex hoses the better the airflow.

1981-87 HEATER ONLY



- 1** Locate the dash cluster previously removed. In order for your vent to fit, you will need to cut open the factory change compartment above the control by removing the back as shown above.
- 2** Attach the bezel to the vent as show. Attach **4ft** hose from the evaporator to the vent at this time. Secure with zip-tie.
- 3** Attach the vent using (4) #6 x 3/4 black PHP screws.
- 4** Using your vent as a guide, mark a hole for the vent in the lower left corner of the gauge cluster. Cut hole.
- 5** Attach **6ft** hose from the evaporator to the adapter at this time. Secure with zip-tie.
- 6** Using (4) screws, mount the vent to the gauge cluster.
- 7** Re-install gauge cluster using original hardware.

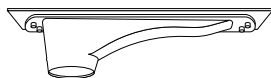
1981-87 HEATER ONLY



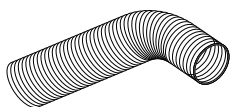
- 1 Locate the glove box modification template provided in the back of the install manual.
- 2 Using the template, mark the outside of the glove box as shown. Repeat on opposite side. Mark the bottom of the glove box connecting each end.
- 3 Cut the box on the marked lines with a hack saw and discard.
- 4 Locate glove box panel provided.
- 5 Attach the supplied glove box with (4) #8-32 x 1/2 PHP and (4) nuts as shown.

You will use all of these parts and hardware during the next series of installation steps.

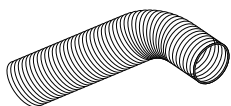
Bag E



Adapter, Defrost (2)
PN#2-2034-1



2" Duct Hoses, 2ft (3)



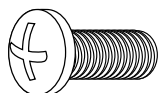
2" Duct Hoses, 6ft



#10-32 Nut (4)
PN#10FFNEZ



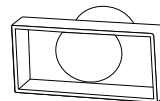
Zip-Ties (8)



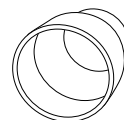
#10-32 x 1/2 PHP (4)
PN#10F5OPPHZ

Vent Kit

2-2034FA (73-87)



Adapter, Center (2)
PN#2-2034-2



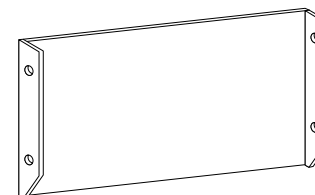
Adapter, Passenger
PN#2-2034-4



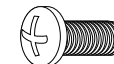
Adapter, Driver
PN#2-2034-3



Zip-Ties (8)



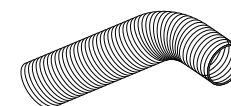
Glove Box Panel
PN#0123-16



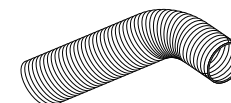
#8-32 x 1/2 PHP (4)
PN#8C50PPHZ



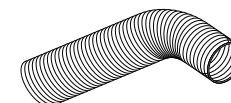
#8-32 Nut (4)
PN#X9



2" Duct Hoses, 2ft (2)



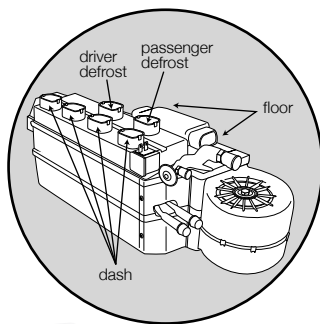
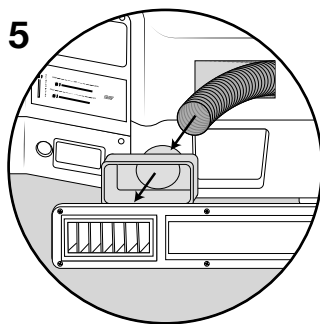
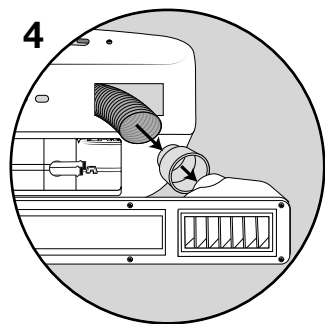
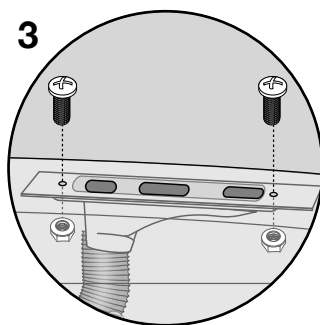
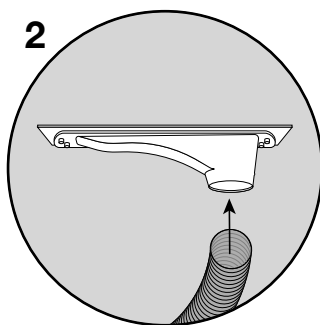
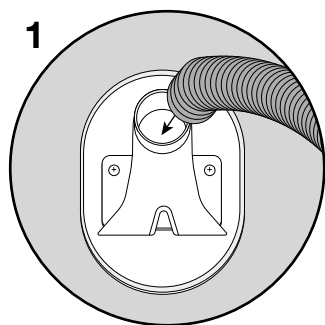
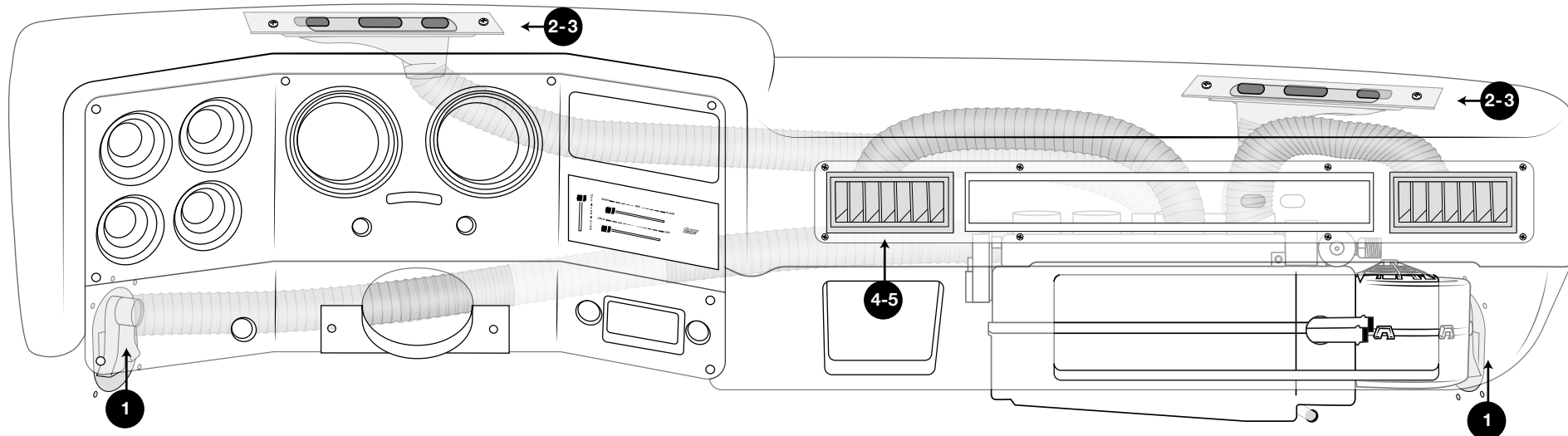
2" Duct Hoses, 4ft



2" Duct Hoses, 6ft

Illustrations NOT shown actual size

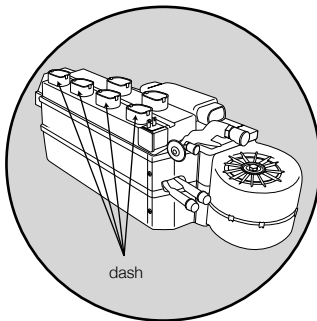
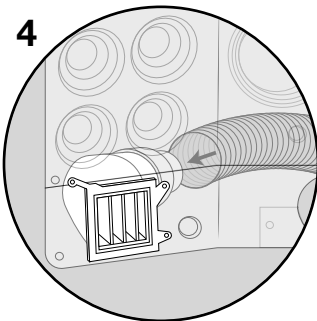
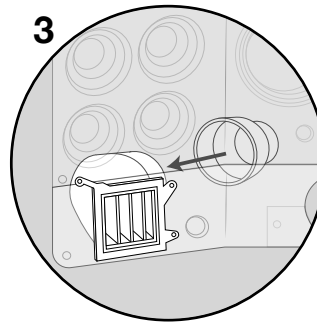
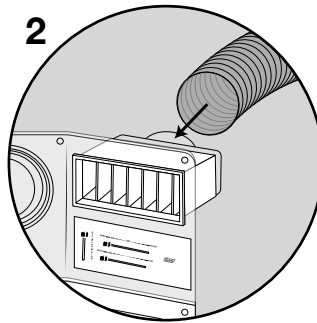
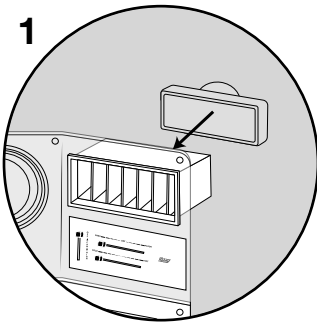
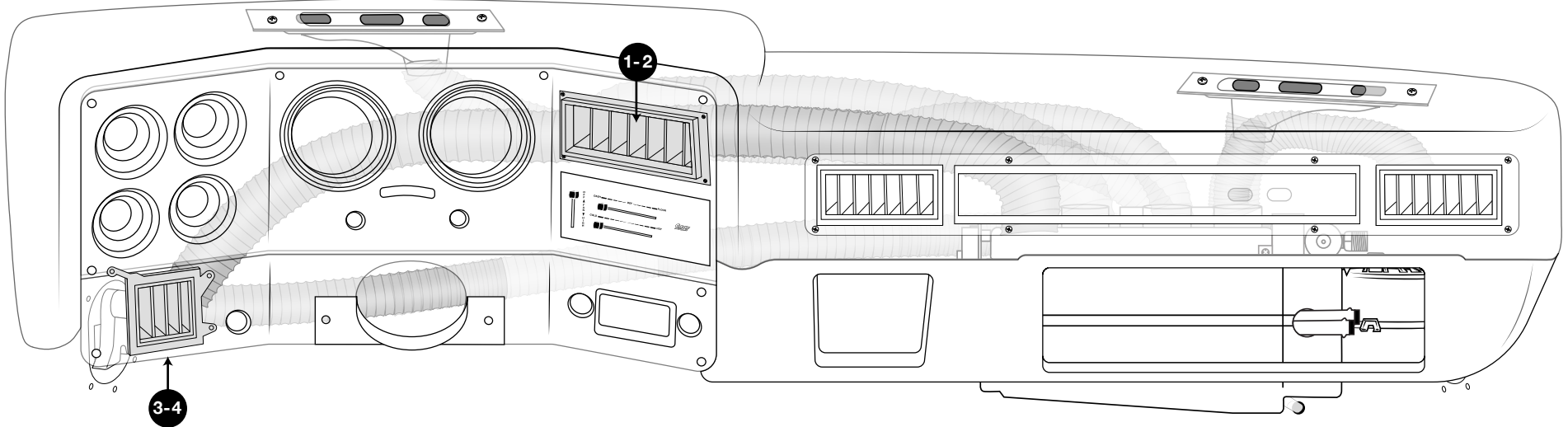
1973-87 FACTORY AIR



The smoother the route of the flex hoses the better the airflow.

- 1** On the **driver's side**, attach **6ft** hose to the floor hose connection on evaporator to the previously installed kick panel floor dumps. Repeat on the **passenger's side** with the **2ft** hose. Secure with zip-tie.
- 2** On the **driver's side**, attach **2ft** hose from defrost outlet on evaporator to the defrost adapter. Repeat on the **passenger's side** with a **2ft** hose. Secure with zip-tie.
- 3** Mount both defrost adapters to the top of the dash with (4) #10-32 x 1/2 PHP and (4) nuts as shown.
- 4** Attach passenger adapter PN#2-2034-4 to the back of the right vent on bezel. Secure a **2ft** hose from the evaporator to the adapter with zip-tie.
- 5** Attach center adapter PN#2-2034-2 to the back of the left vent on bezel. Secure a **2ft** hose from the evaporator to the adapter with zip-tie.

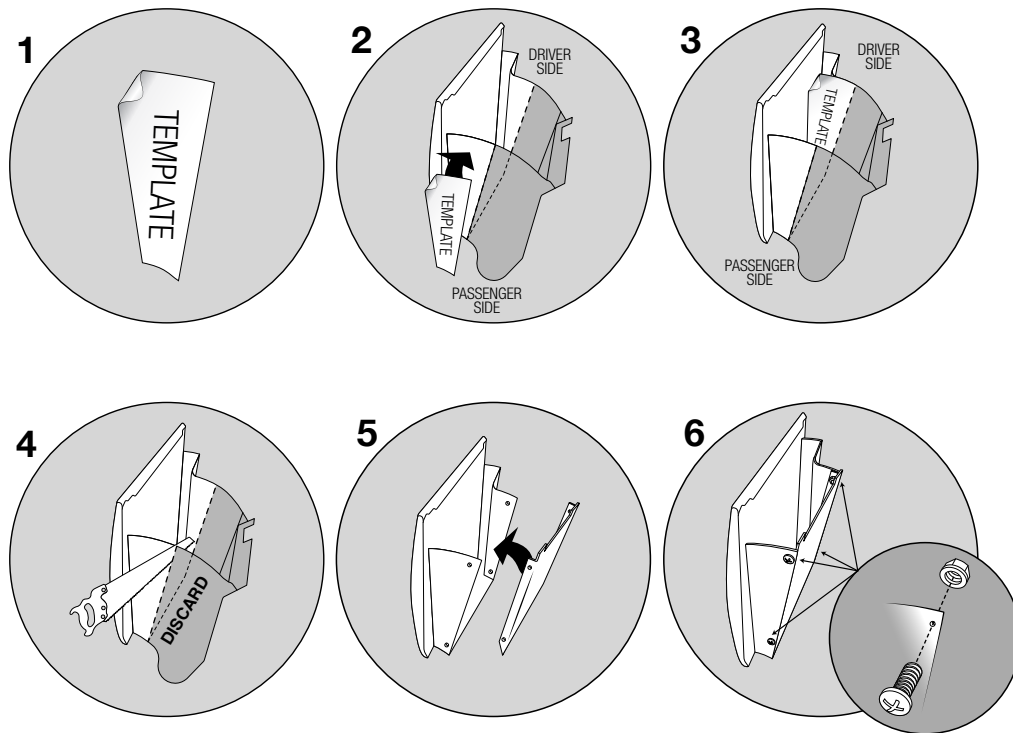
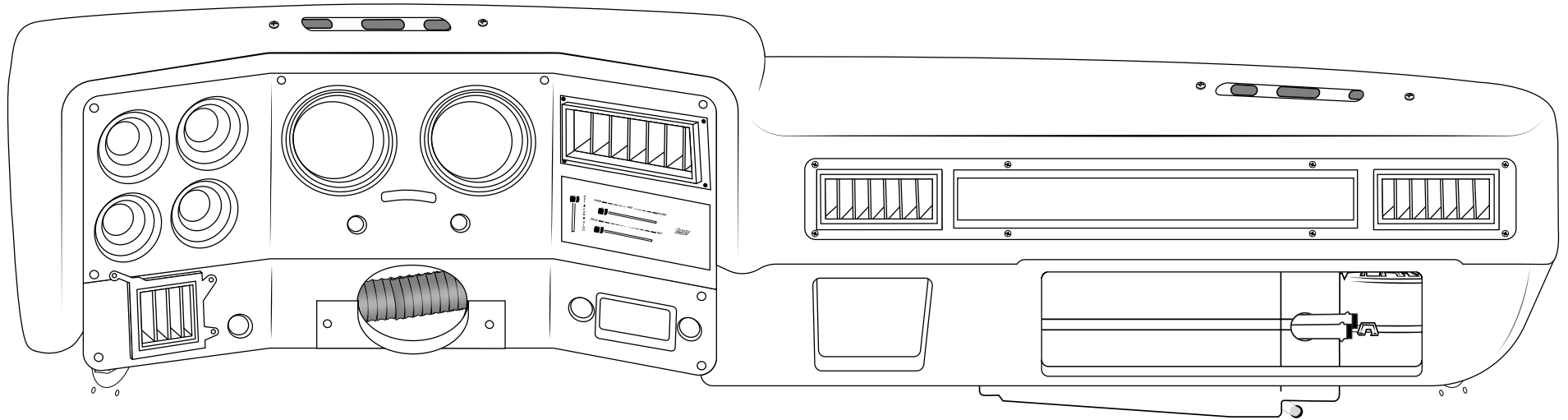
1973-87 FACTORY AIR



The smoother the route of the flex hoses the better the airflow.

- 1 Locate the center vent adapter PN#2-2034-2. Attach the adapter to the back of the center vent located in the gauge cluster.
- 2 Secure a **4ft** hose from the evaporator to the center vent adapter with a zip tie.
- 3 Locate the driver vent adapter PN#2-2034-3. Attach the adapter to the back of the driver vent located in the gauge cluster.
- 4 Secure a **6ft** hose from the evaporator to the driver vent adapter with a zip tie.
- 5 Re-install gauge cluster using original hardware.

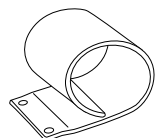
1973-87 FACTORY AIR



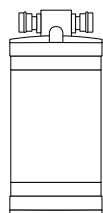
- 1 Locate the glove box modification template provided in back of install manual.
- 2 Using the template, mark the outside of the passenger side of the glove box as shown.
- 3 Place the same template on the inside of the driver's side of the glove box and repeat. Mark the bottom of the glove box connecting each end.
- 4 Cut the box on the marked lines with a hack saw and discard.
- 5 Locate glove box panel provided.
- 6 Attach the supplied glove box with (4) #8-32 x 1/2 PHP and (4) nuts as shown.

1973-80 ONLY

**THESE ARE THE PARTS YOU WILL NEED FOR THE ENGINE
COMPARTMENT INSTALLATION**



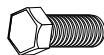
*Drier Bracket
PN#19-1003*



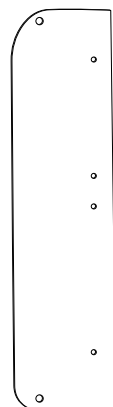
*Drier
PN#12-1008*



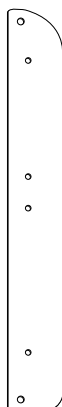
*#10 - 20 x 1/4" (10)
PN#10B25SHBZ*



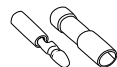
*#1/4 x 5/8" Bolts (4)
PN#25C62HHB5Z*



*Condenser
Bracket
PN#0130-56*



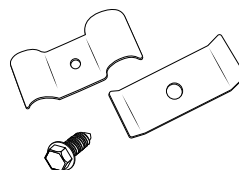
*Condenser
Bracket
PN#0130-55*



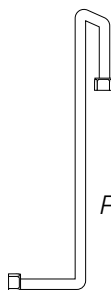
*Splice and
Bullet Connector*



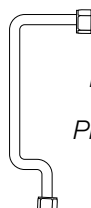
*#1/4 Flange Nuts (4)
PN#25CNFLZ/S*



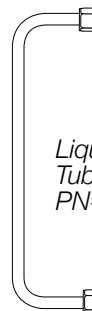
*Tube
Bracket
PN#19-151*



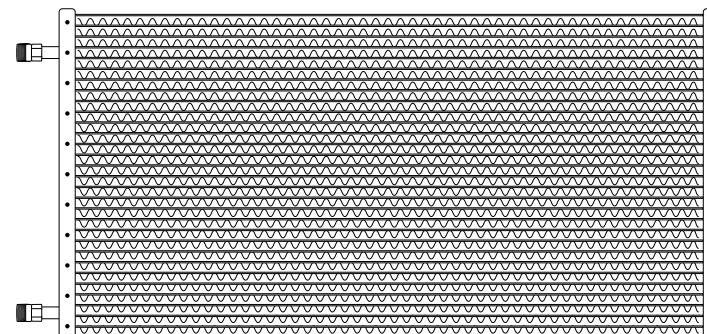
*Liquid Tube
PN#0130-50*



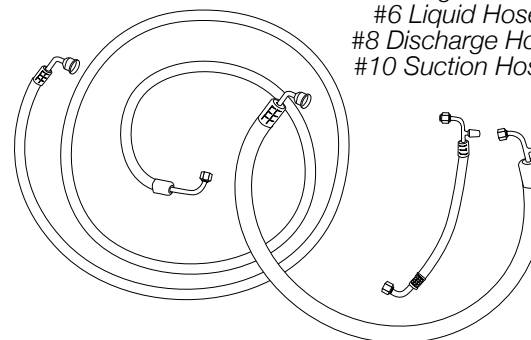
*Discharge
Tube
PN#0130-51*



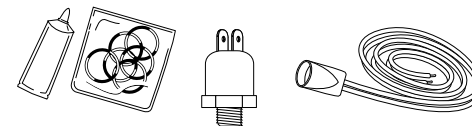
*Liquid
Tube
PN#0045-5*



*Condenser
PN#11-1042*



*Three Refrigerant Hoses:
#6 Liquid Hose
#8 Discharge Hose
#10 Suction Hose*

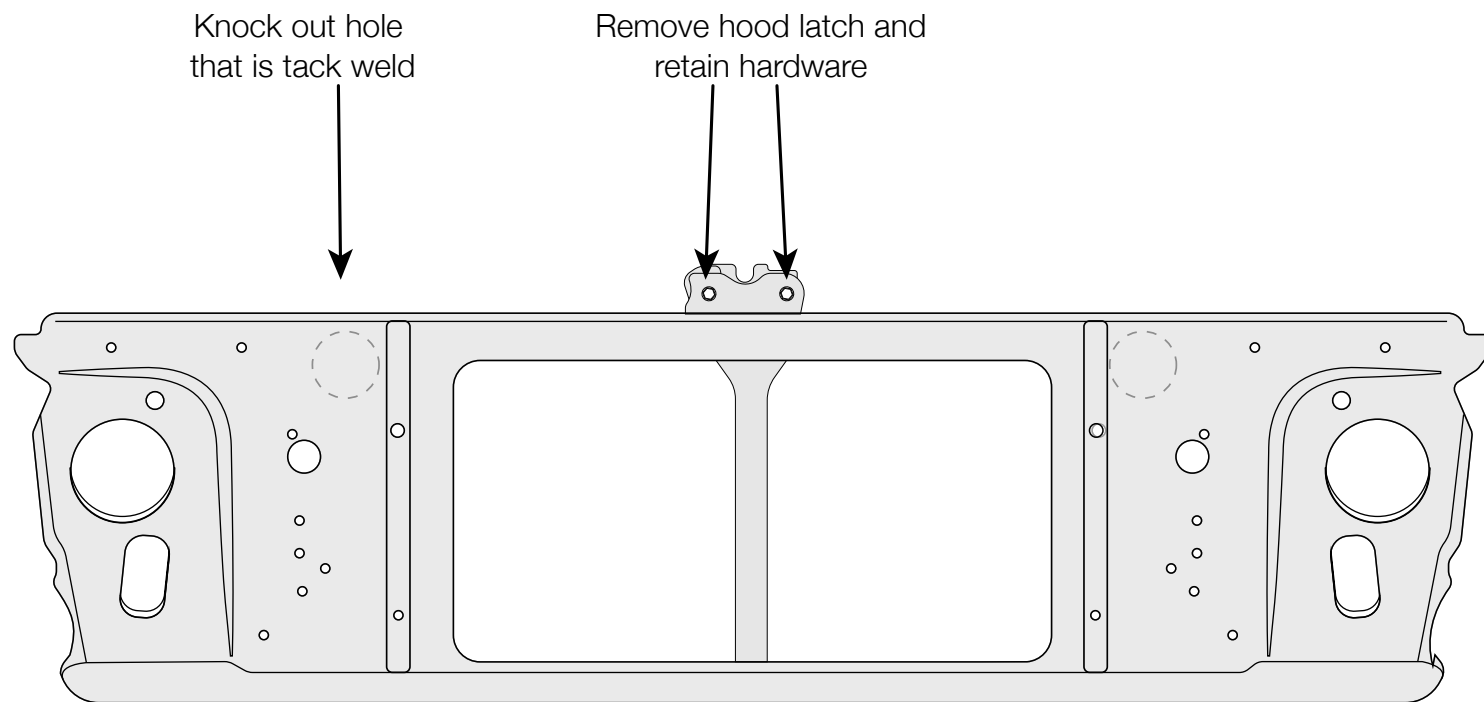


*Pressure Switch and harness,
Bag of O-rings and Mineral Oil Tube*

Illustrations NOT shown actual size

1973-80 ONLY

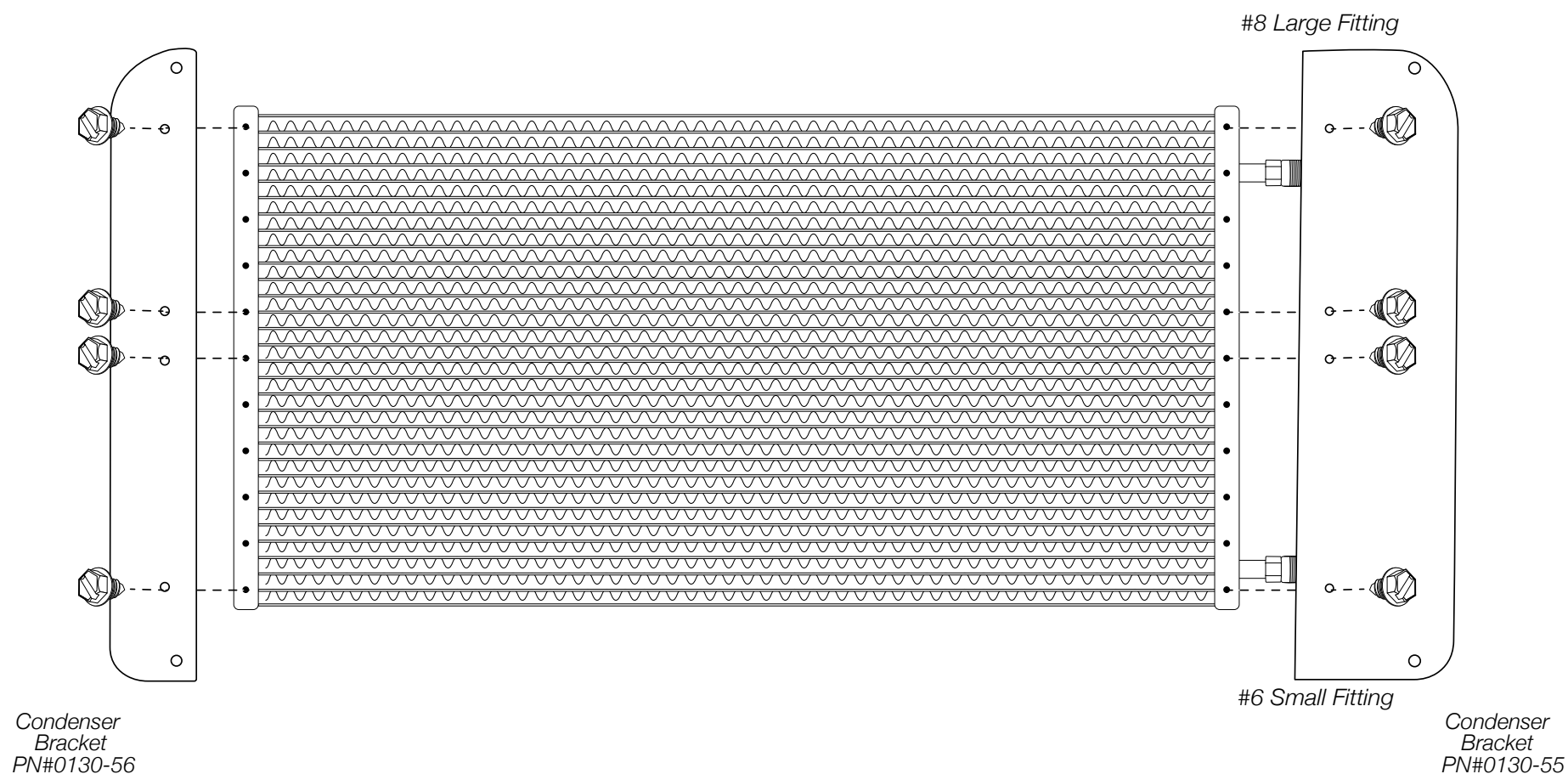
At this time you will want to disconnect the battery and drain radiator. Remove the hood latch and retain the hardware for reinstallation.



1973-80 ONLY

CONDENSER BRACKETS: You can perform most of the following steps on a clean flat surface like a workbench. Lay the condenser down so that both hose connections are on the **RIGHT SIDE** (the larger connection will be on top).

Locate condenser brackets and (8) #10 - 20 x 1/4" screws. Attach brackets as shown.

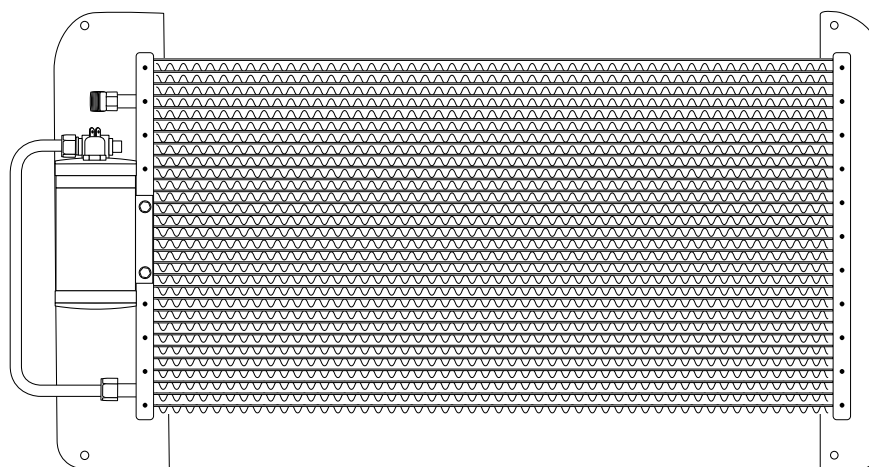
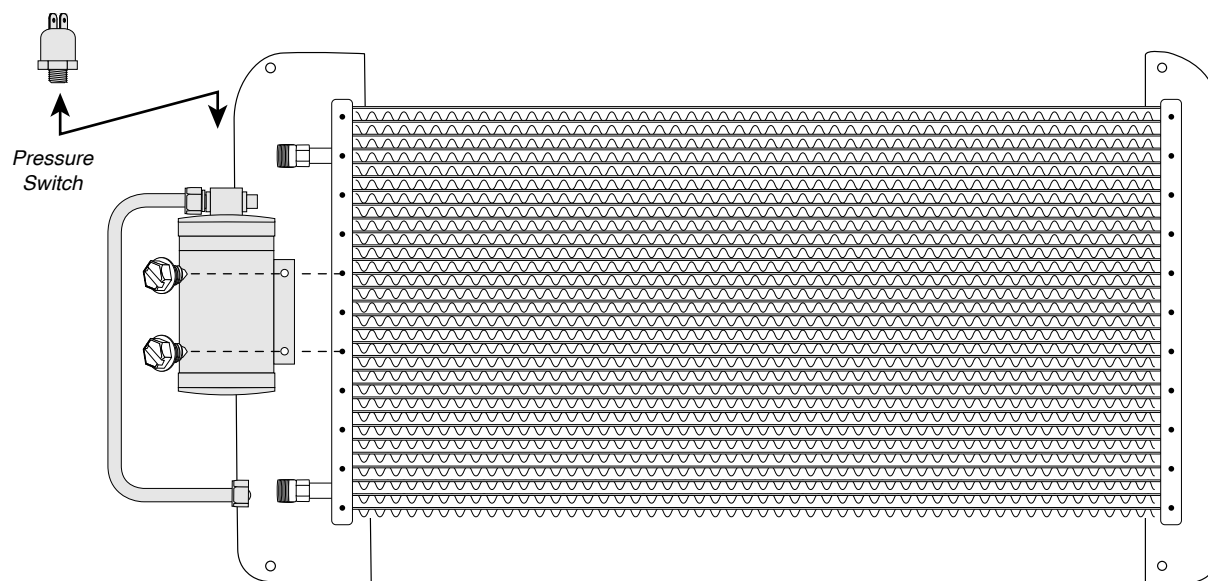


1973-80 ONLY

Flip over the condenser and lay it down so that both hose connections are now on the **LEFT SIDE** (the larger connection will be on top). The drier is conveniently mounted on the left hand side of the condenser.

DRIER: First insert the drier into the drier mounting bracket. Attach the liquid tube to the drier and the bottom connection on the condenser using o-rings and a few drops of mineral oil. Tighten both connections. It will be easy to find the correct place to attach the drier bracket onto the condenser after attaching the liquid tube. Attach drier bracket using (2) #10-20 x 1/4" screws.

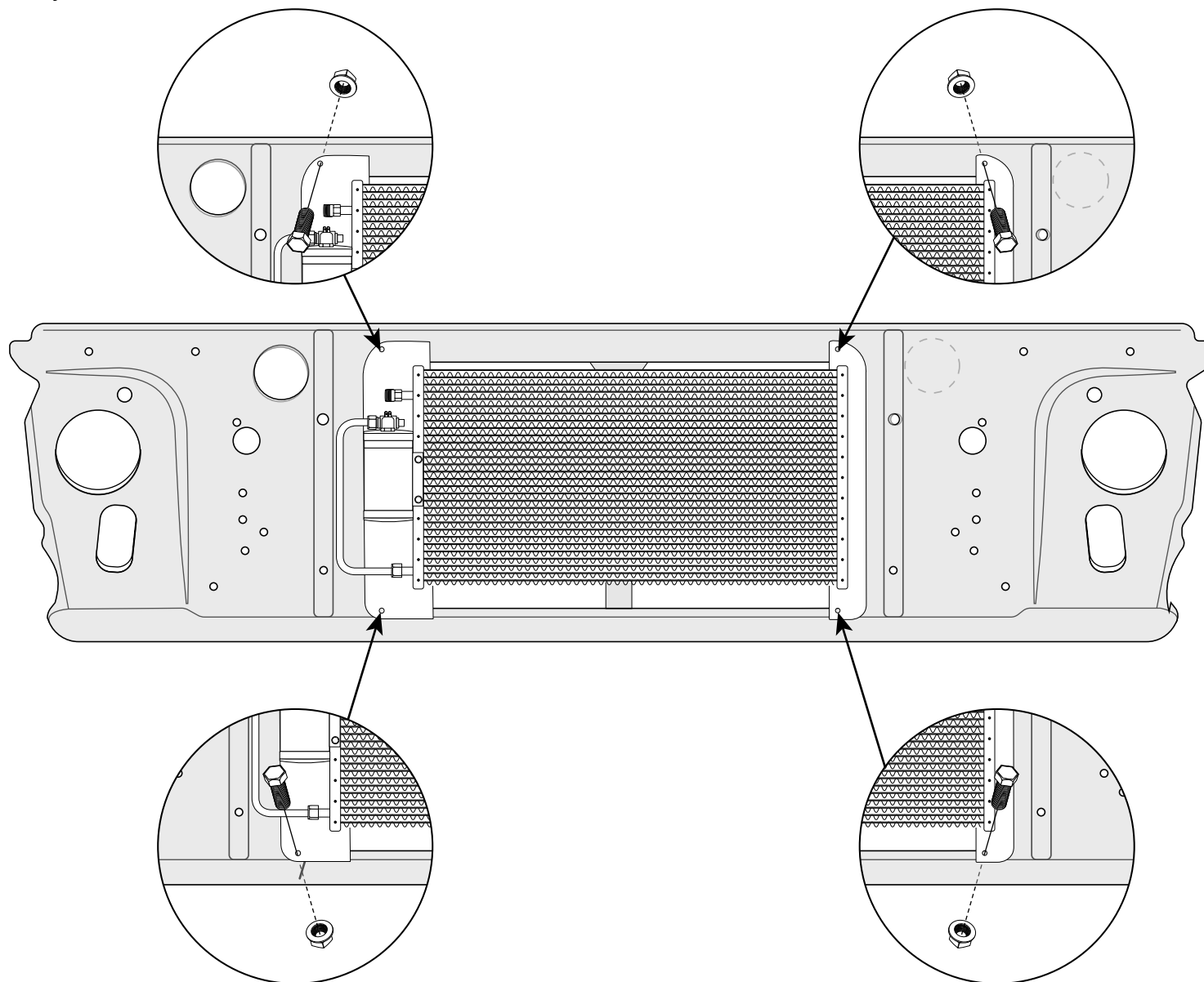
PRESSURE SWITCH: Screw the high-pressure switch into the port on the top of the drier. Go ahead and plug the pressure switch harness into the switch at this time (black electrical boot with two long white wires).

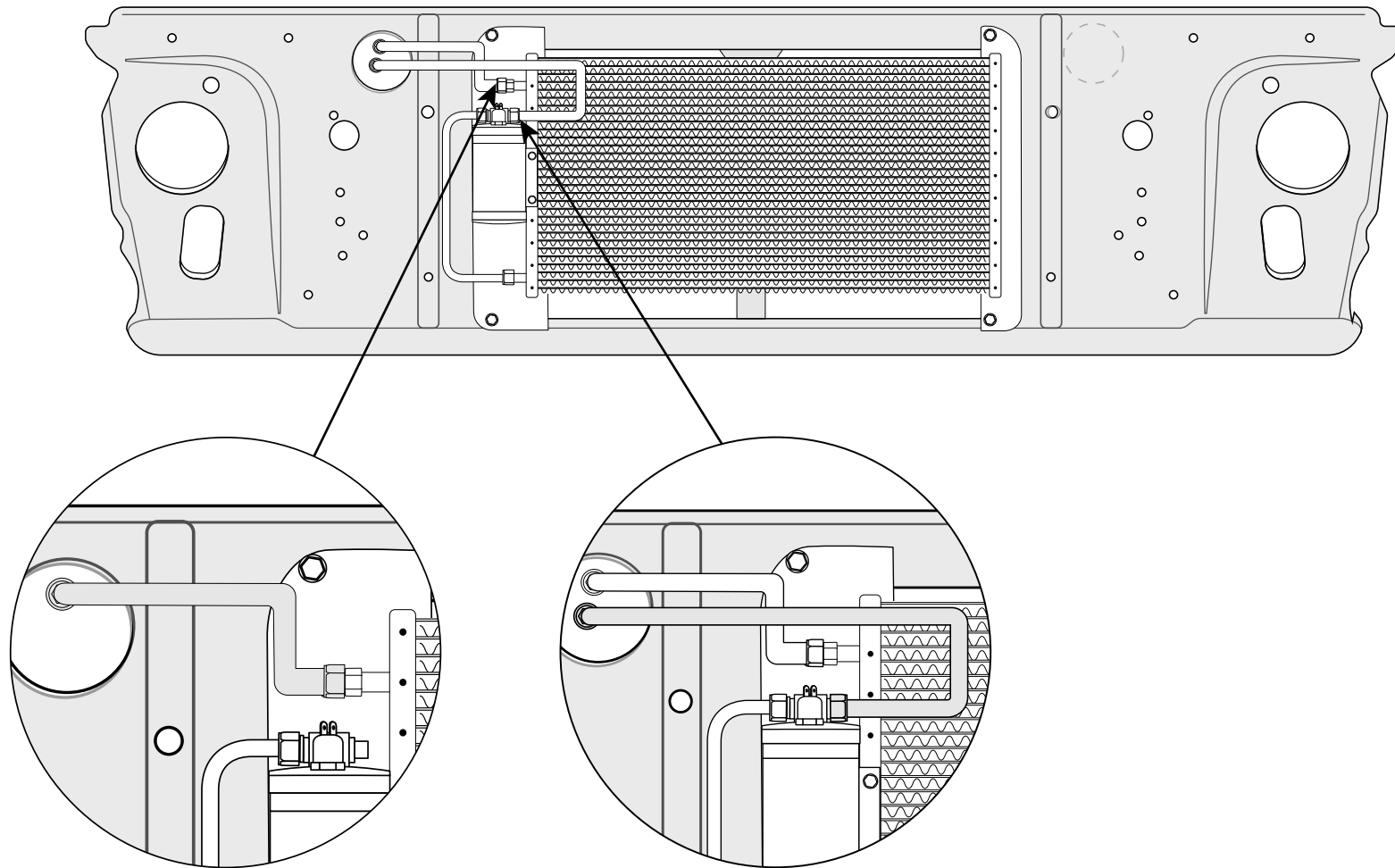


Use two wrenches to
tighten o-ring fittings

1973-80 ONLY

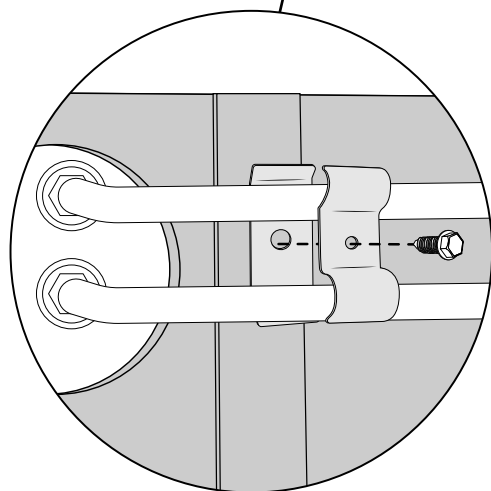
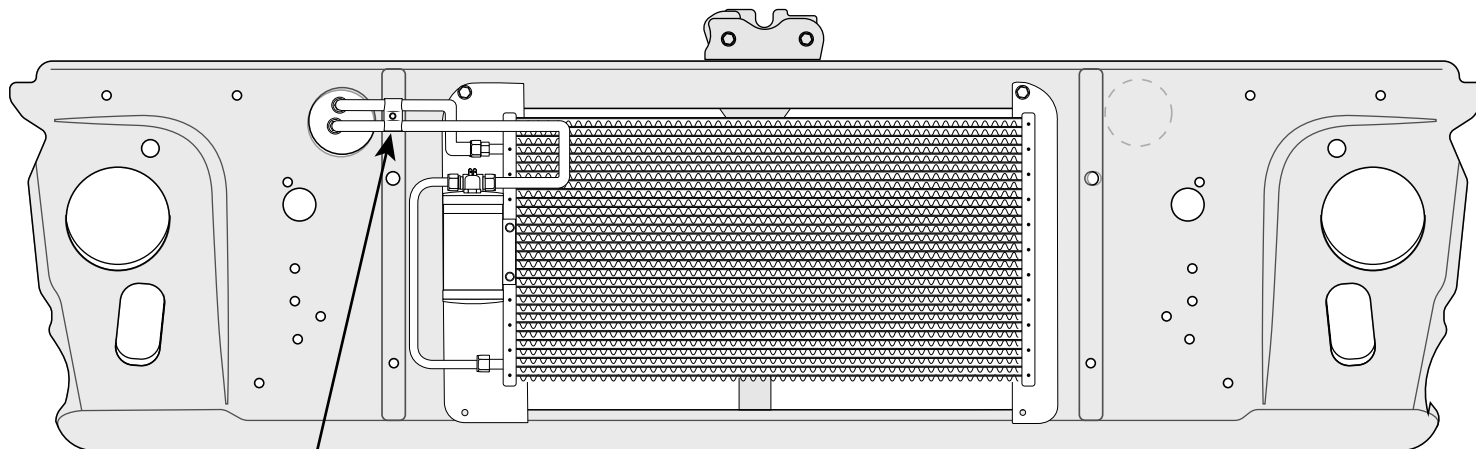
Locate (4) 1/4" x 5/8" hex head bolts and (4) 1/4"-20 flange nuts. Attach the condenser to the core support as shown. Tighten securely.



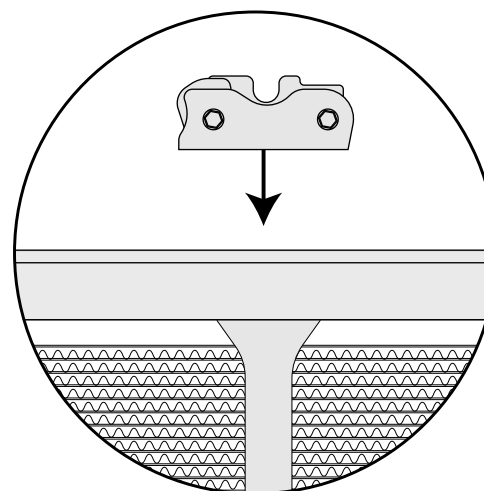


Attach the discharge tube to the top connection on the condenser with the o-ring and a few drops of mineral oil.

Attach the liquid tube to the drier with the o-ring and a few drops of mineral oil.

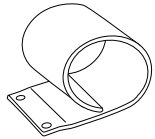


Mount tubes through bracket as shown.

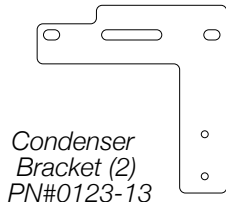


Reinstall hood latch with original hardware.

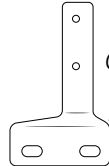
THESE ARE THE PARTS YOU WILL NEED FOR THE ENGINE COMPARTMENT INSTALLATION



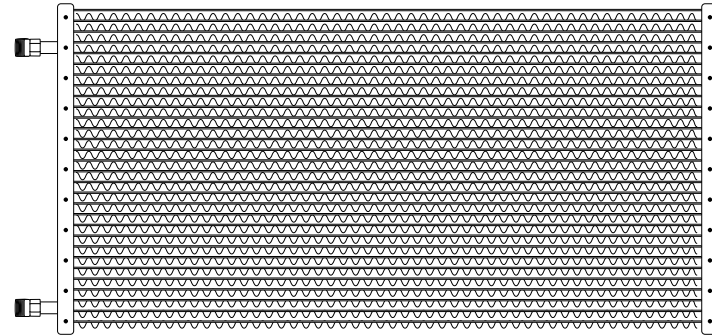
Drier Bracket
PN#19-1003



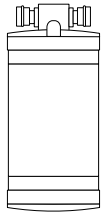
Condenser
Bracket (2)
PN#0123-13



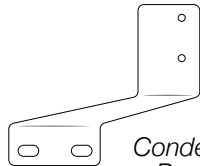
Condenser
Bracket
PN#0123-9



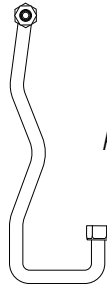
Condenser
PN#11-1042



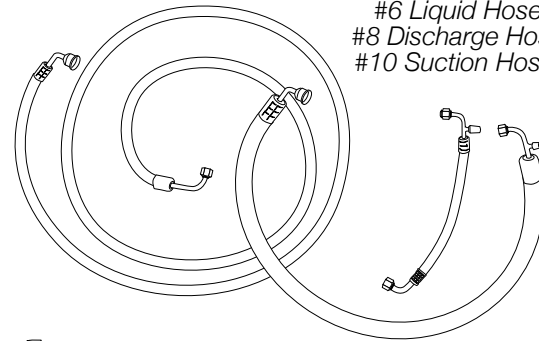
Drier
PN#12-1008



Condenser
Bracket
PN#0123-10



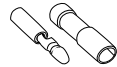
Liquid Tube
PN#0123-11



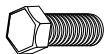
Three Refrigerant Hoses:
#6 Liquid Hose
#8 Discharge Hose
#10 Suction Hose



#10 - 20 x 1/4" (10)
PN#10B25SHBZ



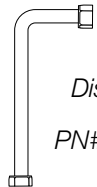
Splice and
Bullet Connector



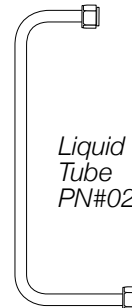
#1/4 x 5/8" Bolts (8)
PN#25C6ZHBB5Z



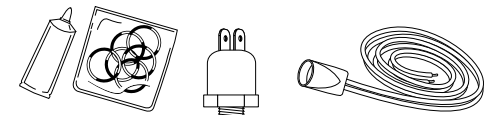
#1/4 Flange Nuts (8)
PN#25CNFLZ/S



Discharge
Tube
PN#0123-12



Liquid
Tube
PN#028-10-2

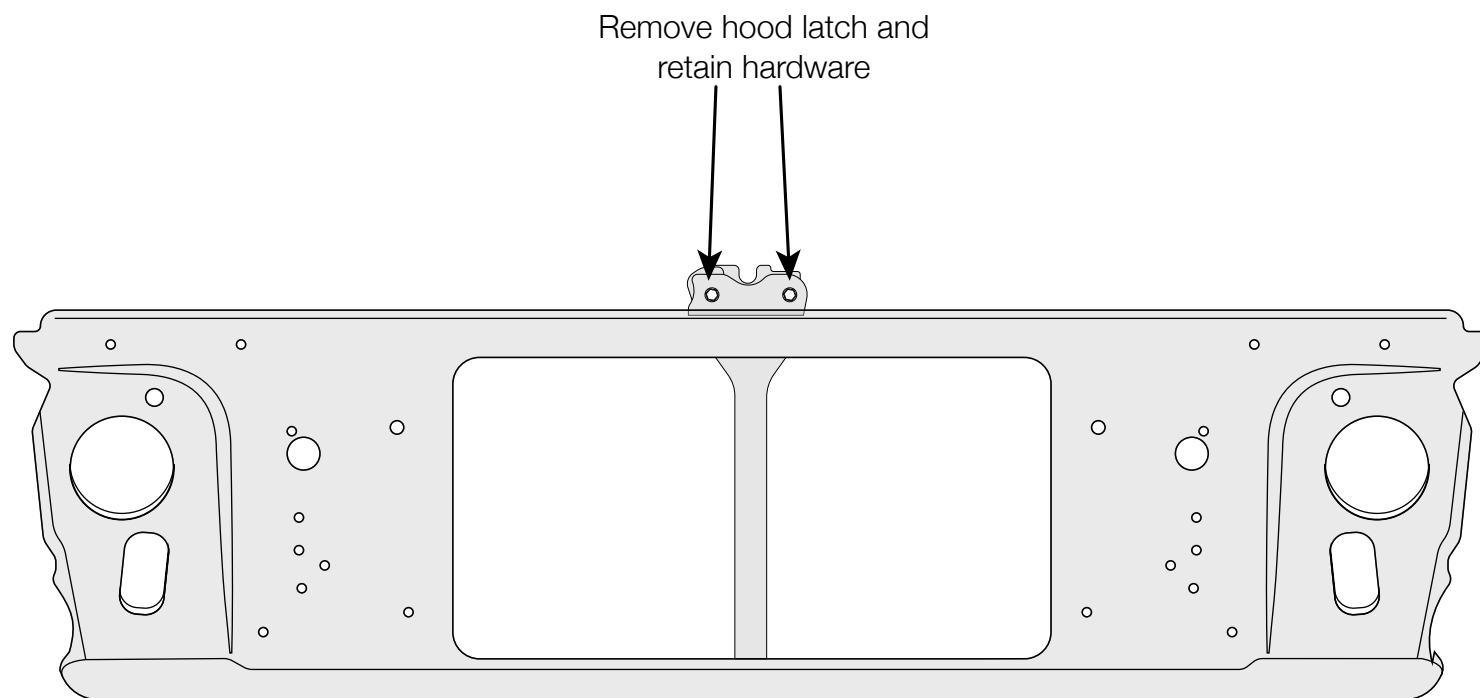


Pressure Switch and harness,
Bag of O-rings and Mineral Oil Tube

Illustrations NOT shown actual size

1981-87 ONLY

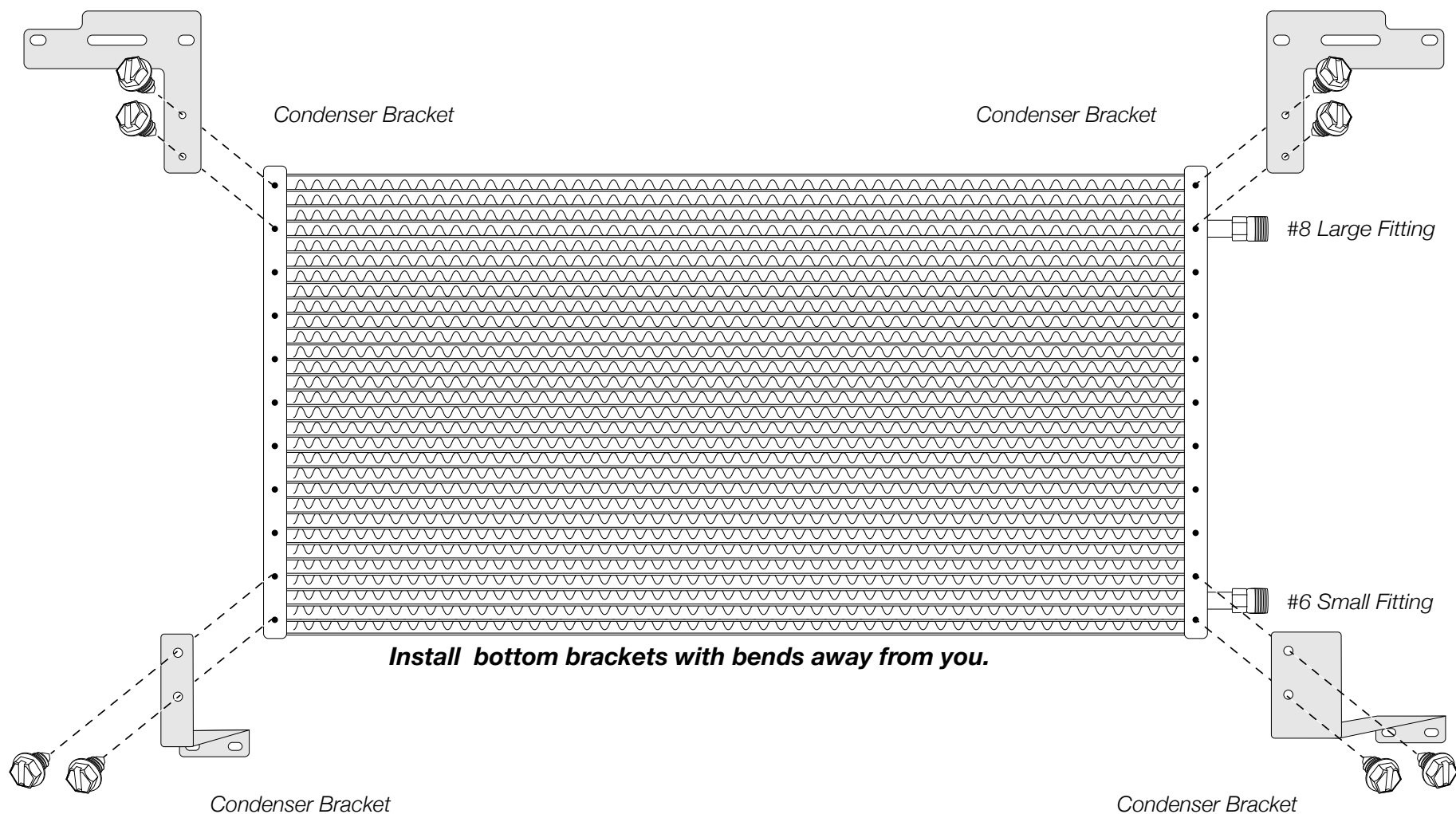
At this time you will want to disconnect the battery and drain radiator. Remove the hood latch and retain the hardware for reinstallation.



1981-87 ONLY

CONDENSER BRACKETS: You can perform most of the following steps on a clean flat surface like a workbench. Lay the condenser down so that both hose connections are on the **RIGHT SIDE** (the larger connection will be on top).

Locate condenser brackets and (8) #10 - 20 x 1/4" screws. Attach brackets as shown.

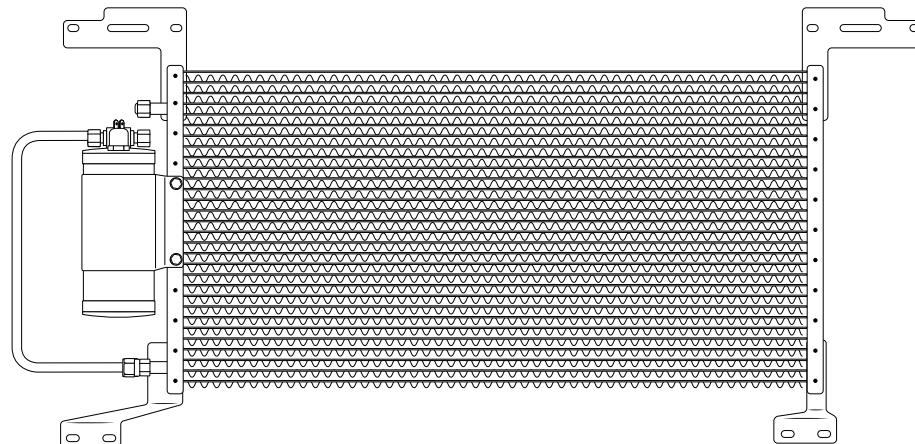
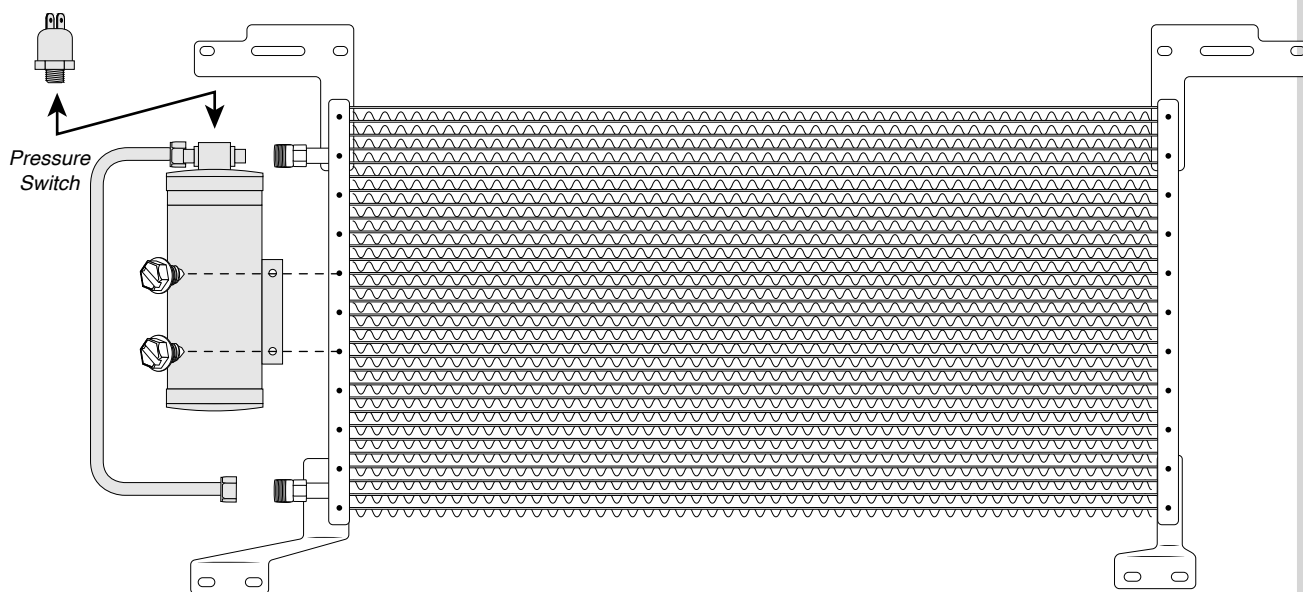


1981-87 ONLY

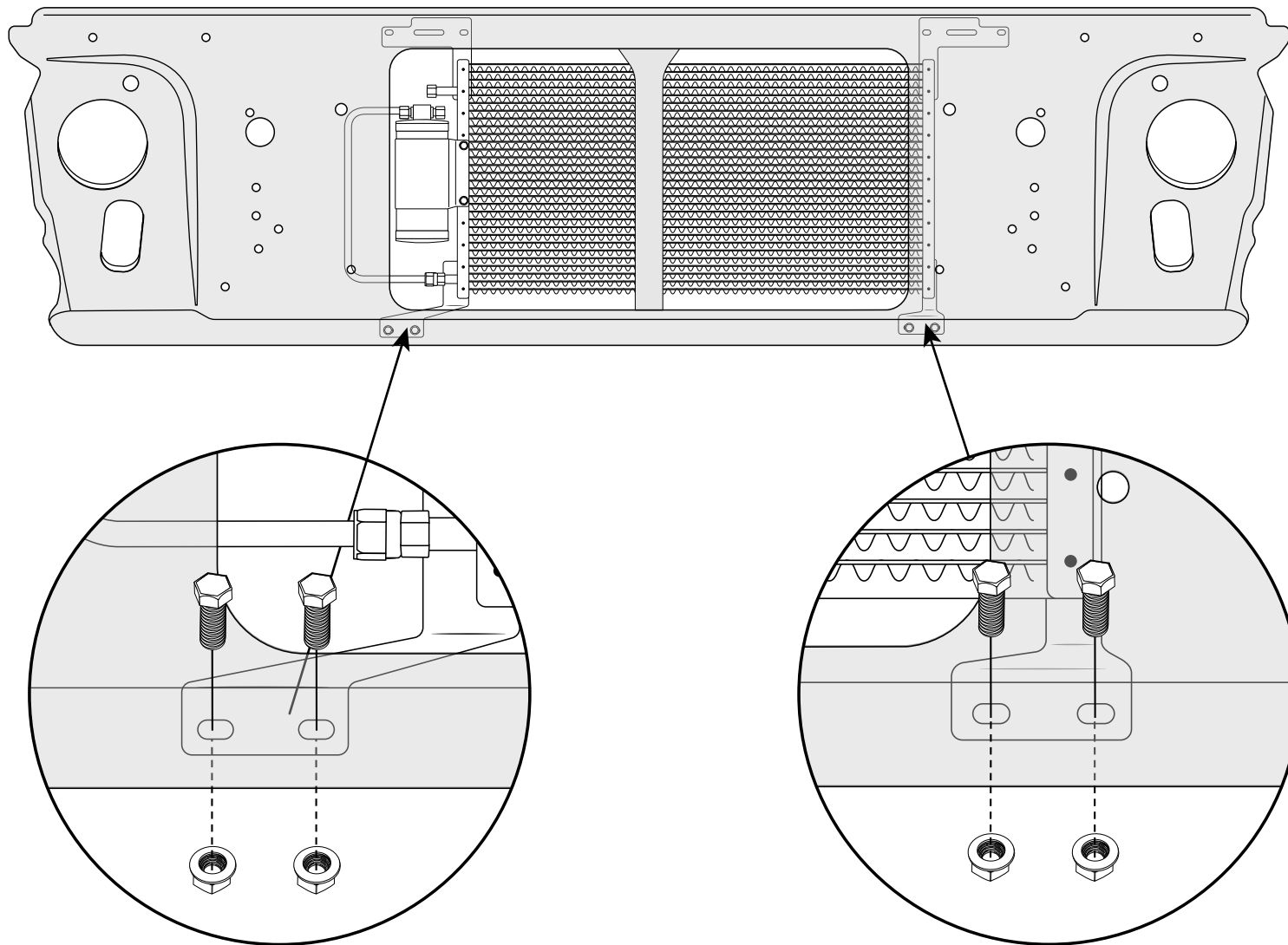
Flip over the condenser and lay it down so that both hose connections are now on the **LEFT SIDE** (the larger connection will be on top). The drier is conveniently mounted on the left hand side of the condenser.

DRIER: First insert the drier into the drier mounting bracket. Attach the liquid tube to the drier and the bottom connection on the condenser using o-rings and a few drops of mineral oil. Tighten both connections. It will be easy to find the correct place to attach the drier bracket onto the condenser after attaching the liquid tube. Attach drier bracket using (2) #10-20 x 1/4" screws.

PRESSURE SWITCH: Screw the high-pressure switch into the port on the top of the drier. Go ahead and plug the pressure switch harness into the switch at this time (black electrical boot with two long white wires).



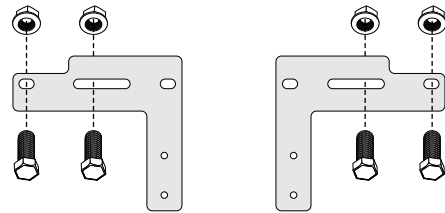
Use two wrenches to
tighten o-ring fittings



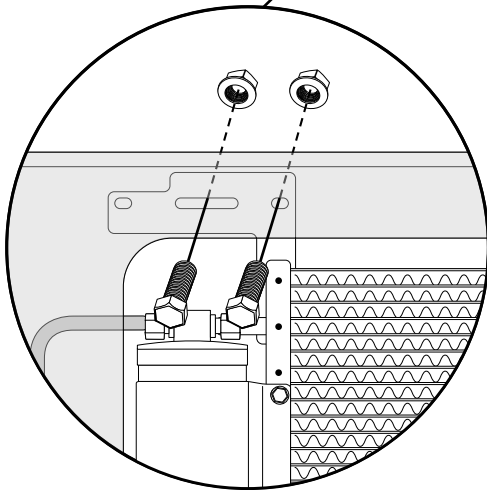
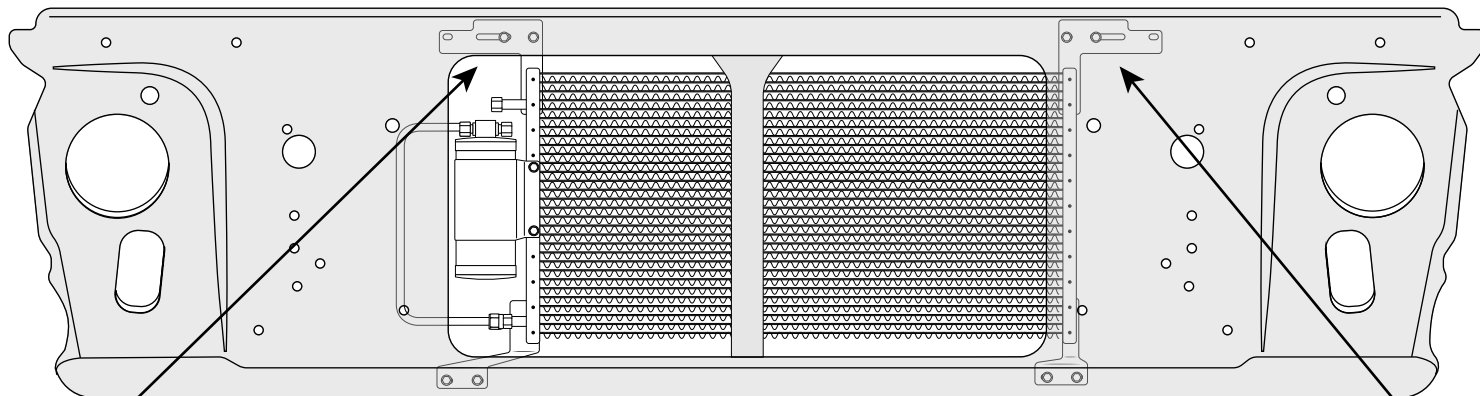
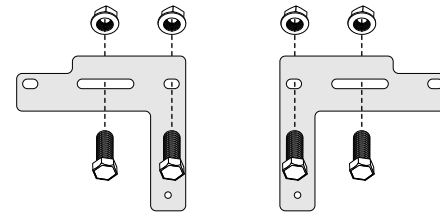
Locate (4) 1/4" X 5/8" hex head bolts and (4) 1/4"-20 flange nuts. Attach the condenser to the core support as shown. Tighten securely.



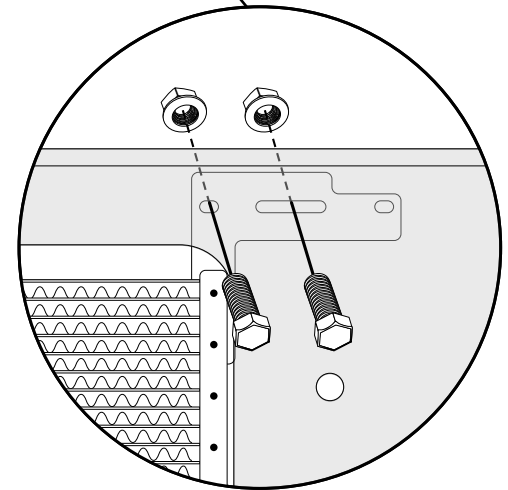
FACTORY AIR MOUNTING

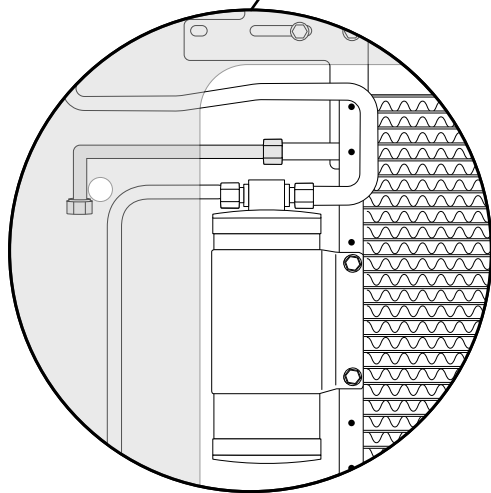
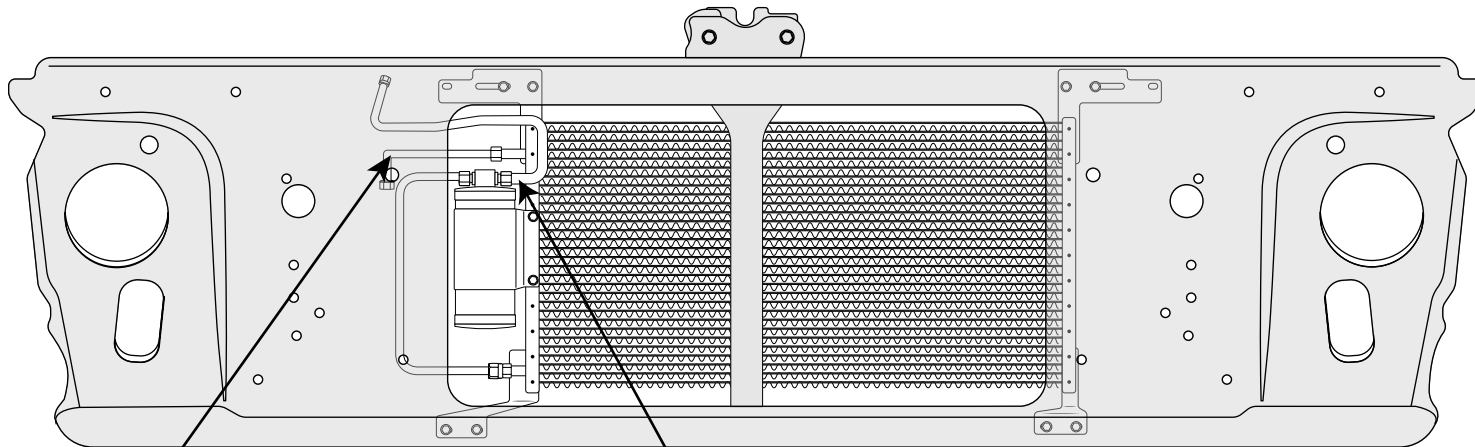


HEATER ONLY MOUNTING

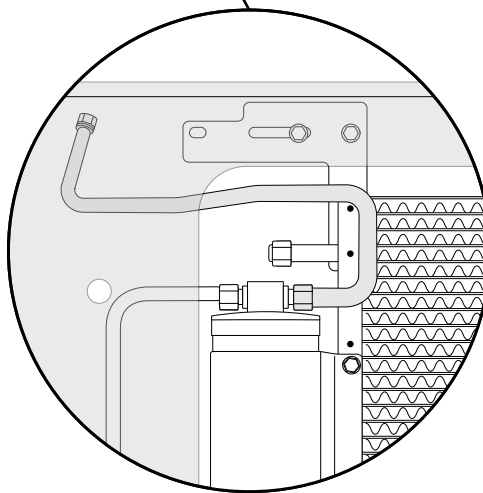


Locate (4) 1/4" x 5/8" hex head bolts and (4) 1/4-20 flange nut. Attach the upper brackets to the condenser and core support as shown. Tighten securely.

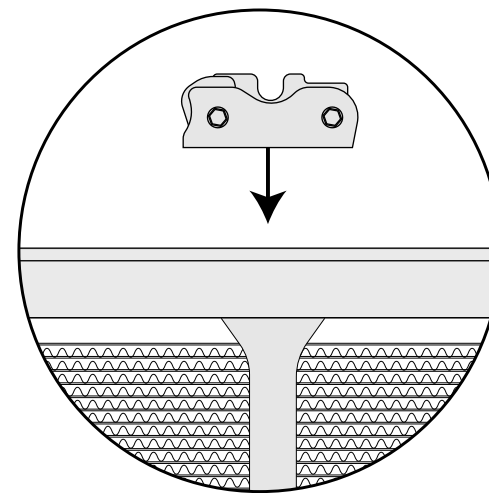




Attach the discharge tube to the top connection on the condenser with the o-ring and a few drops of mineral oil.



Attach the liquid tube to the drier with the o-ring and a few drops of mineral oil.



Reinstall hood latch with original hardware.

Install the compressor kit. Included was a premium compressor kit with all the parts you'll need to install the compressor. This kit includes instructions specifically written for your engine. Once you've installed the complete compressor kit, continue on to connecting the hoses.

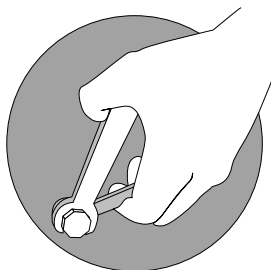
CONNECTING THE HOSES:

#10 Suction Hose (LARGEST): Attach end with service fitting to the compressor using an o-ring and a few drops of mineral oil. Attach other end to #10 fitting at the firewall. Attach using one o-rings and a few drops of mineral oil. Tighten securely.

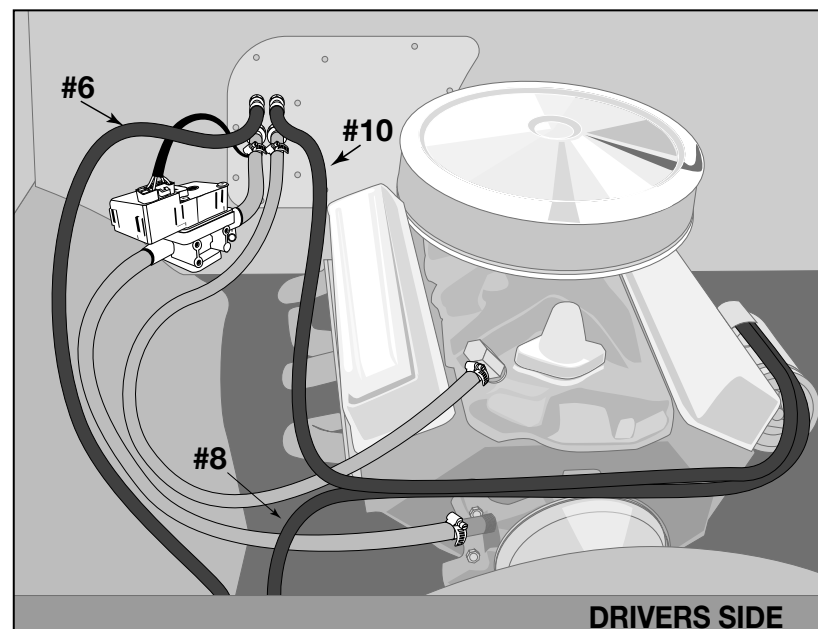
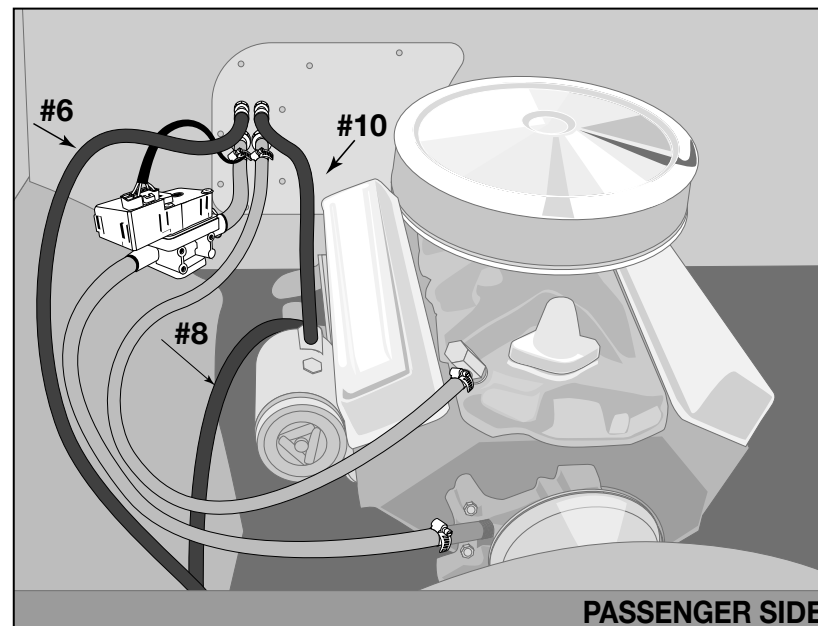
#6 Liquid Hose (SMALLEST): Attach to the liquid tube, route behind fender and to the connection on firewall. Attach using two o-rings and a few drops of mineral oil.

#8 Discharge Hose (MEDIUM): Attach to the discharge tube, route across engine and to the connection on compressor. Attach using two o-rings and a few drops of mineral oil.

TWO WRENCH METHOD



Reminder...
Use two
wrenches to
tighten o-ring
fittings



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!**

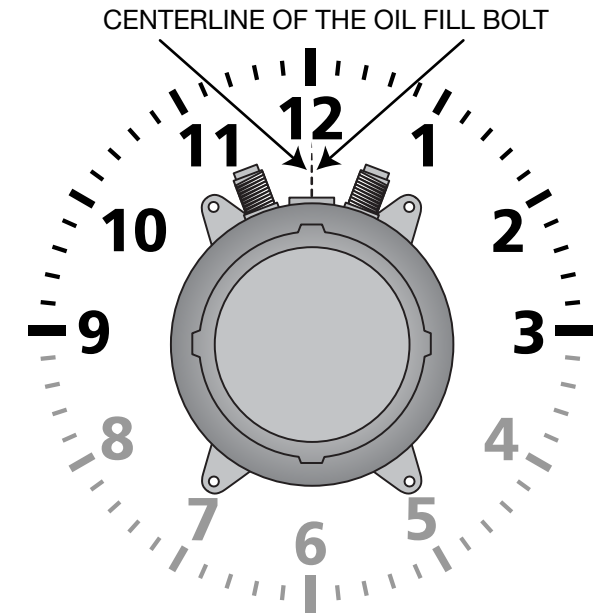
RECOMMENDED TEST CONDITIONS: (After system has been fully charged and tested for basic operation)

- 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

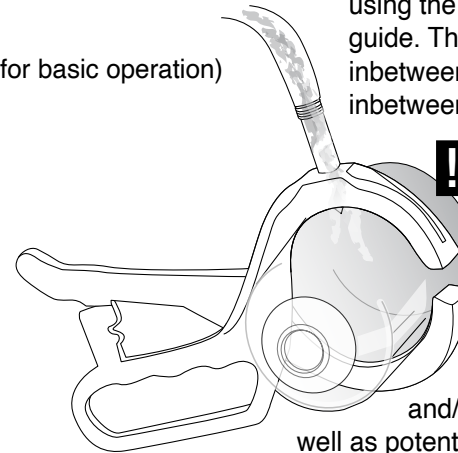
ACCEPTABLE OPERATING PRESSURE RANGES:

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)...

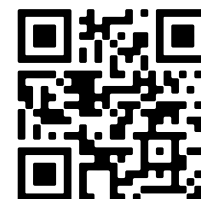
There is a blockage in the system. Remove hoses and blow compressed air through in both directions. If pressures don't change its possible that your expansion valve is stuck closed and would have to be replaced.

*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.

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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.



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