specializing in “AIR CONDITIONING, PARTS AND SYSTEMS” for your classic

# *“PERFECT FIT SERIES”*
# *IN-DASH*

HEAT/ COOL/ DEFROST

***1965-66 MUSTANG***

## *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, Heat, and Defrost modes simultaneously.

THE PICTURE YOU SEE ABOVE SHOWS THE CONTROLS IN THE FACE MODE. THIS MEANS THAT ALL OF THE AIR WILL BE DISTRIBUTED THROUGH THE DASH LOUVERS. THIS ALSO HAS THE TEMPERATURE LEVER IN THE COLD POSITION. WITH THE CONTROLS IN THIS POSITION YOU WILL GET THE AIR THROUGH THE DASH LOUVERS AT ROOM TEMPERATURE.

***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 FUCTION AT ITS MAXIMUM PERFORMANCE LEVEL.

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

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

***HEAT MODE:*** When the heat lever is pushed down, it will allow the air to go between the floor ducts and the face louvers. Only when the lever is in the lowest position will all of the air stop coming out of the face louvers and blow on the floor.

***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 which is the lowest position of the lever.
Note: The temperature lever will function in any of the modes.

***DEFROST MODE:*** This system allows for Dehumidification of the air in the Defrost mode. The Heat lever must be in the down position. The lever marked DEF. must be at the bottom position in order to get the maximum air flow to the windshield and to trip the Micro-Switch. This will activate the Compressor Clutch.

***AIR CONDITIONING MODE:*** The picture shows the controls in the Face Mode (air-flow out the dash louvers).
When Air Conditioning is required the compressor clutch must be activated. This is accomplished by pushing the Def. lever all the way to the bottom. When the compressor is activated the Temperature Lever will control the air from maximum cold through maximum heat.

specializing in “AIR CONDITIONING, PARTS AND SYSTEMS” for your classic

# *INSTALLATION INSTRUCTIONS*
# *1965-66 MUSTANG*

Congratulations! ! You have just purchased the highest quality, best performing A/C system ever designed for you Classic Car. To obtain the high level of performance and dependability our systems are known for, pay close attention to the following instructions.

Before beginning the installation check the box for the correct components.

Evaporator
Face Duct Assembly
Defrost / Heat Duct Assembly
Inlet Air Block Off Assembly
Firewall Block Off Assembly
Flex Hose 2”dia. (3) 2’, (1) 3’
Flex Hose 2 ½”dia. (1) 1’, (1) 2’, (1) 3’
Sack Kit Hardware
Sack Kit Control

## *IMPORTANT INFORMATION*

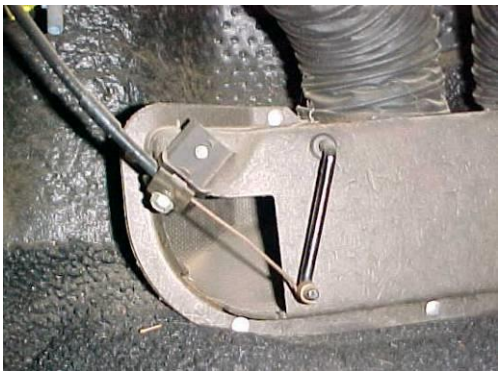
1. Before starting, read the instructions carefully and follow proper sequence.
2. Check condition of engine mounts. Excessive engine movement can damage hoses to A/C, heater, radiator, transcooler, and power steering systems.
3. Before starting, check vehicle interior electrical functions. i.e. interior lights, radio, horn, etc. When ready to start installation, disconnect battery.
4. Fittings. Use one or two drops of lubricant on O’rings, threads and rear of bump for O’ring where female nut rides. Do not use thread tape or sealants.
5. Always use two wrenches to tighten fittings. Try holding in one hand while squeezing together while other hand holds fitting in position.
6. Shaft seals in a small percentage of compressors will require as much as 3-4 hours run time to become leak free.
7. Compressors supplied in our complete systems are filled with proper amount of oil.
8. Compressor requires technician to hand turn 15-20 revolutions before and after charging with liquid from a charging station before running system. Compressors with damaged reed valves cannot be warranted.
9. Should you have any technical questions, or are suspect of missing, or defective parts, call us immediately. Our knowledgeable staff will be glad to assist you.

## *YOU CAN NOW BEGIN THE INSTALLATION*

Remove Glove box, Ashtray, and Radio, set aside for reinstall.

Note: If vehicle is equipped with a console, remove and retain.

The removal of the Original Heater Assembly can be accomplished by disconnecting three control cables. One attached to the Heat/Defrost door.



One attached to the Temperature door as shown.
And one attached to the Vent / Heat door.

Disconnect electrical harness.

Also remove attachment screw located in front of air inlet.

Locate blower motor on the firewall (Passenger Side) in the engine compartment. Remove 4 nuts around blower. Also disconnect electrical connector from the blower motor.

Cut wires at grommet in firewall.

DRAIN COOLANT FROM RADIATOR.
Cut Heater hoses approximately 1" from firewall.

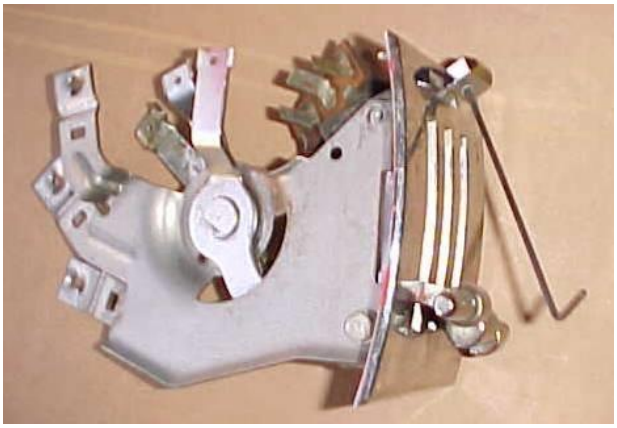
Located on top of instrument panel is the radio speaker cover plate, carefully remove the screws and retain. Under the cover there are (2) defrost adaptors. Remove and discard adaptors and the defrost flex duct that is attached.

Remove complete Heater Assembly and defrost flex ducting. Discard.

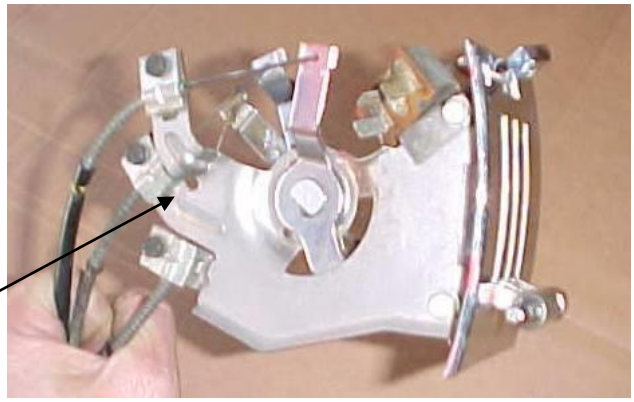
On the back side of the control head there are (2) nuts and retaining clips. Remove and retain. Remove the control head assembly.

NUT & CLIP

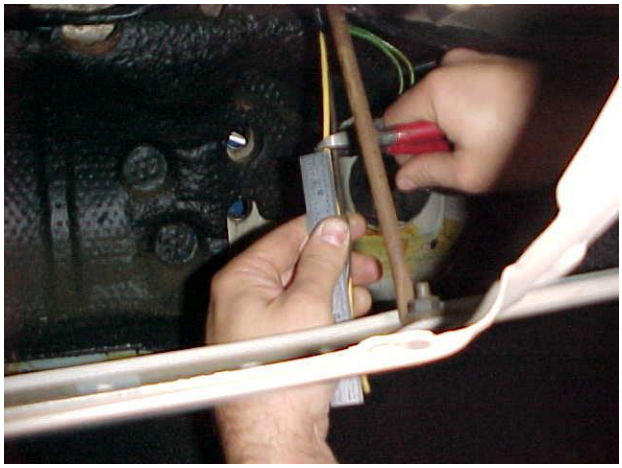
Using an allen wrench carefully remove blower switch knob and retain. Remove the **control cables** and the **original blower switch** and discard. Set the control head aside for modification and reinstall. NOTE: RETAIN ALL OF THE ORIGINAL HARDWARE.



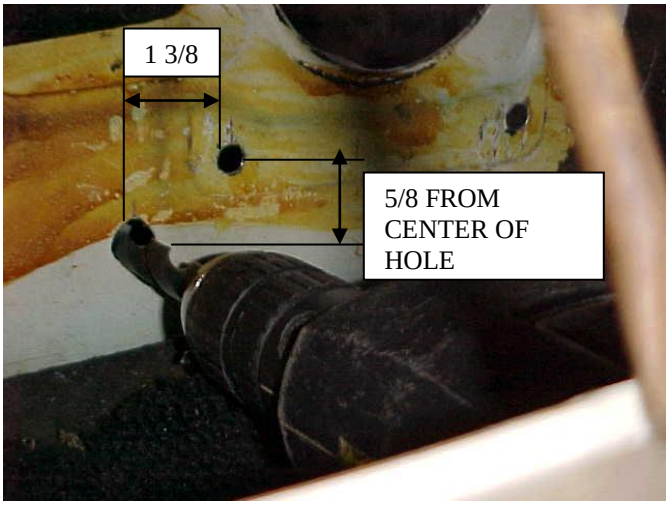
NOTE: When removing the control cables retain the original screws and cable brackets.




Locate original wiring harness that supplied power to the original heater motor. These wires were previously cut on the engine side of the firewall. Behind glove box opening pull these wires out of their grommet. Measure 4" from harness cut both wires. On the black wire attach a ¼" insulated male spade connector.



Locate bottom left mounting hole in the firewall that attached the original heater motor. From inside of the vehicle drill a 5/8 dia. hole for the drain tube. This is located as shown or find template located on page 19.




***Caution: On the engine side of the firewall there is a brake line. Do not drill through. It may be necessary to carefully relocate this line.***

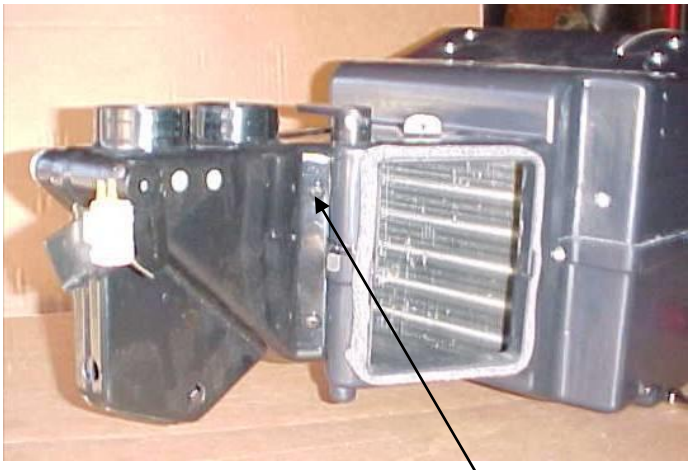
***All modifications to the vehicle are complete. You can now begin installing your Classic Air "Perfect Fit Series" System.***

Locate Air Inlet Block off Assembly. Install over hole in inlet cowl as shown. Attach with (2) #10 x ¾ Tek screws.

Locate the mounting location as shown and attach the ¼-20 J-clip supplied.

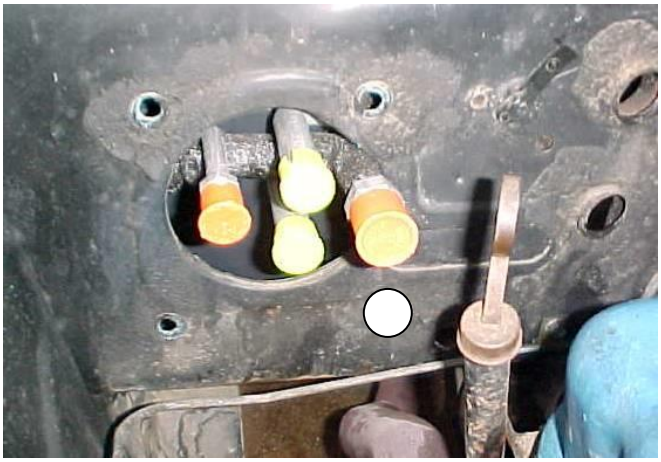
Locate defrost / heat duct assembly and attach to the evaporator using (2) #10 x 5/8 pan head philips screws.
NOTE: Be sure that the s-clips are pushed over flange on evaporator.

Install the Evaporator in vehicle.



On back side of the unit next to the firewall is a mounting bracket with a ¼-20 j-clip. On the engine side of the firewall attach with one ¼-20 x 5/8 screw and ¼" SAE washer.

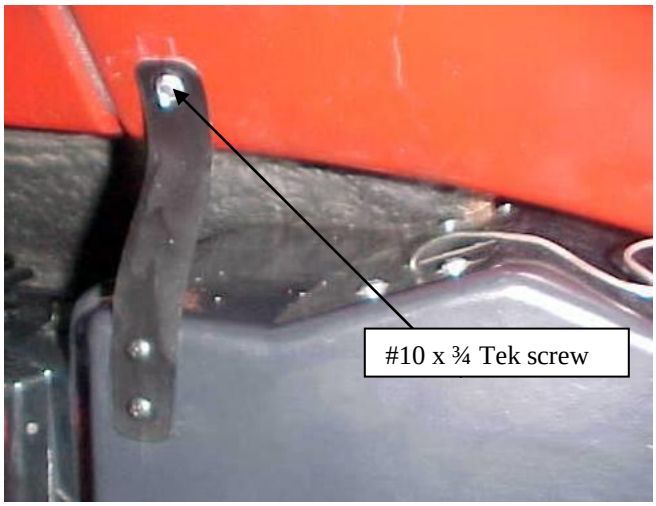
This location is the bottom right hole that attached the original heater assembly.



The second ¼-20 x 5/8 screw attaches the blower motor mounting bracket in the same location as the original heater mounting in front of the Air Inlet. The blower support bracket will have an additional hole behind the ¼-20 screw. Install a #10x3/4 Tek screw supplied, through this hole and into the cowling.

Locate in the Hardware Sack Kit the UPPER MOUNTING BRACKET and attach to evaporator using (2) #10 x 5/8 pan head philips screws. Attach other end to the cowling. Attach with #10 x ¾ Tek screw supplied.

NOTE: BE SURE TO HOLD UNIT LEVEL WITH BOTTOM OF INSTRUMENT PANEL. TO ALLOW PROPER DRAIN OF CONDENSATION.



Locate in the hardware sack kit the Firewall Block Off Assembly. Install over the hose connections in the engine compartment. Attach with (2) #10 x ¾ Tek screws.
Seal around the tubes with refrigerant tape.

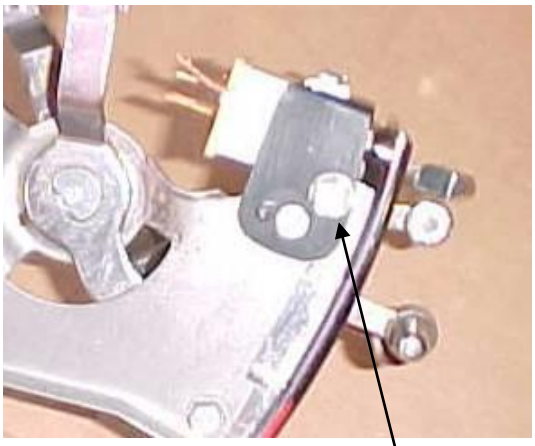
Locate in the engine compartment the heater hose hookups and the refrigerant connections. It is recommended that you replace the heater hose from the engine to the tube hookups.
The supply line from the engine will be attached to lower heater connection as shown. Cut 6" of hose off the return line. Use this and attach to the upper heater connection along with the Water valve and #10 worm gear clamps supplied in kit. Attach the return line to the end of the water valve.

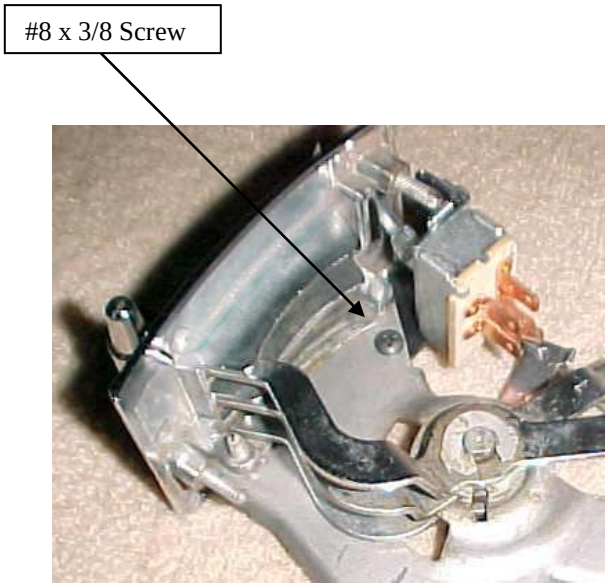
See Technical Data Sheet located on page 18.

Locate in the Hardware Sack Kit a 6" piece of ½" dia. clear Drain tube. Insert this through the 5/8 dia hole previously drilled and attach over the drain nipple as shown. Seal around tube with refrigerant tape.

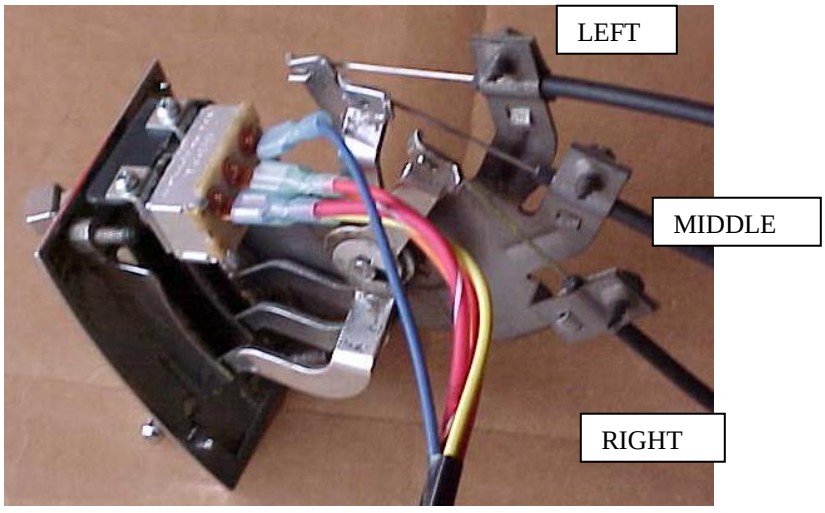
***Engine compartment components should be installed at this time. Carefully follow the electrical hookup instructions provided on page 17.***

Locate Control Head that was previously removed. Locate Control Switch Mounting Bracket, and the Blower Switch in the Control Sack Kit. Attach bracket to the control head with original screw. Turn controls over and install (1) #8 x 3/8 pan head philips screw through control head and into switch bracket. Attach switch to the bracket using (2) #6 x 3/8 pan head screws. Attach original Switch Knob using allen wrench.



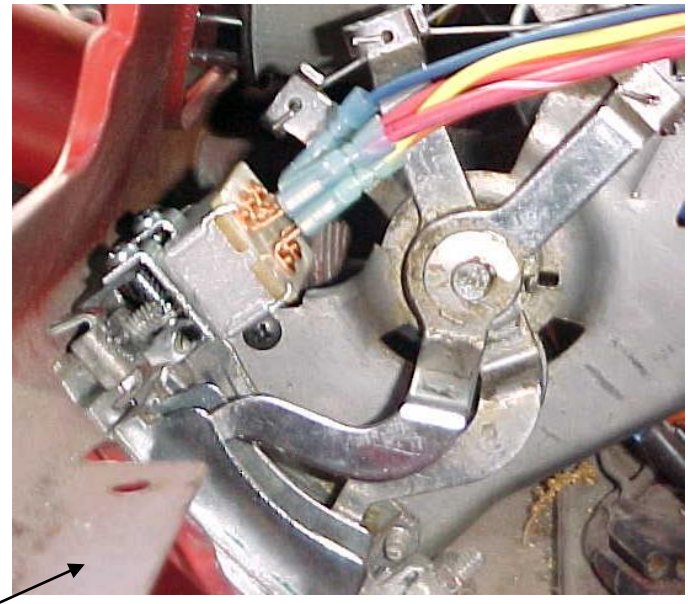

Attach (3) control cables to the control head utilizing the Cable Mounting Brackets and original screws and cable clamps as shown. The longest cable goes in the MIDDLE the shortest cable to the RIGHT and the last one goes on the LEFT. (See picture). The cable housing should be flush with the mounting point.



Also attach Wire Harness Assembly to the Blower Switch.
Reference: The Electrical Diagram on the last page for correct connector location.

Install Control Assembly through opening in the Instrument Panel reattach using original nuts and retaining clips. Route the cables and electrical harness as shown below.

Hook up the electrical connections per Electrical Diagram.



Original clip and nut.

Route cable attached to the Heat lever and attach to the Face/ Heat door, located on the Evaporator.
NOTE: Insert cable wire into fourth hole from the end of crank arm
Use #10 x 5/8 pan head screw.

Route electrical harness straight back from the contols and around behind defrost duct adaptors, and accross top of the unit.

#10 X 5/8 SCREW

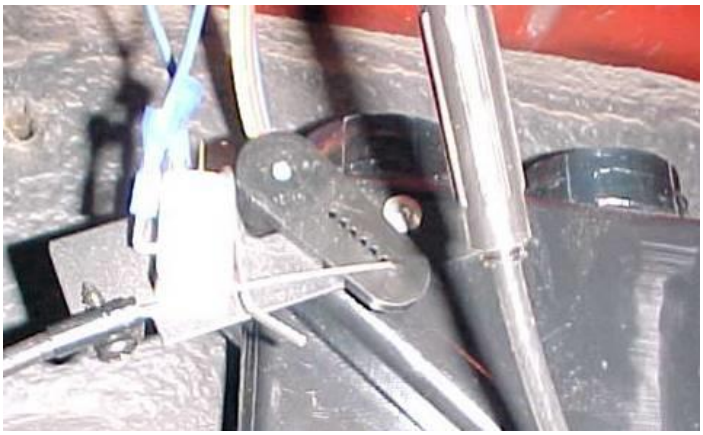
Hook up electricals to blower motor , resistor and attach ground wire to the vehicle body.
Refer to electrical diagram on page 15.
Route compressor clutch wire through remaining hole in the Fire wall block off assembly.

***CAUTION: BE SURE THAT WIRE HARNESS DOES NOT INTERFER WITH THE OPERATION OF CONTROLS.***

The cable attached to the defrost control lever should be routed and connected to the defrost duct assembly.

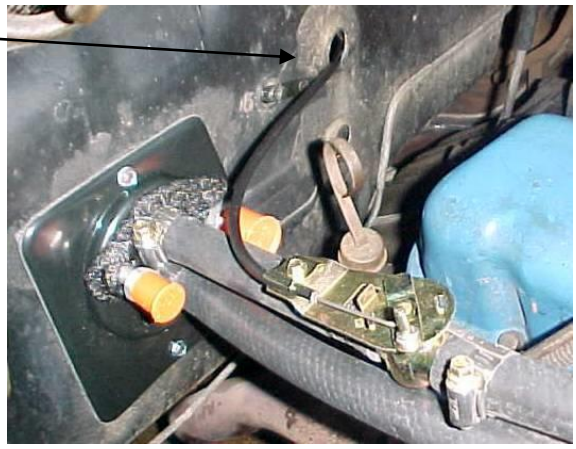
NOTE: Insert cable wire into second hole from the end of the crank arm.

Use #10 x 5/8 pan head screw



INSTALL (2) 1" dia. CAP PLUGS OVER HOLES. SLOT ONE FOR THE CABLE.

Route cable attached to the temp lever along the firewall and out through upper hole that was used by the original heater hose. Attach cable in the engine compartment to the water valve.
NOTE: When Temperature lever is at the top position water valve should be closed.



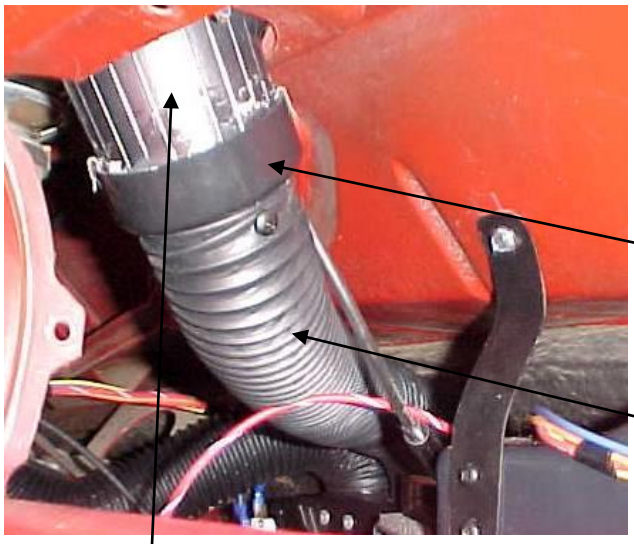
***CAUTION:*** The control cables are equipped with inline adjusters. Adjust the Defrost, Face / Heat door, and Water valve cable so that full travel of the Control lever, operates the door to its full travel. Make sure that the water valve completely closes when the Lever is in the cold position.

The Micro Switch that is mounted on Defrost / heat door is used to turn on compressor clutch. This will occur when control lever is in the defrost position. It may be necessary to adjust thin metal arm on the switch. Make sure that the Clutch Micro Switch is depressed when lever is in the defrost position. This will provide dehumidification of the air, resulting in a faster clearing of the windshield.

***It is recommended that the Radio be reinstalled at this time.***

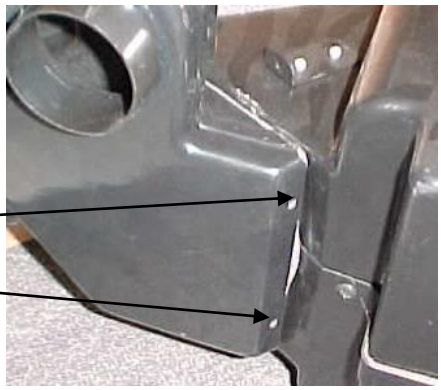
Following steps are for left and right Defrost Diffusers

Locate 2” dia. Flex Hose (2) pieces 2’ long Also locate from the Hardware sack kit (2) 2” x 2 ½ adaptors, and (2) Defrost adaptors. Install Defrost adaptors through the instrument panel and secure with clips supplied. Attach 2’ flex hose to the 2” x 2 ½” adaptors using (2) #10 x 5/8 pan head philips screw. Push on Adaptors as shown below. The other end of the flex hose is installed over the defrost outlets on unit.

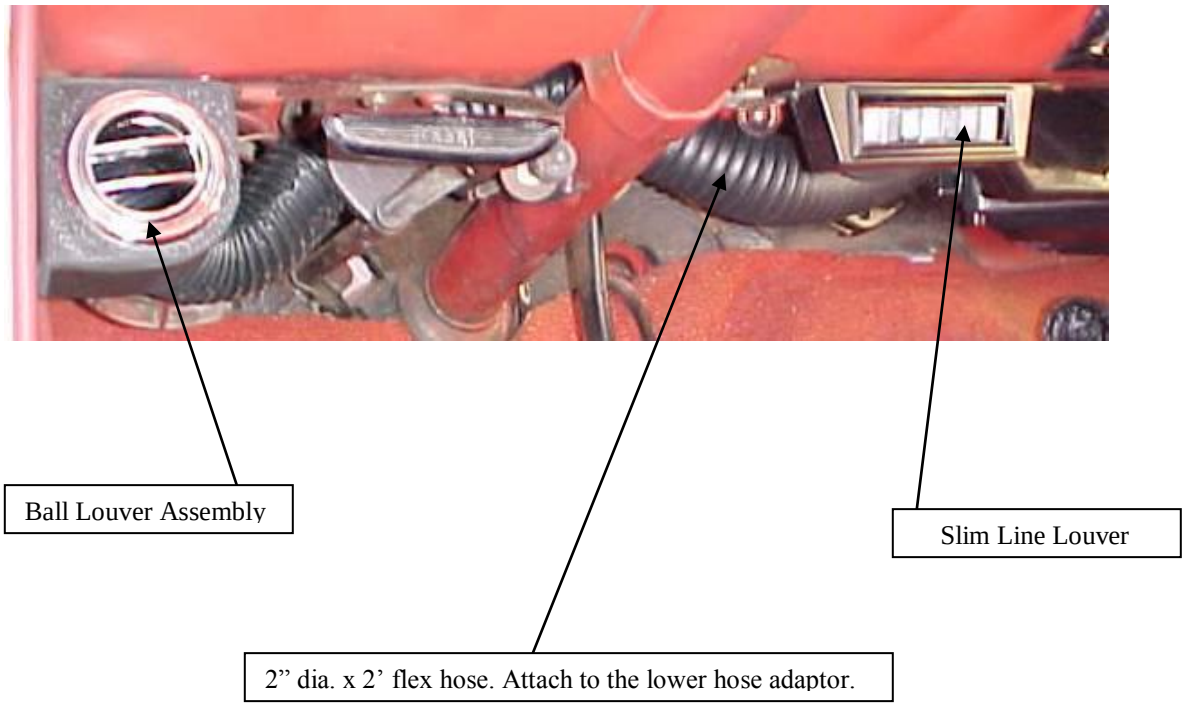




Reinstall radio speaker cover plate over the defrost outlets using the original screws.

Install the face duct assembly. Make sure that the s-clips are pushed over outlet flange. Attach using (2) #10 x 5/8” pan head screws.



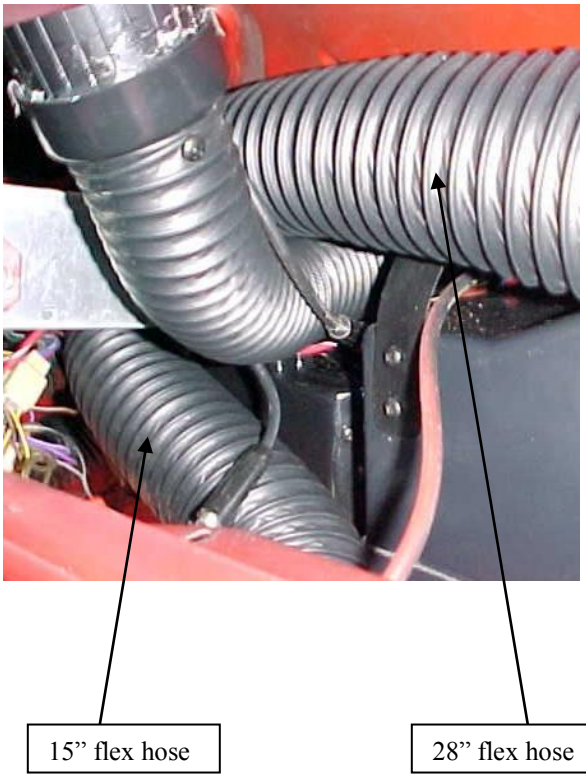
Locate drivers side Ball Louver Assembly, and one of the two slim line louvers.
Attach to bottom edge of Instrument Panel as shown below.
Use (2) #10 x 5/8 pan head screws through top of the ball louver assembly, and (1) #10 x 5/8 pan head Philips screw into the kick panel.
Use (2) #10 x 5/8 pan head Philips screws through slim line louver and into the instrument panel.
Locate 2" dia. flex hose 2' piece and route as shown below.



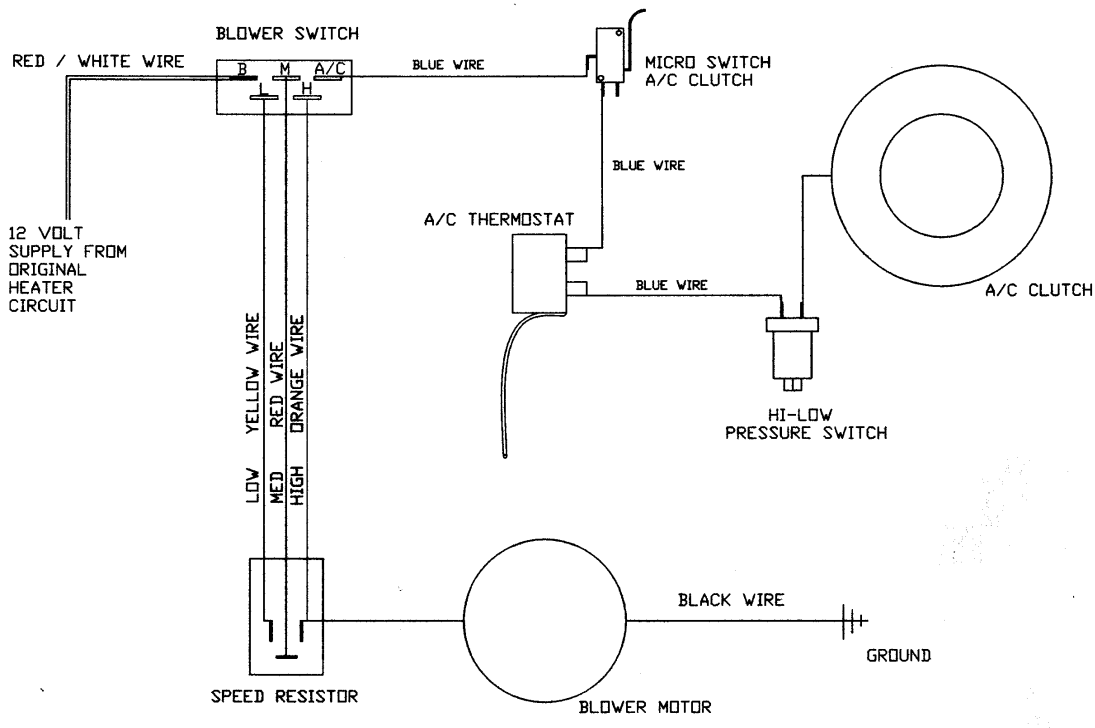

Locate 2 ½" dia. flex hose provided. Find 1' piece and install from slim line louver to the upper hose adaptor on the face duct assembly.

Locate the passenger side Ball Louver Assembly, and the last Slim Line Louver.
Use (2) #10 x 5/8 pan head screws through the top of ball louver assembly, and (1) #10 x 5/8 pan head Philips screw into kick panel.
Use (2) #10 x 5/8 pan head Philips screws through the slim line louver and into instrument panel.


The remaining 2 ½" dia flex hose in (1) piece 3' long and (1) piece 2' long.
Attach 2' piece to the face duct on left front outlet adaptor. This will then be routed down to the slimline louver as shown.
The 3' piece will be routed from the remaining face duct adaptor over defrost duct hose and across to passenger ball louver assembly.



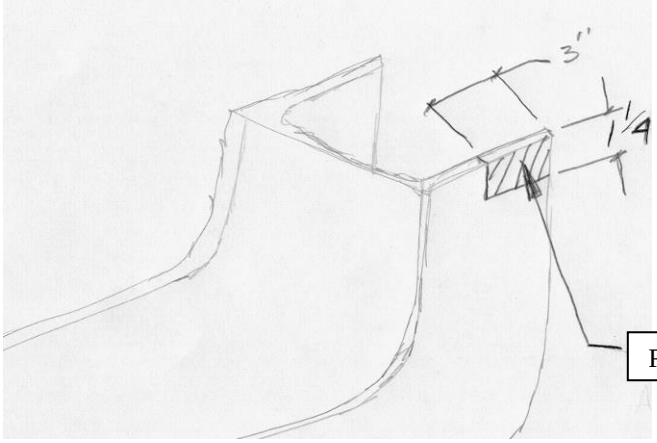
Locate new glove box provided in kit.
Install using original hardware.




WIRING DIAGRAM 1965 THRU 1968 MUSTANG

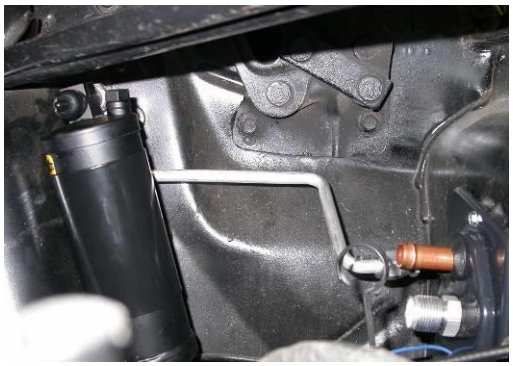
***Caution:*** Carefully check under the Instrument Panel for all cables, electrical harness, or Flex Hose that might interfere with the safe operation of the vehicle. Make sure that you cycle the Windshield Wipers to insure proper clearance of mechanism.
Reinstall the Glove box door, and Ashtray.

If vehicle is equipped with center console, Modify as shown and reinstall.



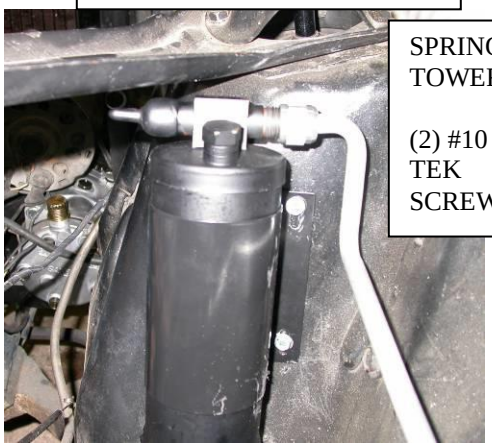

## *ENGINE COMPARTMENT*

Locate in the Condenser kit the Drier, Drier Mounting bracket, pressure switch kit, Liquid Tube, (2) #10 tek screws, and (2) #6 o-rings.



To locate the drier use the liquid tube from firewall to the spring tower as shown. Attach using (2) #10x ¾" tek screws.

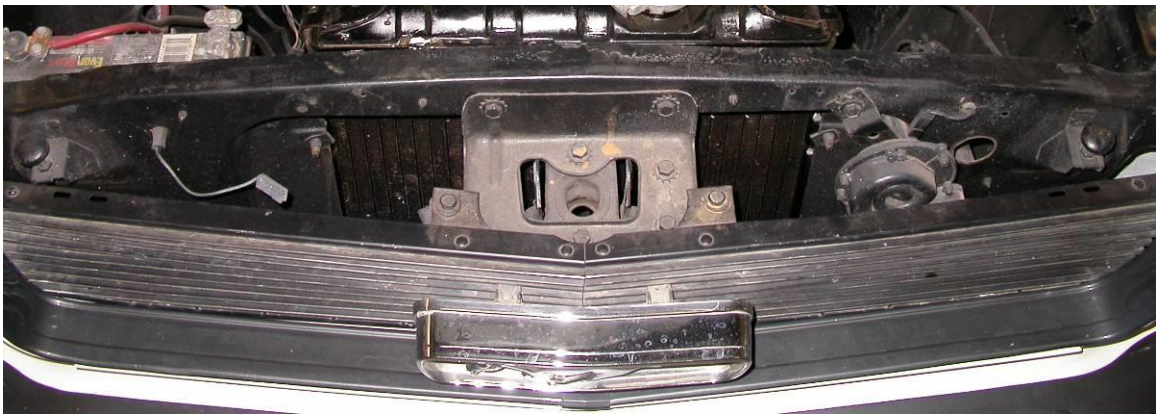
Install tube using the (2) #6 o-rings and few drops of mineral oil.



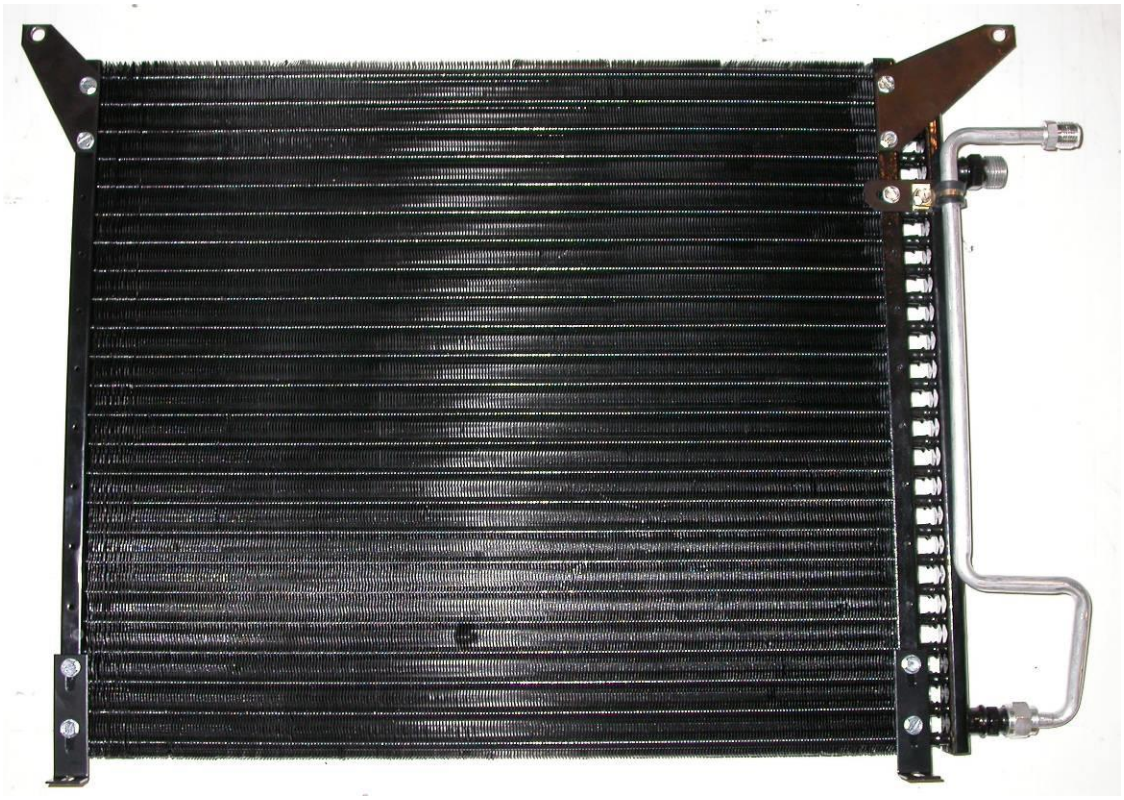

Attach the pressure switch to the top of the drier using a few drops of mineral oil.

INSTALL COMPRESSOR AND MOUNTING HARDWARE USING INSTRUCTIONS SUPPLIED WITH KIT. BE SURE THAT COMPRESSOR ON V8 ENGINE IS INSTALLED WITH FITTINGS 90 Deg. FACING DRIVERS SIDE FENDER

Remove the following components: Center Hood Latch Assembly, Grille assembly, and (2) horns. Set hardware and parts aside for reinstallation.

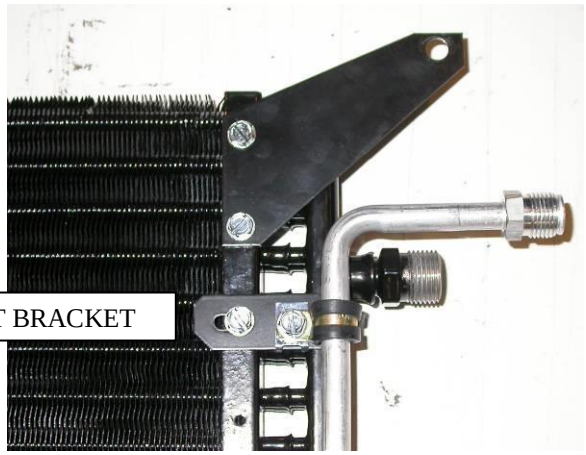


Locate the Condenser Coil, and liquid tube assembly. Attach tube to the coil as shown using (1) #6 o-ring and a few drops of mineral oil.



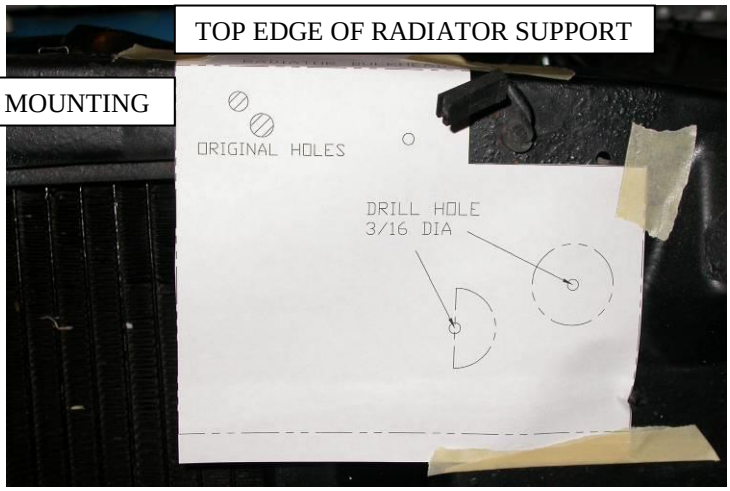
Locate (2) top and (2) lower condenser mounting brackets, and (8) #10 x 3/8" HWH screws.

Attach top brackets to condenser as shown.
Attach lower brackets to the bottom of condenser at the top of the slots.



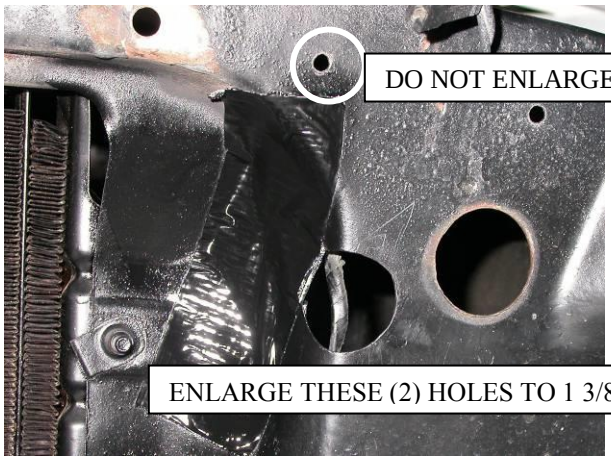

Locate the tube support bracket, tube clamp, (1) #10 u-clip, and (2) #10 x 3/8 hex head screws.

Attach to the condenser as shown.




Locate drill template on the last page of the instructions.

Tape to the radiator support locate the (3) 3/16" dia holes. Carefully drill at locations shown on template.

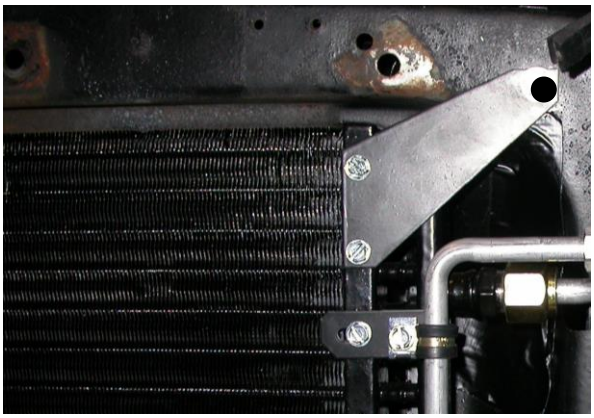


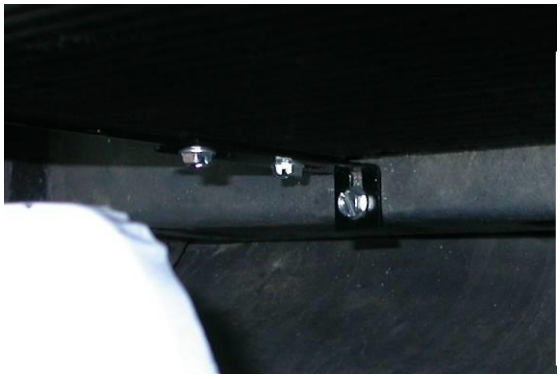

After drilling the (3) 3/16 dia holes.

Using a 1 3/8" dia. hole saw enlarge the (2) bottom holes.
NOTE: THE LEFT HOLE IS CENTERED ON THE EDGE OF SUPPORT

Slide Condenser Assembly into place as shown. The upper right attachment bracket should attach to the 3/16 hole in radiator support. Attach using (1) #14 x ¾" tek washer head screw.

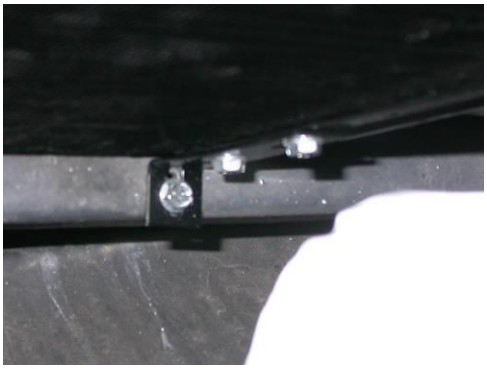
Attach the top left bracket to the radiator support using the last #14 x ¾" tek washer head screw.

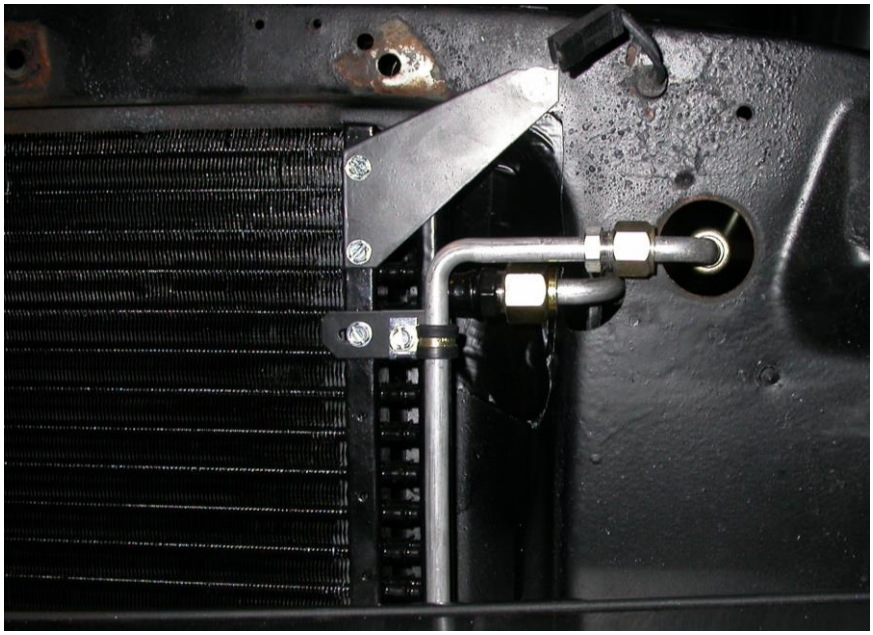




Locate (2)
# 10x ¾”
tek screws.

Attach lower
mounting brackets
To lower radiator
support as shown





Locate the Discharge hose, Liquid hose, (1) #8 o-ring, and (1) #6 o-ring.

Attach the discharge hose to the condenser using the #8 o-ring and few drops of mineral oil. Tighten securely.

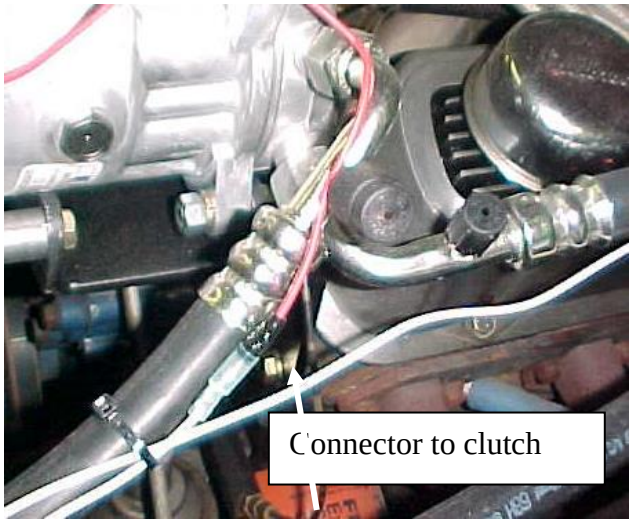
Attach the liquid hose to the condenser using the #6 o-ring and a few drops of mineral oil. Tighten securely.

Reinstall the Center Hood Latch Assembly, Grille assembly, and (2) horns. Using original hardware.

The Liquid Hose that was attached to the condenser will route under the spring support brace and over to the drier mounted on the spring tower. Attach using (1) #6 o-ring and a few drops of mineral oil. Tighten fitting.

**VEHICLES WITH V8 ENGINES:**

Attach the disharge hose assembly that comes from the condenser to compressor.
Attach using (1) #8 o-ring using a few drops of mineral oil.




Locate the Suction Hose. The hose has (2) 90 Degree fittings pre-attached in the correct position. One of the ends has a service fitting, This should be attached to the compressor.

The other end will attach to the suction tube coming from the evaporator assembly. Check for o-rings and apply oil before attachment.
Tighten all  fittings.



Locate female bullet connector that is supplied with the Hi-Low pressure switch.
Cut one of the white wires from the pressure switch. Attach bullet connector to this wire and plug into the compressor clutch wire.

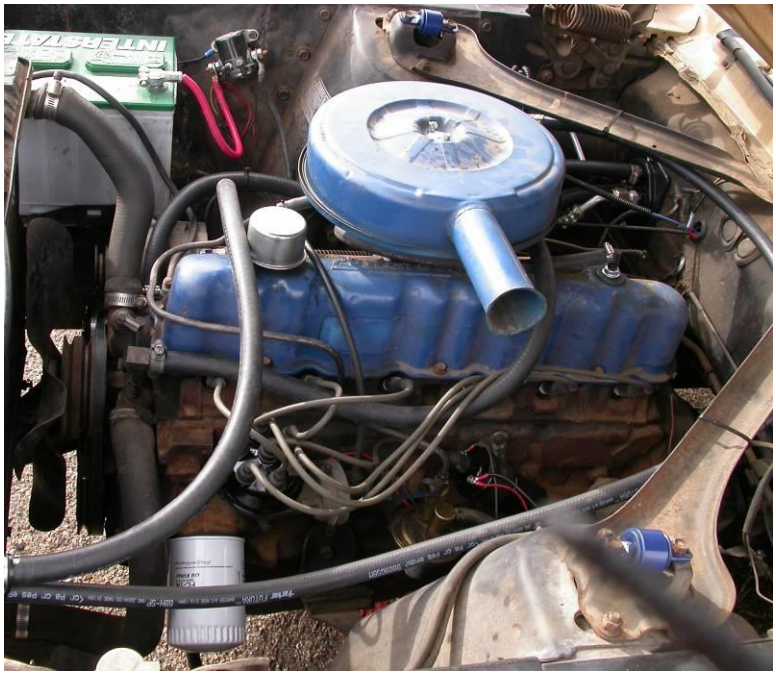
As shown route the long white wire from the pressure switch along the suction hose and connect to the clutch wire. The other wire connects to the blue wire that was inserted through firewall.

Ty-rap suction and liquid hose to the spring tower support.

**VEHICLES WITH 6 CYL. ENGINES.**

Attach the disharge hose assembly that is attached to condenser to the compressor.

Attach using (1) #8 o-ring using a few drops of mineral oil.



Locate the Suction Hose. Attach hose with 90 Degree fitting with service port to the compressor.

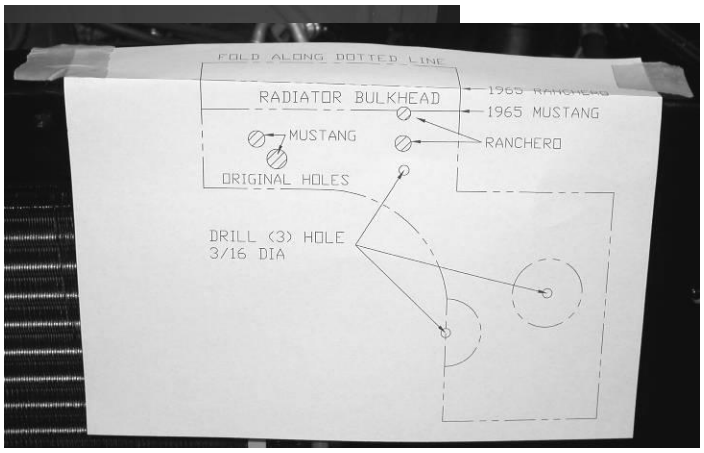
The other end will attach to the firewall. Use (2) #10 o-rings and a few drops of mineral oil.

Ty-rap liquid hose to the spring tower support.

# CONDENSER INSTRUCTIONS

## 1965 FORD RANCHERO WITH MUSTANG RADIATOR

Remove hood latch assembly and grill and retain mounting hardware.
Using templet for 1965 Ranchero cut holes in radiator cowl before installation of condenser assembly. **NOTE:** The voltage regulator will need to be relocated before cutting holes in the cowl.

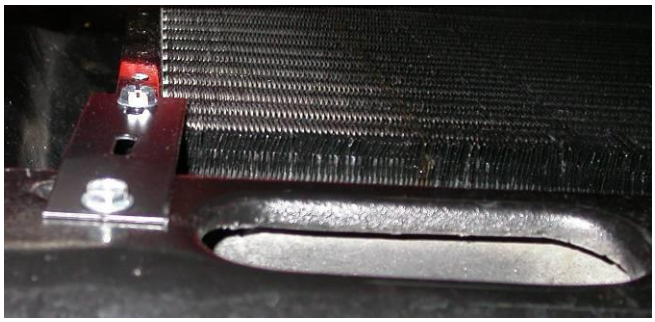


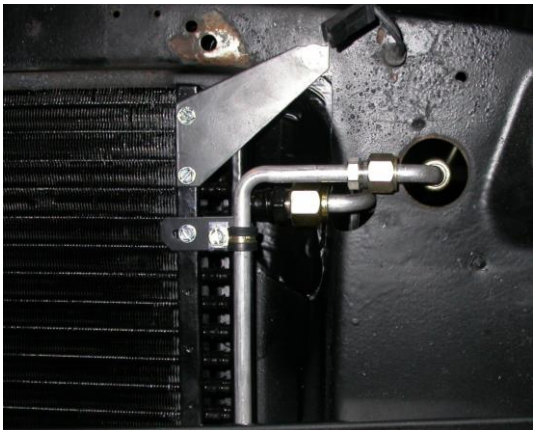

Attach upper condenser mounting brackets, and attach bottom brackets loosely as shown using (6) #10 x3/8" screws. Attach liquid tube to bottom of condenser using (1) o-ring and a few drops of mineral oil and tighten fitting. Attach support bracket and #6 clamp using (1) #10 u-clip and (2) #10 x 3/8" screws.

TOP RIGHT MOUNTING HOLE

Install condenser in front of radiator cowl as shown. Attaching top right bracket to hole previously drilled using (1) #14 x ¾" Tek screw, and align condenser and attach left side using (1) #14 tek screw.

Attach the bottom brackets to lower radiator cowl as shown using (2) #10 Tek screws, and tighten screws on condenser.



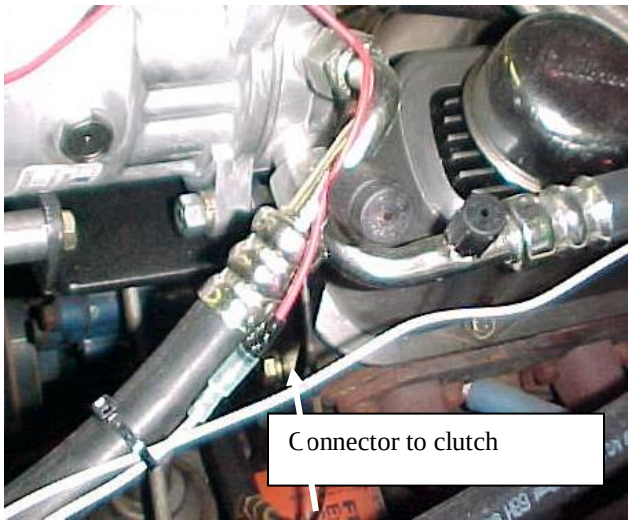


Attach liquid hose to condenser using (1) #6 o-ring and a few drops of mineral oil.
Attach the #8 discharge hose to the condenser using (1) #8 o-ring and a few drops of mineral oil.

Attach drier to drivers shock tower using (1) drier clamp and (2) #10x3/4" tek screws.

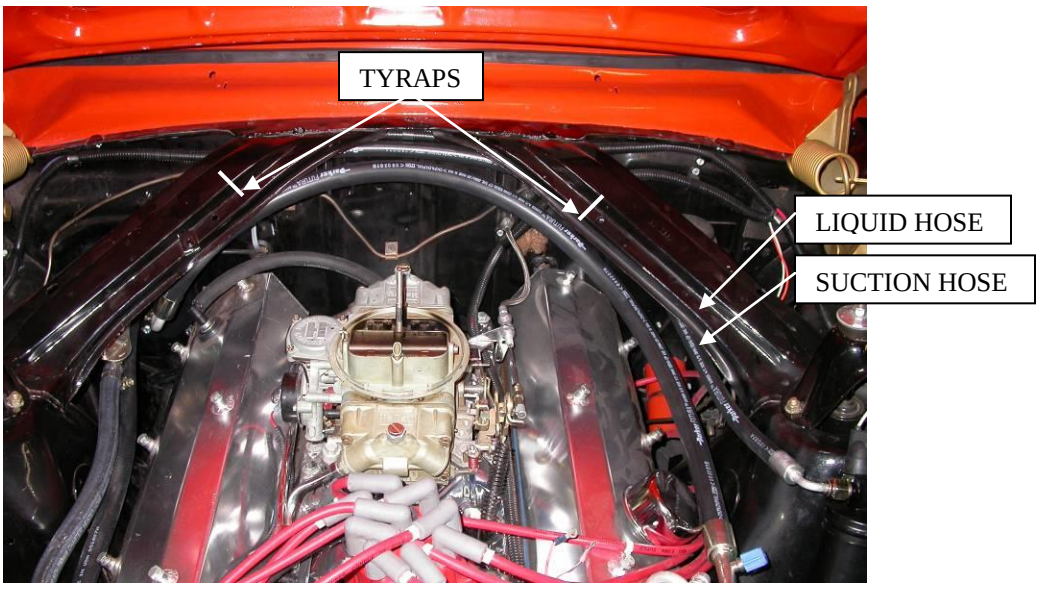
Route #6 liquid hose from condenser to drier and attach using (1) #6 o-ring and a few drops of mineral oil. Tighten both ends of hose.

Attach the other end of #8 discharge hose w/ service port to the compressor using (1) #8 o-ring and a few drops of mineral oil. Tighten both ends of hose.




Attach the #10 Suction Hose with the 90 Deg. Fitting w/ service port to the compressor using (1) #10 o-ring and a few drops of mineral oil, and route the other end along firewall to evaporator, and attach using (1) #10 o-ring and a few drops of mineral oil and tighten both ends.

Attach liquid line to drier using (1) o-ring and a few drops of mineral oil, route hose along firewall as shown below. Attach the other end to the evaporator using (1) o-ring and a few drops of mineral oil, and tighten both ends. Tyrap both the suction and liquid hoses to the cross members as shown below. Route white wire from pressure switch and attach to compressor, and route the other white wire along suction hose and attach to the blue wire routed through firewall by evaporator. Tyrap wires to one of the hoses.



***THE ENGINE COMPARTMENT OF YOUR SYSTEM IS COMPLETE. THE UNIT IS READY FOR EVACUATION AND CHARGING.***

***THIS SHOULD BE DONE BY A QUALIFIED AND CERTIFIED AIR CONDITIONING TECHNICIAN.***

***NOTE:*** ***COMPRESSOR IS SUPPLIED WITH THE CORRECT OIL CHARGE. DO NOT ADD OIL TO SYSTEM.***

***134a SYSTEMS 24 oz OF REFRIGERANT***

***Recommend that power fuse is 25 amp minimum***

***Congratulations you have completed the install of your CLASSIC AUTO AIR climate control system.***

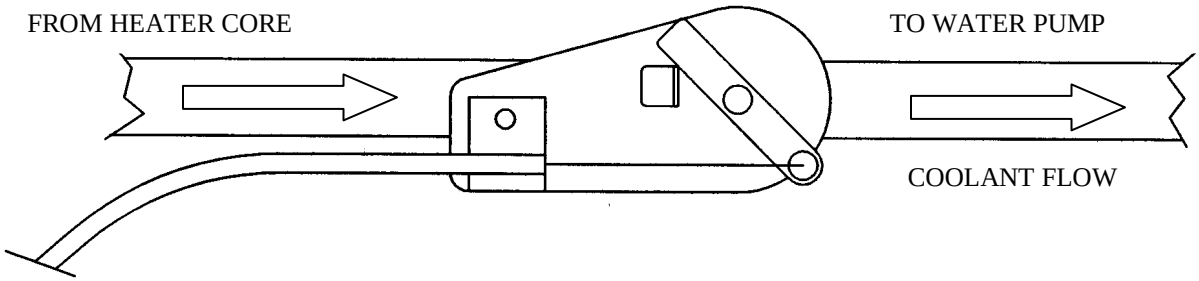
# ***IMPORTANT***

## **CAUTION:** WATER VALVE MUST BE INSTALLED PER THE INSTRUCTIONS.

Classic Auto Air has done extensive testing on the correct method to install the water valve in order to get a repeatable and progressive temperature control.

Locate the **bottom** connection from the evaporator/heater unit off of the firewall and attach a 6" piece of 5/8" dia. heater hose with the supplied hose clamp. Next attach the inlet side of the water valve using another supplied hose clamp, (make sure the arrow on the water valve points toward the engine) Attach a heater hose from the outlet side of the water valve and route to the connection on the water pump.

## NOTE: WATER VALVE = WATER PUMP



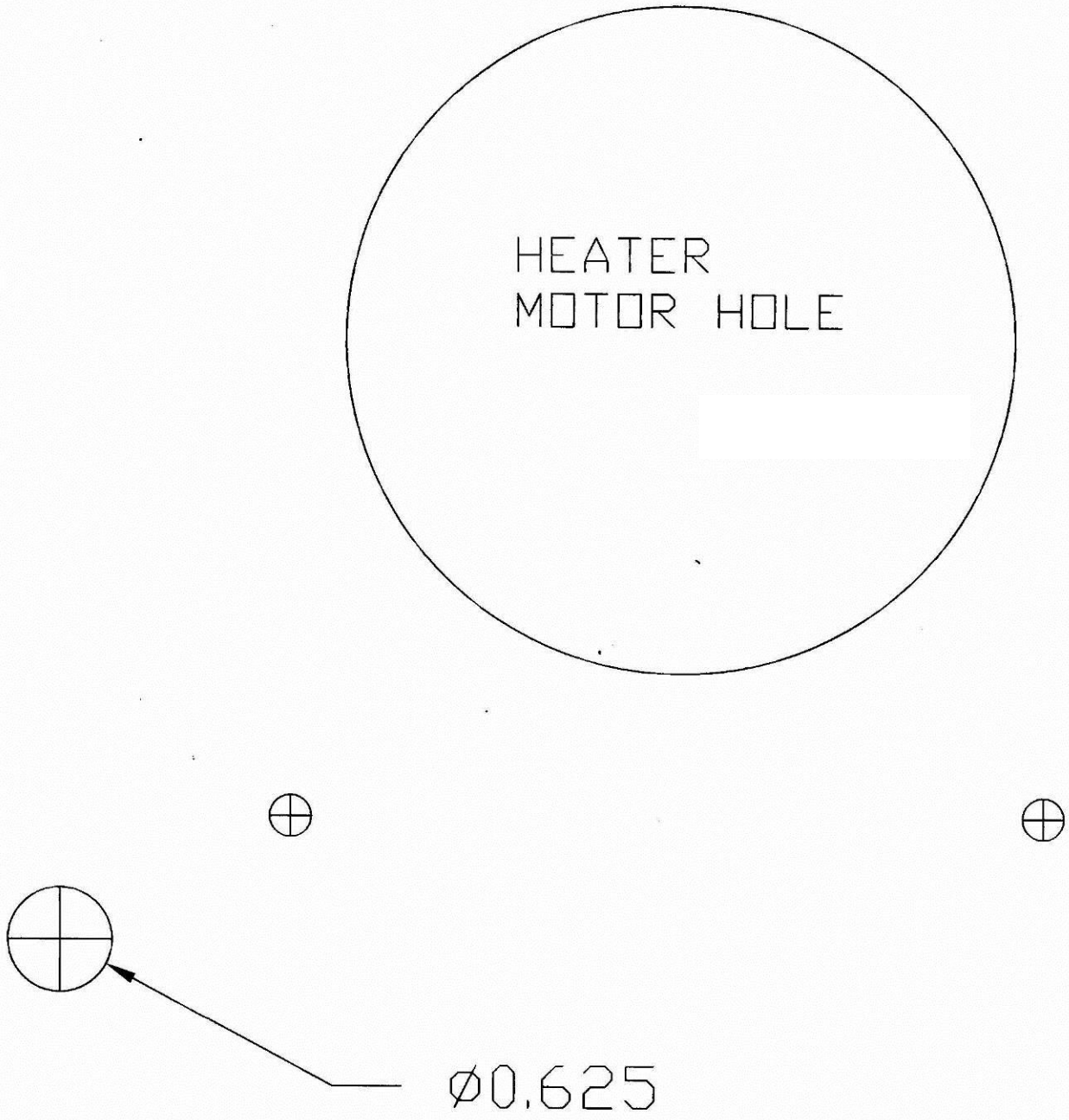

CAUTION: WATER VALVE MUST BE INSTALLED ON HEATER LINE ROUTED TO WATER PUMP.

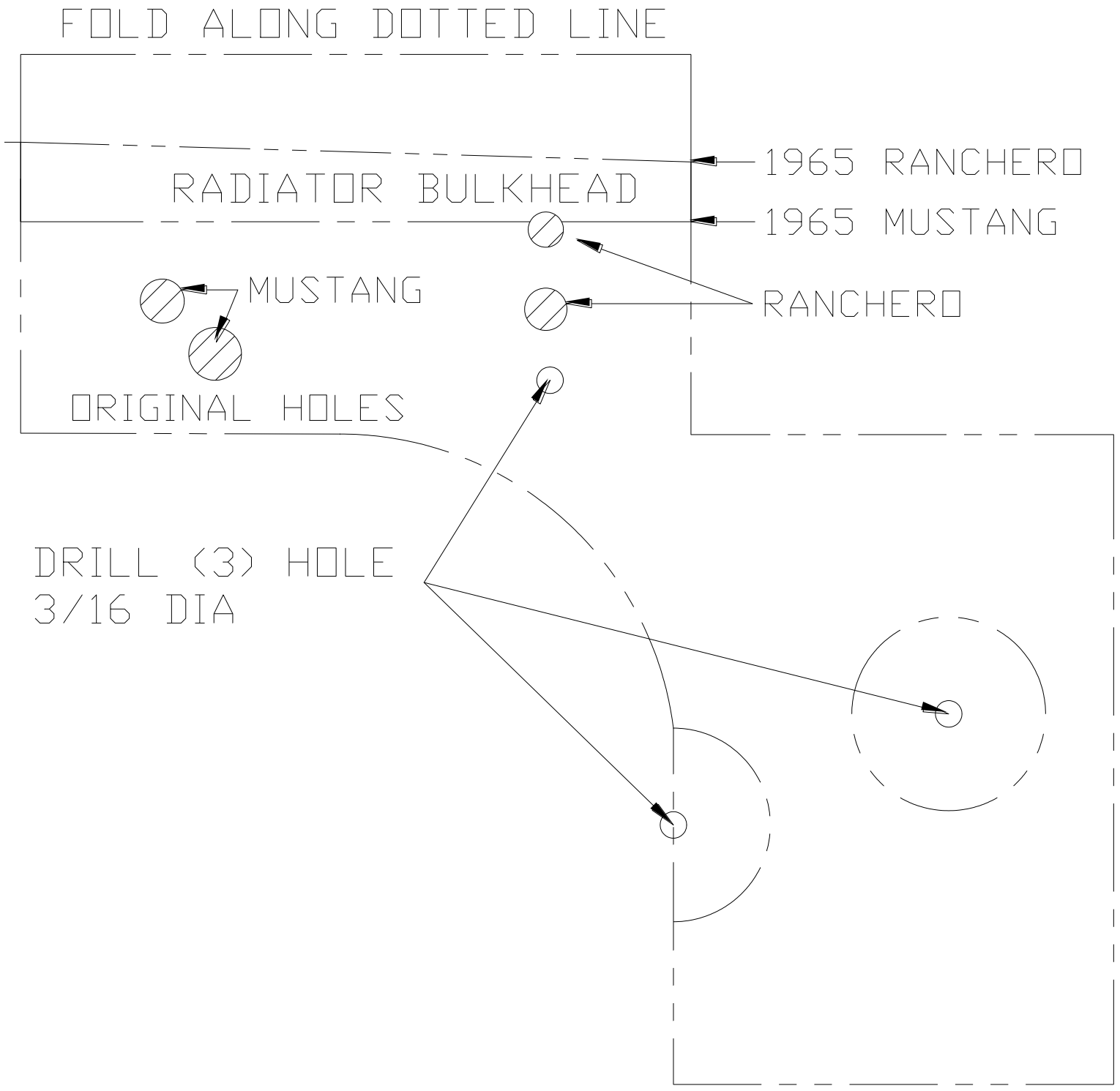
***NOTE:*** ***COMPRESSOR PURCHASED WITH KIT IS SUPPLIED WITH THE CORRECT OIL CHARGE. DO NOT ADD OIL TO SYSTEM.***

***134A SYSTEMS 24 oz OF REFRIGERANT***

***Recommend that power fuse is 25amp minimum***

# TEMPLATE: DRAIN TUBE LOCATION




FOLD ALONG DOTTED LINE
1965 RANCHERO
RADIATOR BULKHEAD
1965 MUSTANG
MUSTANG
RANCHERO
ORIGINAL HOLES
DRILL (3) HOLE
3/16 DIA

***1-1025***