

INSTALLATION INSTRUCTIONS

1971-73 Ford Mustang

Hurricane A/C Heat & Defrost Systems



1201 Forum Way South, Fort Worth TX 76140
(817) 531-2665 or FAX 531-3257

CAP-1071M, CAP-1072M, CAP-1171M & CAP-1172M

This unit is a combination heat/cool & defrost system. The kit is easy to install using basic mechanic tools and a 1-1/4" & 3" hole saw. The complete system provides a neat clean appearance with unsurpassed performance. To achieve maximum cooling efficiency, an air conditioner must remove heat from the air in a vehicle faster than it is added. We recommend tinting windows, insulating the roof, firewall, floorboards, seal all holes in the firewall and replacing old or damaged door and window seals. These are all important factors to reduce "added heat" and maximize the cooling efficiency of an A/C system.

For maximum cooling performance, a clutch style fan, straight six-blade fan with shroud or electric radiator fan is recommended. Note: Flex fans are not recommended

CAUTION: When replacing the stock radiator fan blade with an electric fan assembly it will be necessary for the fan to engage when the A/C system is on, or add a second fan on the condenser dedicated to the A/C. The A/C head pressure will rise much faster than the engine temperature. Inadequate airflow will damage the A/C system (compressor failure, or ruptured hoses). The use of a fan pressure switch is recommended to allow the fan to engage according to A/C pressure.

PREPARATION FOR UNIT INSTALLATION

- 1) Read the instructions thoroughly before beginning.
- 2) Disconnect the negative battery terminal.
- 3) Remove the glove box and center console bezel.
- 4) Drain antifreeze from radiator.
- 5) Remove original heater, control and control cables.
- 6) Remove driver and passenger side fresh air ducts.
- 7) Remove defrost duct hoses but leave defrost duct in dash.
- 8) Remove the air/heat/defrost unit from the box and spread parts out so they can be located as required.

UNIT INSTALLATION

1) Install block-off caps over fresh air vent on passenger side. Make sure edges of opening are clean so adhesive/sealer will stick. Press cap into opening and attach with three #8 X 3/4" Phillips head screws provided. (Photo 1), repeat for fresh air vent on drivers side if needed.

2) *Factory A/C Cars Only* - Install Blockoff plate in original evaporator fitting holes. (Photo 2)



Photo 1 - Install Fresh Air Block-off

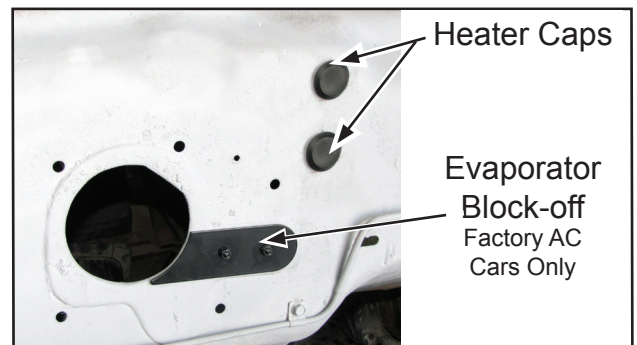


Photo 2 - Install Heater Block-off Caps

3) Hold Mounting Plate to inside of firewall, insert threaded studs through factory heater mounting holes in firewall. (Photo 3)

NOTE: on some vehicles it may be necessary to mark location of 3" hole in mounting plate and enlarge or drill 3" hole for fittings to pass through the firewall.

4) Attach mounting bracket to unit using four 1/4" X 2" Bolts and 1/4" flat washers. (Photo 4).

5) Align fittings on back of unit and mounting plate studs with holes in firewall and temporarily mount unit to the firewall.

6) Mark location for drain tube hole. (Photo 5)

7) Remove unit, center punch and drill 1-1/4" hole in firewall at marked location for drain tube.

8) Insert rubber grommet in drain tube hole.

9) Install thermostat and air inlet grill. (Photo 6)

A) feed the thermostat's capillary sensor tube through the small hole in the top lip of the large inlet air opening. (Diagram 1).

B) Gently bend the sensor tube at a 90 degree angle about 2" from the end and insert it into the fins of the coil approximately 1/2" up from bottom and centered front to back of the air inlet opening. (Diagram 1).

C) Carefully coil remainder of sensor tube so that it will fit inside of opening and snap inlet grill onto the side of unit. (Photo 6)

D) Thermostat adjustment - rotate knob clockwise to the full "on" position then rotate back counter clockwise to the indent. (about 1/8 turn) This is the normal operating position.

10) Push plastic drain tube over nipple on the bottom of unit. (*Do not remove the staple at the end of drain tube. If staple is removed*



Photo 3 - Attach Unit Mounting Plate

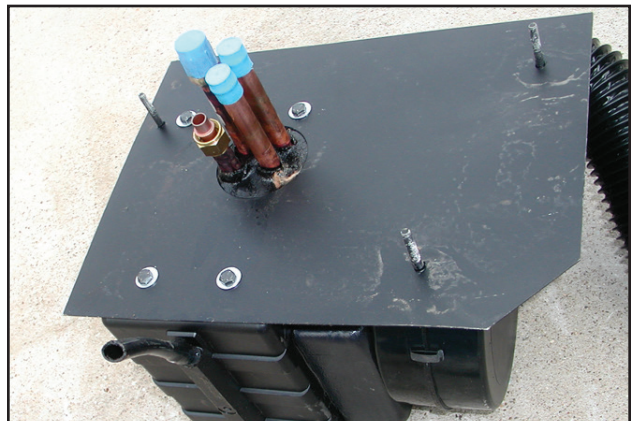


Photo 4 - Attach Mounting Plate To Unit

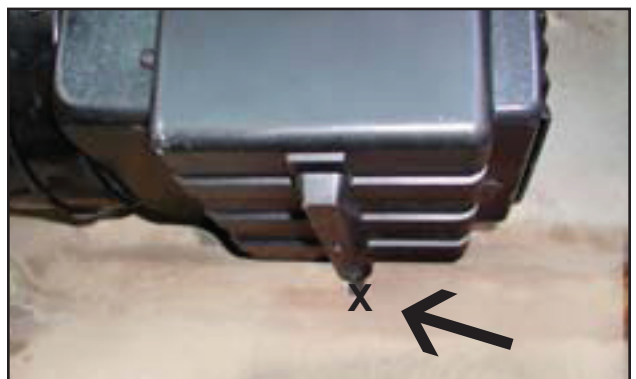


Photo 5 - Mark Hole Location



Photo 6 - Install Inlet Grill & Thermostat

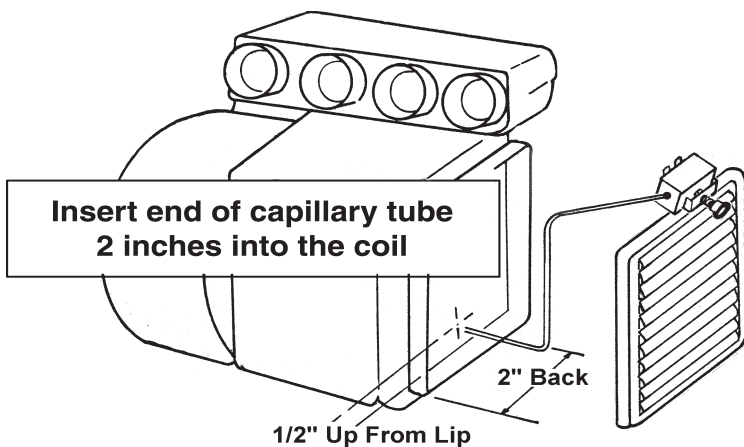


DIAGRAM 1 - Thermostat Location

NOTE: Thermostat location is important to cycle the compressor, keeping the coil from freezing up, and achieve maximum cooling performance.

the evaporator may not drain properly.) (Photo 4)

11) Attach 2-1/2" Diameter duct hose to defrost outlet on unit, hose will be trimmed and attached to factory defrost outlet later. (Photo 7)

12) Install unit into car, insert end of drain tube through grommet, align fittings and mounting plate studs with holes in firewall and loosely attach the unit to the firewall with the (4) 1/4"-20 nuts and (4) 1/4" washers provided. (Photo 8) *NOTE: Don't tighten nuts until rubber grommet is installed.*

13) Install firewall grommet. Carefully stretch round 4 hole rubber grommet over fittings from engine side of firewall and tuck inner lip inside of round firewall opening. (Photo 8) *NOTE: Firewall grommet is a tight fit, leave caps on fittings and lubricate fittings so grommet will slip over the fittings easier.*

14) Check to make sure the drain tube is not kinked or pinched and that all the inside edges of the firewall grommet are tucked into the firewall opening properly.

15) Tighten the (4) 1/4"-20 nuts to secure the unit to firewall.

16) Attach the eyelet connector on the black ground wire from the unit to a solid clean point of contact on the vehicle body using the hex screw and star washer provided.

NOTE: It is very important to have a good ground connection because a loose ground wire may cause excessive amperage draw, intermittent blower operation, blower switch failure and damage to the wire harness.

17) Install expansion valve.

Note: The expansion valve included in this kit may have a 134-A label, it refers to the type of refrigerant used in the sensor tube and can be used with either R-12 or 134-A.

A) Lubricate a #8 O-ring with refrigerant oil, slide o-ring onto the lower fitting of the evaporator core, attach expansion valve and tighten the fitting using a 7/8" and 5/8" wrench. (Photo 9) Refer to o-ring torque specifications. (Diagram 3, Page 7)

B) Gently bend the "pig tail" sensor that is attached to the expansion valve so that it is parallel and against the upper A/C (Suction) tube on the unit. Use the clip provided to secure the pig tail" to the suction tube between the firewall and the brass fitting. (Photo 9).

C) Wrap the clip "pigtail" tube assembly with the black insulating tape provided. (Photo 10).

Note: Sensor bulb and clip must be completely covered with the black insulating tape, if not the refrigerant flow may become inconsistent resulting in poor cooling performance.

CONTROL INSTALLATION

Refer to instruction sheet included with integration kit or control assembly for control installation & wiring diagram.

#49-0073 Integration package for 1971-73 w/ Heater Control

#47-71171A Integration Package for 1971-73 w/ AC Control

#47-71171E 1971-73 w/ Electronic Slide Control

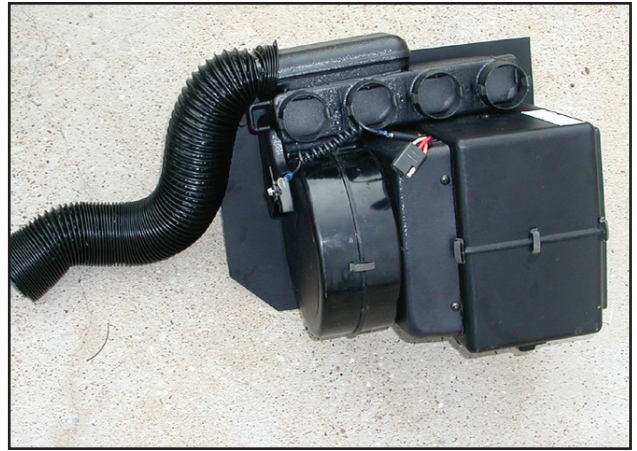


Photo 7 - Attach Defrost Hose to Unit



Photo 8 - Firewall Grommet

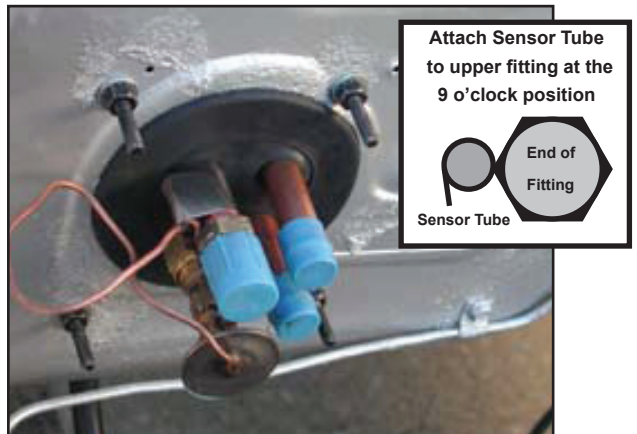


Photo 9 - Expansion Valve



Photo 10 - Wrap Sensor Tube

LOUVER & DUCT HOSE INSTALLATION

NOTE: Be sure to stretch plastic duct hose to make sure that there will be enough. While routing the duct hose try to avoid kinking or pinching that might restrict air flow and secure hoses up inside the dash to prevent unsightly sagging hoses.

1) Attach defrost outlet adapter to factory defrost duct, slip tabs into slots and secure with screws provided. (Photo 11)

2) Route the 2-1/2" duct hose from the defrost outlet on unit to the defrost adapter on factory duct, cut duct hose length as needed and attach to defrost outlet.

3) Attach driver side duct adapters to dash using clips provided and route 2" duct hose to unit. (Photo 12)

4) Attach Duct Adapter to passenger side factory dash louver and Route 2" duct hose to unit (Photo 13)

5) Center louver installation:

Factory AC Cars: Attach center duct adapter to factory center louver and route two pieces of 2" duct hose to unit. (Photo 14)

Heater Only Cars: Remove the 2 screw holding pocket at top of dash bezel. Attach center louver assembly to bezel with original screws from pocket. (Photo 14a)



Photo 11 - Install Defrost Duct Adapter



Photo 12 - Drivers Side Duct Adapter

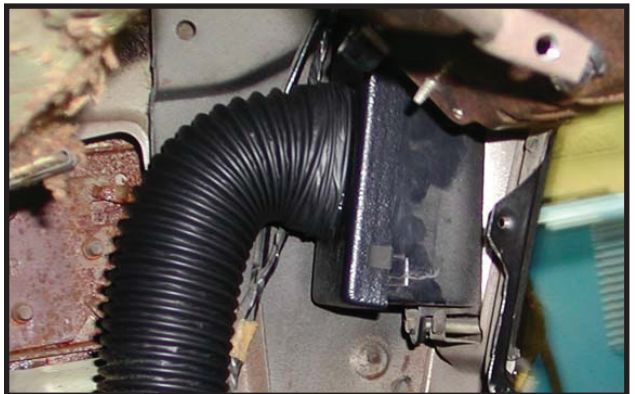


Photo 13 - Passenger Side Duct Adapter

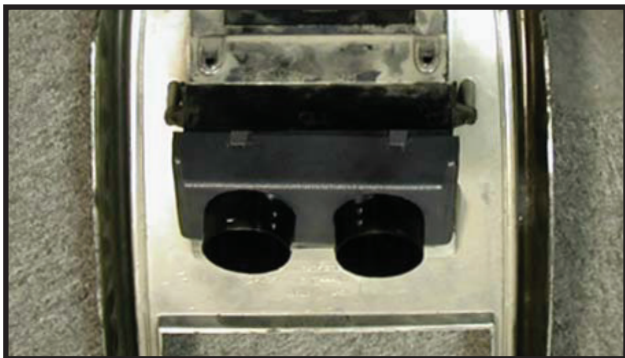


Photo 14 - Center Louver Adapter (w/ AC)

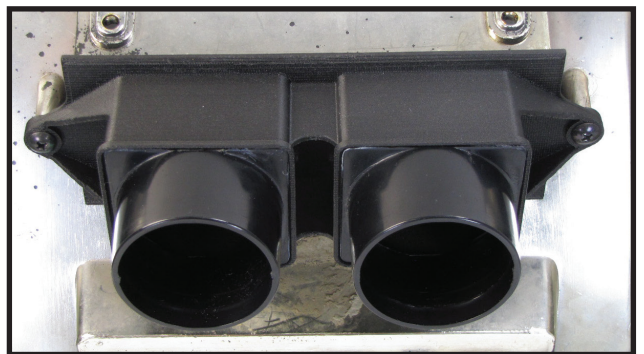


Photo 14a - Center Louver (Heater Only)

CONDENSER INSTALLATION

Refer to instruction sheet included with condenser kit for condenser assembly instructions. (Photo 15)

COMPRESSOR AND BRACKETS

- 1) Locate the compressor and the mounting bracket.
- 2) Before opening hardware bag, Check bracket application to make sure it is the correct one for your engine. If bracket is not correct or you have any questions about mounting bracket contact Old Air Products Dealer before proceeding.
- 3) Install bracket and compressor on engine, refer to the instructions in the bracket hardware bag for installation.

NOTE: During installation the compressor may be rotated to mount with fittings pointed to either side for easier hose routing.

DO NOT MOUNT COMPRESSOR UPSIDE DOWN.

NOTE: All new compressors supplied with Old Air Products A/C systems are filled with oil for the complete system.

A/C HOSE INSTALLATION

CAUTIONS: Important Hose Installation Information

- A) Use refrigerant oil to lubricate all o-rings on all hose fittings.
- B) Protective caps and plugs should not be removed until refrigerant hoses are ready to be connected.
- C) O-Ring fittings should be tight but be careful not to over tighten and crush o-ring seal.
- D) **Hose Clamps should not be used with R-134A Refrigerant, a bubble style crimper (not a linear style) is recommended.** Even though hose clamps are acceptable for use with R-12 refrigerant, it is recommend that all hose fittings be crimped for neatness, and to facilitate easy conversion to another refrigerant if desired, at a later date. We will crimp these at no charge, or most A/C shops or auto supply stores can also crimp the a/c hoses for a modest fee.

Refer to Diagrams #3 & #4 for the Following Steps 1-5.

- 1) Assemble all A/C hoses with fittings and ferrules and test fit on vehicle before crimping ferrules.
- 2) Route a section of # 8 (13/32") discharge hose from the outlet of the compressor to the #8 condenser inlet tube on the condenser.
- 3) Route a section of # 10 (1/2") suction hose from the evaporator outlet fitting to inlet of the compressor. If using a driver side compressor mount use tube #12-1006 (Photo #14) route suction hose across the top of firewall over engine and forward to compressor.
- 4) Route a section of the #6 (5/16") hose from the expansion valve to the outlet fitting on the receiver drier, if using a driver side compressor mount this hose can be neatly routed along the firewall along with the suction hose. (Photo 15)

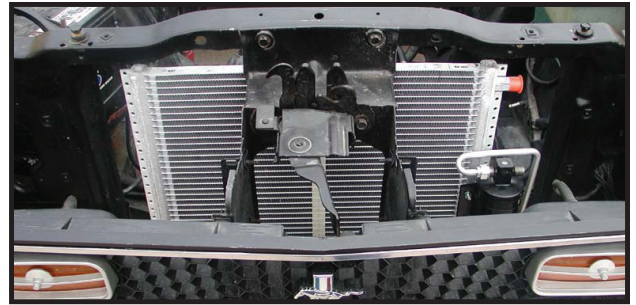


Photo 15 - Install Condenser Assembly

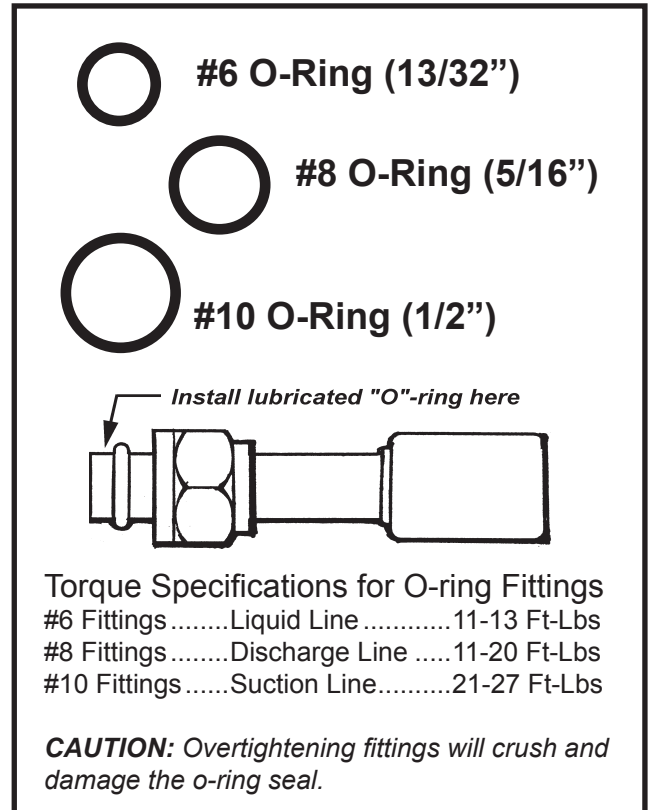


Diagram 3 - O-ring Seals

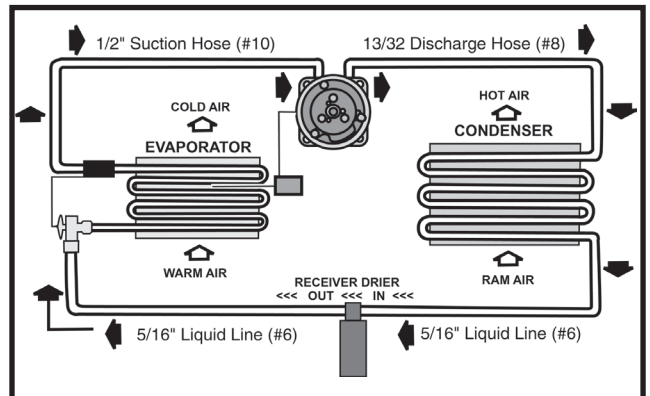


Diagram 4 - Refrigerant Flow Chart

- 5) Remove A/C hoses, crimp fittings with beadlock crimper.
- 6) Reinstall hoses using lubricated o-ring seals, tighten all fittings (see torque specifications diagram 3, page 8)

PRESSURE SAFETY SWITCH

- 1) Install Pressure Safety Switch (Photo 16)
 - A) Remove hexagon shaped plug on side of Receiver / Drier
 - B) Place lubricated O-ring on pressure switch.
 - C) Screw Pressure Switch into port on Receiver / Drier.
- 2) Place electrical plug on pressure safety switch. **CAUTION:** Make sure the terminals of the switch are inserted into the connectors, not between the rubber boot and connectors.
- 3) Connect one wire from safety switch to the green wire coming through firewall from the thermostat. The second wire will connect to the compressor clutch, it is recommend to wait until the system is ready for the refrigerant charge before making this final connection to the compressor to prevent compressor damage.

HEATER HOSE & VALVE INSTALLATION

- 1) Locate area where heater valve will be installed (Be sure wire harness will reach and electronic servo motor on heater valve body is not to close to exhaust manifold).
- 2) Route section of heater hose from the engine heater outlet (usually on the intake manifold) to the heater inlet fitting (bottom tube) on the unit.
- 3) Route a second section of heater outlet fitting (top tube) on the unit to the heater return fitting on the engine (usually on the water pump).
- 4) Position the heater valve in desired location. Inlet fitting on heater valve can be rotated on valve body for installation of inlet heater hose. Splice into heater hoses and connect as shown in photo 1. (If vehicle is equipped with 3/4 heater hose install sleeve adapters to water valve fittings.)

Tip: We recommend gear type clamps be used to fasten the heater hoses and caution should be taken not to over torque the clamps creating damage to the heater valve.

- 5) Fill radiator with antifreeze for a minimum protection of -10 degrees Fahrenheit.

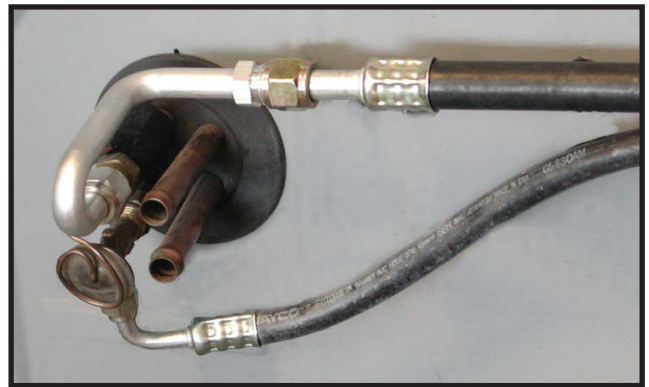


Photo 16 - #12-1006 (for Driver side compressor)

CAUTION: To prevent damage to tubes, fittings and system components always use a backup wrench to tighten fittings, failure to use backup wrench on fittings will twist and damage tubes or other system components.

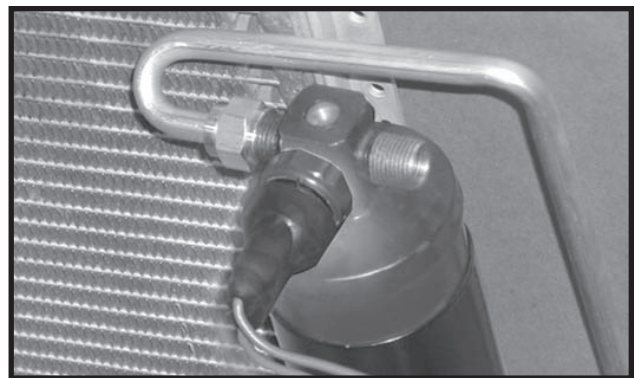


Photo 16 - Pressure Safety Switch

Heater Outlet
(upper tube)

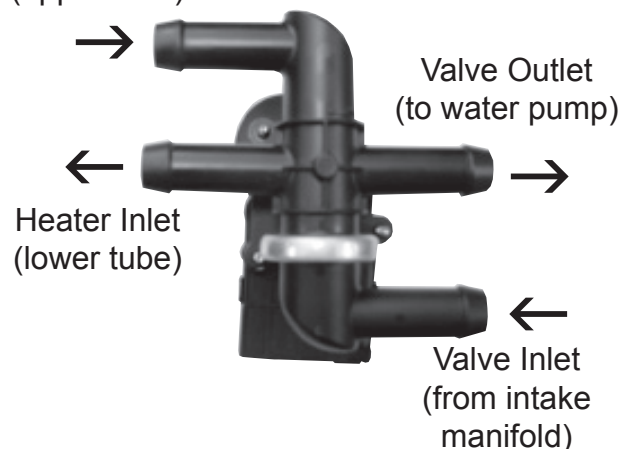


Diagram 2 - Heater Valve Flow Chart

COMPLETE INSTALLATION

- 1) Install wraparound hose clamps or pull-ties as necessary to secure all A/C & Heater Hoses away from sharp edges, moving parts and exhaust manifold or headers to avoid damage to hoses.
- 2) Check all wiring connections and secure wires away from sharp edges, moving parts and hot surfaces.
- 3) Open heater valves, start engine to allow coolant to circulate into the heater core.
- 4) Stop Engine recheck to see that hoses and wiring harness is secured away from sharp edges, hot surfaces and moving parts.
- 5) Check to make sure compressor and alternator belts are tight and aligned properly.

FREON SERVICE

- 1) This system should be serviced/charged by a certified A/C technician and requires a minimal vacuum pump evacuation of 45 minutes.
- 2) New compressors purchased with complete systems from Old Air Products contain the correct amount of refrigerant oil.

VARIABLES AFFECTING FREON CAPACITY

- a) Length of hoses, driver or passenger side compressor.
 - b) Size of condenser.
 - c) Compressor capacity.
- 3) **134-A Systems** will require 28 to 36 ounces. An exact charge with 134-A is more critical for maximum performance than that of R-12. The exact charge will be relevant to the length of hose, compressor capacity, and size of condenser. We recommend adding a partial charge, and monitor temperature at vents while slowly adding remaining charge, while testing for point of maximum performance.

R-12 Systems will require 28 to 36 ounces of Freon. This is only a guide line, and the sight glass (under the dimple area) on top of the drier should be monitored. The exact charge will be relevant to the length of hose, compressor capacity, and size of condenser.

NOTE: When charging the system it will be necessary to put in about 12 to 18 ounces of refrigerant before the pressure safety switch will engage the compressor clutch. Charging and testing should be done with the doors shut, windows closed, convertible top up, fan on high blower, and an electric fan in front of radiator. If excessive high pressure exists adding an electric condenser fan is recommended if space permits.

NOTE: 134A requires 15 - 20% less refrigerant than R-12, which means the sight glass may not ever clear.

- 3) Leak test all A/C connections.
- 4) Place a copy of these installation instructions in glove box for future reference.

Caution

This is not a blend system. The heater valve should not be opened while operating the air conditioning. You must maintain adequate antifreeze in cooling system for -10 degrees fahrenheit.

The heater valves should be opened to allow antifreeze to flow into the heater core before operating the A/C system to prevent freezing and rupturing the heater core.

Neglect of these cautions will cause damage to your system and Void Manufacturers Warranty.

PARTS LIST

1971-73 Mustang Systems

Hurricane Unit

Air Inlet Grill (w/ Thermostat)

Unit Mounting Plate (#41-0034)

Unit Mounting Kit

- 1 Round Rubber Grommet (#80-1100)
- 4 1/4" Nuts
- 4 1/4" Flat Washers

Expansion Valve Kit (51-1003)

- 1 Expansion Valve (#25-1000)
- 1 Sensor bulb clamp (#60-1004)
- 1 1/2" Drain Tube
- 1 Rubber Grommet (#80-1004)
- 1 Black Tacky Tape (#21-0617)
- 1 O-ring Kit (1/#6, 1/#8, 1/#10 & 1 Tube Oil)

Louver Adapter Kit (#49-7172)

- 1 Center Louver Adapter (#32-1071-1)
- 1 Hose Adapter P/S (#32-1071-2)
- 1 Hose Adapter D/S (#32-1071-3)
- 1 Defrost Adapter (#31-1071-4)
- 2 Firewall Block-Off Covers

Fresh Air Block-off Covers

- 2 Fresh Air Block off Plates
- 10 1/2" Sheet Metal Screws

Control Package - (will vary by application)

- #49-7117E - 1971-73 w/ Electronic Slide Control
- #47-7117A - 1971-73 w/ AC Control
- #49-0073 - 1971-73 w/ Heater Control

Duct Hose

- 1 2" X 11' Duct Hose (cut as needed)
- 1 2-1/2" X 2' Duct Hose (cut as needed)

Compressor (Sanden or Equivalent)

Compressor Mounting Bracket

Bracket will vary by engine application

Condenser Kit - (#51-1071)

- 1 Condenser (#11-1621)
- 1 Condenser Mounting Kit (#49-0075)

A/C Hose Kit

- 1 #6 Liquid Line
- 1 #8 Discharge Hose
- 1 #10 Suction Hose

Fitting Sack Kit (#49-0076)

- 1 Suction Tube (12-1006)
- 1 #6 90° FO Fitting
- 1 #8 Straight FO Fitting
- 1 #10 90° FO Fitting
- 1 #10 Straight FO Fitting
- 1 O-ring Kit

Binary Safety Switch Kit

- 1 Binary Pressure Safety Switch (24-0102)
- 1 O-ring
- 1 Wire Harness

**Thank You for choosing an
Old Air Products
A/C & Heater System
for your Mustang.**

We appreciate letters of response and photos of your vehicles. We will be selecting customer vehicles to feature on our web site. If you would like to submit your car or truck send an email with pictures and information to sales@oldairproducts.com

**Regards,
The Staff, Old Air Products**