



Nostalgic AC Parts

"Keeping Your Classics Cool"

MGB DIRECTIONS

CK-2101

Please read the following directions prior to installing this a/c system.

The Nostalgic AC Parts team would like to thank you for your recent purchase of a complete a/c kit for your car or truck. There are a few steps that must be followed in order for your a/c system to operate properly.

Important information about your system, and warranty

- ➔ DO NOT ADD ANY OIL TO ANY PART OF THE SYSTEM.
- ➔ DO NOT USE THE SIGHT GLASS TO CHARGE THE SYSTEM.
- ➔ DO NOT OVERCHARGE THE SYSTEM.

This Kit is designed to work with R134a refrigerant, not any other refrigerant (freon). The system has been designed and tested using R134a refrigerant. The systems performance with this freon was as expected. Vent temperature of 37-45 F Degrees, and a high side pressure reading at 200-220psi.

The system should not exceed 250psi on the high side, and the low side will stabilize if all is installed correctly.

WE NEED THE HIGH SIDE GAUGE READING IN ORDER TO HELP WITH ANY PROBLEMS.

The system needs to be evacuated for maximum performance. The system will take 1.50 lbs of R134a refrigerant, or two cans. You want the high side to be 200-220psi when the system is on and the vehicle is idle.

DO NOT ADD DYE TO CHECK THE SYSTEM. WE HAVE HAD PROBLEMS WITH THE EXPANSION VALVES GETTING CLOGGED.

If you have a problem with the system we ask to call before diagnosing or changing any parts. We can fix problems easier if the system is not tampered with.

If you have a warranty claim you need to call prior to shipping any parts back.

OUR POLICY IS TO GET THE OLD PART BACK PRIOR TO SHIPPING ANY NEW PARTS OUT.

We are not responsible for the following:

Clogged expansion valve from too much oil, or dye

Cracked compressors from improper installation

Compressor with broken valves from overcharging of oil or refrigerant

Burned up clutches from too high of head pressure

We will be here to serve you seven days a week by phone and / or email
Please contact us if you need assistance.

888-977-8889

- The **HIGH SIDE** gauge reading should not exceed 200 PSI. We **MUST** have the **HIGH SIDE** gauge reading if you need any assistance in correcting a potential problem.
- If you purchased the a/c compressor from **NAC, DO NOT ADD ANY OIL, DYE, LEAK SEALANTS, OR OTHER ADDITIVES TO ANY PART OF THE SYSTEM.** If oil is required NAC will provide an additional sheet with directions on filling the system with oil.
- Be sure you have the correct pulleys for the engine prior to installing the kit. Pulleys are not included unless specified when the kit is ordered.
- Insulation is very important. Be sure to insulate the firewall and floorboard prior to installing the evaporator unit. It is very important to insulate the floor and firewall behind the evaporator unit.
- There should be adequate airflow from the radiator fan, and a sufficient amount of room between the condenser and radiator. Make sure the **CONDENSER HAS A TUNNEL EFFECT OF AIRFLOW THAT FLOWS THROUGH THE CONDENSER AND RADIATOR.** Foam can be put in between condenser and the radiator edges to achieve a proper airflow effect. There should be ¼” to 1” gap in between the radiator and condenser. **EFFECTS OF INADEQUATE AIRFLOW:** the compressor may act like it is “locking up”; warm air only from the vents, overheating of the engine, high head pressure, air blows cold at idle and blows warm while driving, and more.
- Find the proper flow of the water prior to installing the heater control valve. Water should be turned off prior to entering the evaporator / heating unit. It should only be turned off when the heat is needed. If you are experiencing warm air out of the evaporator check the compressor low side fitting. If it is ice cold then the heater valve is not hooked up properly.
- **DO NOT USE THE SIGHT GLASS!** The system should be charged with R-134a **ONLY.** If you do not follow this instruction your warranty may be void and you may not be eligible for technical assistance. **EFFECTS OF OVERCHARGING:** Compressor is “noisy”, engine overheating, warm air only from the vents, and more.
- If a problem exists after checking all these conditions you may call or email for technical assistance. **IF YOU DO NOT HAVE THE HIGH SIDE GAUGE READING WE WILL NOT BE ABLE TO ASSIST YOU IN FIXING THE PROBLEM.**

Parts Checklist

Chrome Bumper A/C System

COMPRESSOR	V-Belt (non-supercharged)	PN: 15-5000
	Serpentine (supercharged)	PN:15- 5004
CONDENSER		PN: 44-7476
HIGH LOW PRESSURE SWITCH		PN: 119-9900
R-134a HOSE KIT		PN: HK-920
COMPRESSOR MOUNT KIT		PN: 2404
EVAPORATOR UNIT	A/C only	PN: UD-620
	Heat and Air	PN: UD-625
DRIVER & PASS VENT PODS		PN: P-310 & P-311
2" DUCT HOSE (8 feet)		PN: DH20
CENTER VENT ADAPTERS X 2		PN: P-312
VENT BLOCK OFF COVERS X 2		PN: P-303
EVAPORATOR PARTS BAG		PN: 77-4013
EVAPORATOR SUPPORT BRACKET		PN: 999-1038
A/C CONTROL POD		PN: 119-9930
HEATER CONTROL VALVE	Heat and Air	PN: 77-3002
Bowden Cable	Heat and Air	PN: 77-3007

77-4013 IS LOCATED IN THE EVAPORATOR KIT BOX

Parts included in 77-4013:

77-9401 Drain tube two feet
 5087 drain tee
 5087 Drain tube Tee
 G101 Grommets x 4
 Self tapping screws x 12
 1/4" x 3/4 screws w/ washers x 4
 8mm x 1.25 x 25mm bolts w/ lock & flat washers x 4
 O-rings

KIT DIRECTIONS

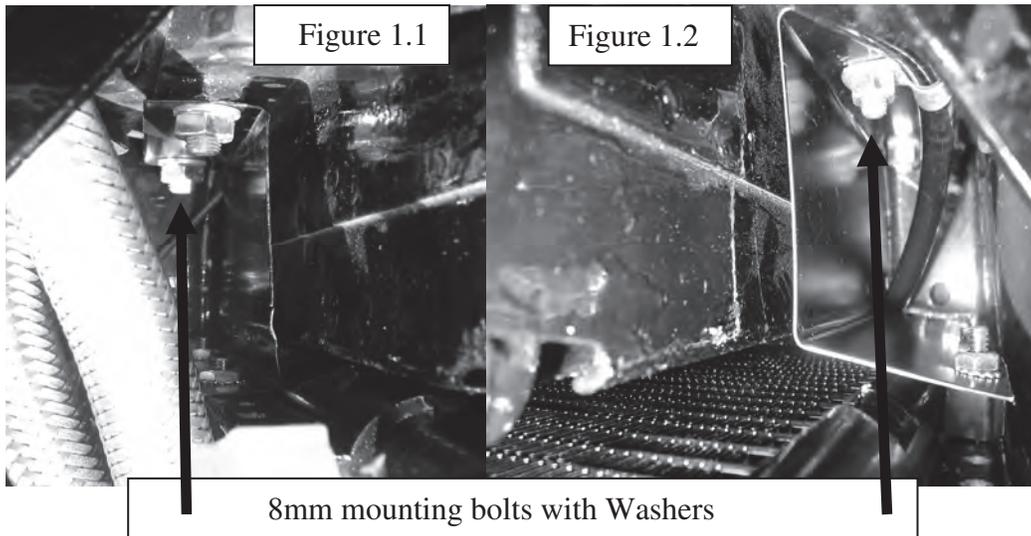
Checked by _____

*This checklist serves as a reference of all the parts included with this kit.

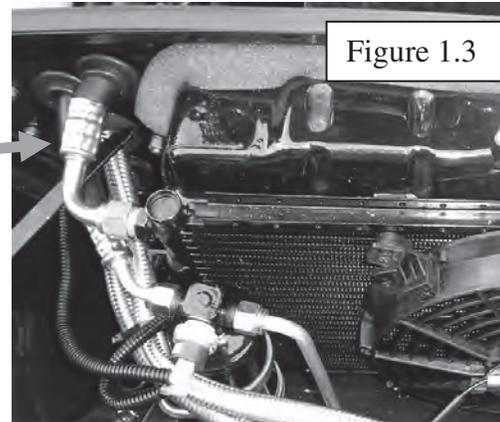
STEP ONE

Condenser installation

- 1) The condenser should have the fan mounted, the drier attached with the binary, and the condenser mount brackets attached. If the brackets are not attached driver side bracket is to be mounted on the fifth hole up from the bottom. The passenger side bracket should be mounted on the second hole up from the bottom.
- 2) The condenser sits in front of the radiator, the bracket holes will mount to the radiator core support using the radiator mount bolts. There are four 8mm bolts with washers included to mount the condenser to the core support. See figure 1.1 & 1.2
- 3) Once the condenser is mounted find a location on the passenger radiator core support that will allow access for the hoses to run through. The hoses should be able to flex slightly without rubbing on anything. Mark the location with a marker, or a punch.
- 4) Using a 1-1/4" hole saw drill the holes for the grommets to run the hoses through the firewall. See figure 1.3 See Hose installation prior to drilling holes.



Grommets
through Radiator
core support with
a/c lines.



- 5) The electric fan should be wired up through a relay, below is a diagram for wiring up the Relay. When wiring the fan up; make the sure the fan is pushing air. The fan is reversible so the ground can be the hot and the hot can be the ground.

RELAY WIRE SETUP

30	BATTERY
85	GROUND
86	COMPRESSOR WIRE, (SPLICE IT IN THE WIRE FOR THE COMPRESSOR)
87	FAN POSITIVE
87a	NOT USED

The fan will have to be grounded as well. Only four wires are used on the plug for the relay.

STEP TWO

2404 BRACKET SETUP

1. REMOVE ALTERNATOR AND BRACKET FROM THE ENGINE. (FIGURE 1)



Figure 1

2. INSTALL 2 BRACKETS AS SHOWN IN FIGURE 2.

USE THE FOLLOWING HARDWARE:

- TWO 5/16"-24 X 3/4" BOLTS W/LOCK WASHERS IN BLOCK. (Bracket may vary)
- ONE 5/16" X 1 1/2" BOLT, NUT, AND LOCK WASHER THRU HOLE ON TOP OF WATER PUMP.
- ONE 3/8" X 1" BOLT, NUT, AND LOCK WASHER THRU TIMING PLATE.

****DO NOT TIGHTEN THESE AT THIS TIME****

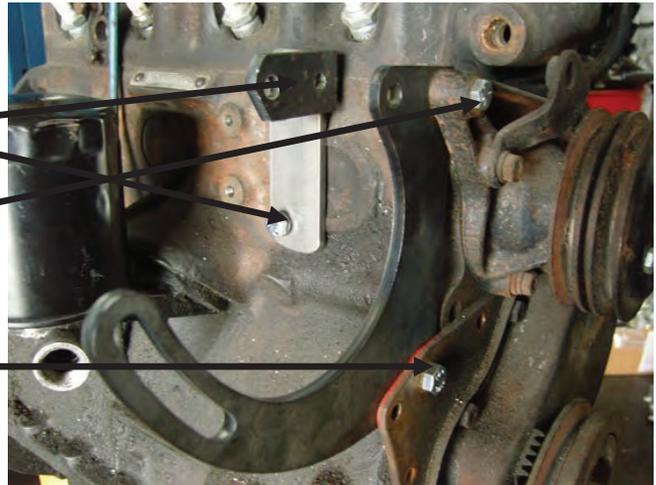


Figure 2



For some applications, both the motor mount and bracket may need to be modified. The pictures above will illustrate this.

3. INSTALL COMPRESSOR AND BRACKETS AS SHOWN IN FIGURE 3.

USE THE FOLLOWING HARDWARE:

- ONE 1/4" SPACER
- TWO 3/8" X 1 1/2" BOLTS, NUTS, AND LOCK WASHERS
- ONE 3/8" X 1 1/4" BOLT, NUT, AND LOCK WASHER
- ONE 3/8" X 1 3/4" BOLT, NUT, AND LOCK WASHER
- ONE 3/8" X 1 1/2" BOLT, FLAT WASHER AND NYLON NUT FOR ADJUSTER ARM.

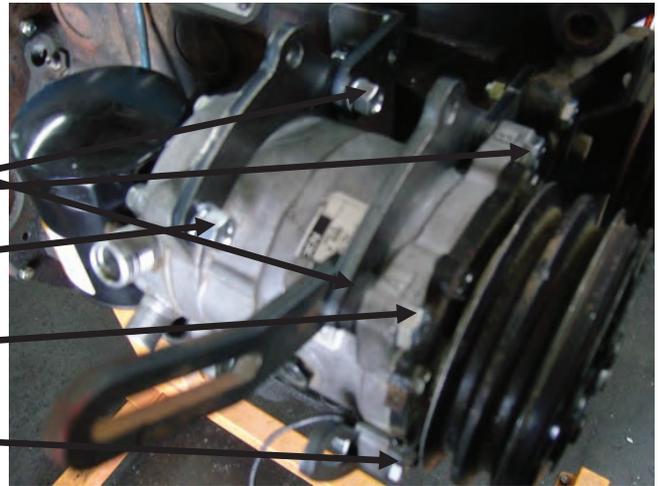


Figure 3



Figure 3A

**** AT THIS TIME, SNUG COMPRESSOR BOLTS THEN TIGHTEN BOLTS FROM STEP #2****

4. INSTALL BELTS AS SHOWN IN FIGURE 4.

- PUT SMALL BELT ON SECOND GROOVE OF COMPRESSOR.
- PUT ON COMPRESSOR BELT ****BELT WILL BE TIGHT****.

PROCEED IN THE FOLLOWING ORDER:

- PLACE BELT ON COMPRESSOR FIRST.
- CRANK SECOND.
- WATER PUMP LAST.
- **MAY HAVE TO ROLL ON BELT****

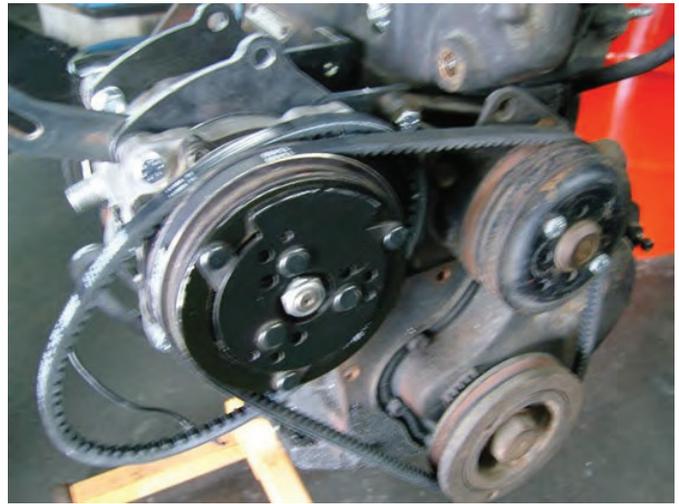


Figure 4

****TIGHTEN COMPRESSOR BELT AND ALL NUTS AT THIS TIME EXCEPT FOR THE ALTERNATOR ADJUSTMENT ARM****

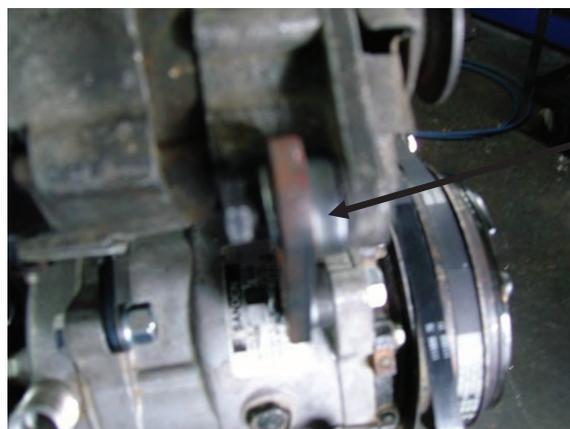
5. INSTALL ALTERNATOR USING:

- ONE 5/16" X 1 1/4" BOLT, NUT, FLAT WASHER, AND LOCK WASHER.
- ONE 5/16" X 1 1/2" BOLT, NUT, FLAT WASHER, AND LOCK WASHER.



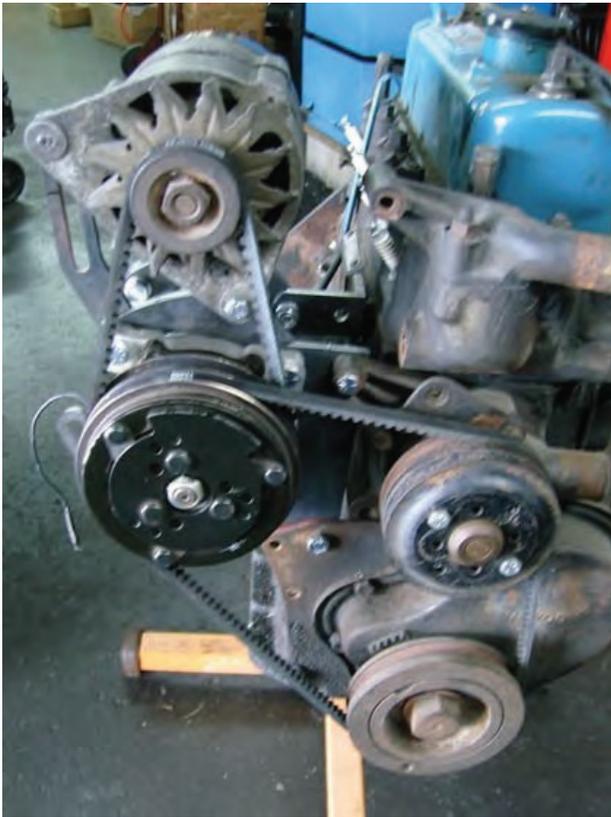
Figure 5

6. INSTALL NEW ADJUSTMENT BOLT (GOLD) FLAT WASHER AND 1/4" SPACER AS SHOWN IN ALTERNATOR ADJUSTMENT ARM. INSTALL BELT AND TIGHTEN.



1/4" SPACER

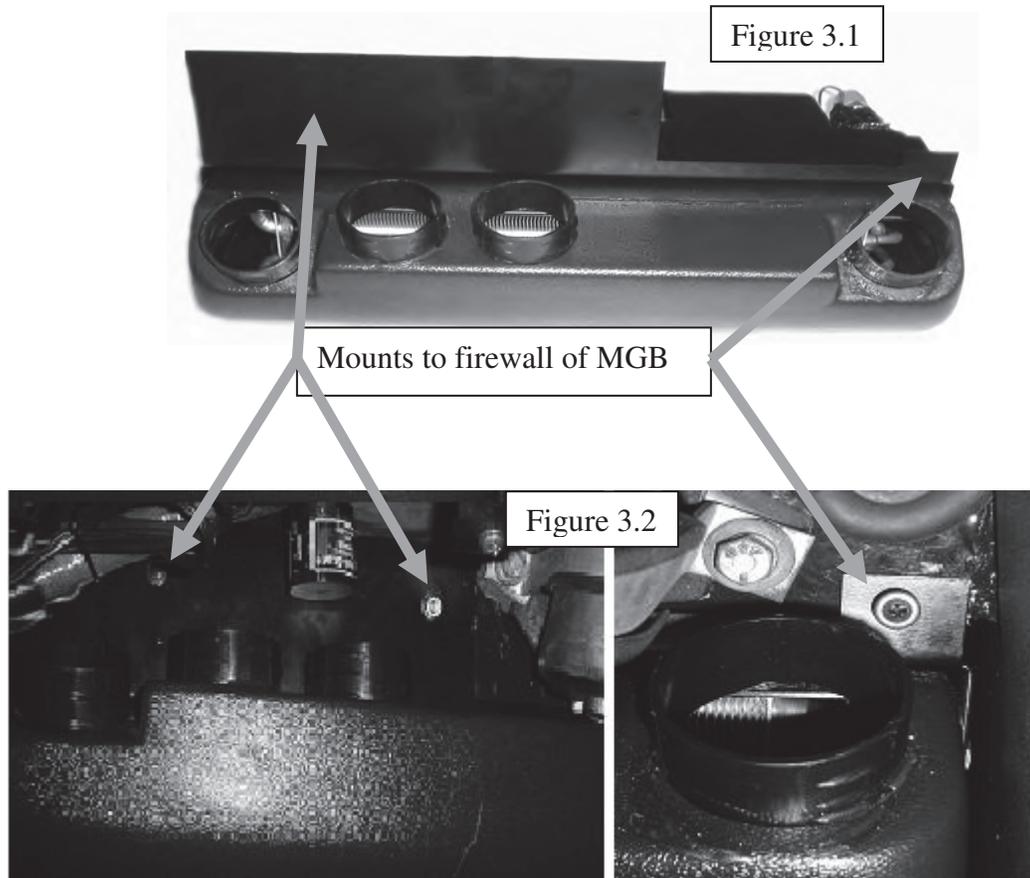
THIS IS WHAT YOUR FINAL SETUP SHOULD LOOK LIKE



STEP THREE

Evaporator installation

- 1) Attach the evaporator mount plate to the evaporator unit. Figure 3.1
- 2) Use Self tapping screws to attach the evaporator to the firewall. Figure 3.2



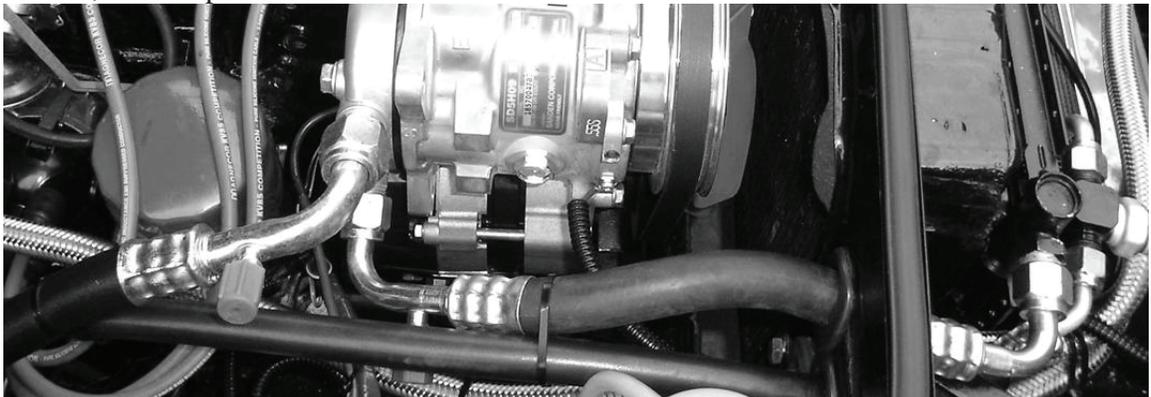
- 3) The evaporator will have to be removed prior to final installation to attach the a/c lines.
- 4) It is recommended to mount the vents, duct hose, and controls after the a/c hoses are attached on the inside of the MGB.
- 5) There are three wires for the entire system, and an orange, yellow and red plug. Plug the harness plug into the blower motor plug.
- 6) Wire with a fuse inline. This wire should be connected to an ignition source; power with the key on
- 7) Ground wire. On the back of the evaporator there is a black wire with a loop attached. Ground this to a piece of metal with a self-tapping screw.
- 8) Compressor wire. Run the compressor wire through the firewall, the wire will hook into the binary pressure switch (installed in the drier) then to the compressor. The binary cannot be hooked up incorrectly it is an inline switch.

- 9) DO NOT HOOK UP THE COMPRESSOR WIRE UNTIL THE SYSTEM IS READY TO BE CHARGED

STEP FOUR

Hose installation

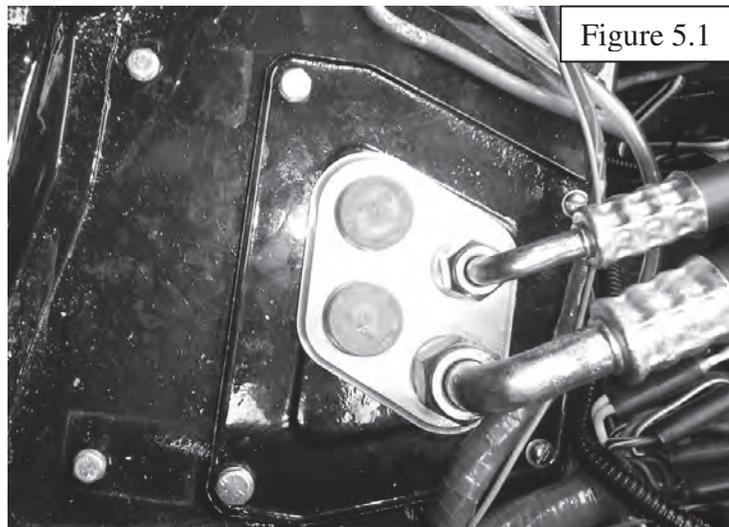
- 1) The a/c hoses are to be crimped with an a/c hose-crimping tool. Most a/c stores and some auto parts stores have crimping tools. The hoses can be hooked up in any order you choose. The hose kit is a universal hose kit there will be left over fittings and hose when the job is done.
- 2) Starting with the large hose #10 or 1/2". This hose goes from the large fitting on the compressor to the evaporator unit. The compressor will get the fitting with the charging port, low side. This hose will run through the firewall so be sure to use a grommet, 1-1/4" hole required. (Unless a heat and a/c bulkhead is being used; see heating hose section for bulkhead installation)
- 3) The next size hose is #8 or 13/32". This hose runs from the compressor to the condenser. The compressor will get the fitting with the high side charging port on it. The condenser fitting connects to the fitting at the top of the condenser. When running the hose through or around the core support make sure it is protected with loom. A hole can be rubbed into the hoses if they are against metal edges.
- 4) The third hose to install is the # 6 or 5/16" hose. From the drier the hose will go through the firewall and grommet, 1-1/4" hole, to the expansion valve on the evaporator. After this hose is attached, place the black insulation tape over the fittings. Keep the #10 and #6 hoses close together when routing through the firewall, it makes the evaporator installation process easier. (Unless a heat and a/c bulkhead is being used; see heating hose section for bulkhead installation)
- 5) The fittings included with the hose kit can be used in any manner necessary to run the hoses without kinking the lines. Make sure the hoses do not rub edges without protection, and be sure to include O-rings on all the connections. Oil is not necessary on the o-rings; it can be added to the threads on the fittings to stop them from seizing. DO NOT USE TEFLON TAPE. Tie the hoses down from flopping around, and keep the hoses off of the exhaust.



STEP FIVE

Heater Hose / Bulkhead Installation

- 1) NAC recommends using a bulkhead for the connections through the firewall. The bulkhead will allow for a clean look and easy solution to connecting the 5/8" heater outlets on the evaporator to the 1/2" outlets on the engine. The bulkhead fitting should be installed in a location that is easy to access for tightening the a/c lines. Figure 5.1

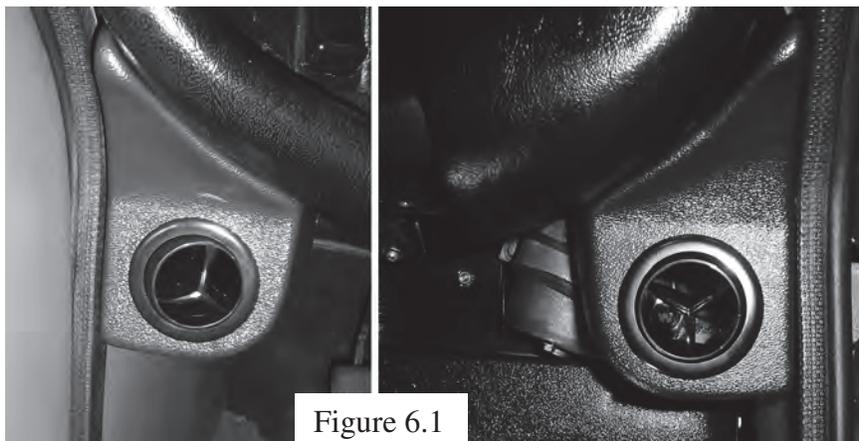


- 2) Attach the heater hoses on the inside of the MGB first. We have included a manual shut off valve; you can use this inside the car if you choose.
- 1) This valve **MUST** turn the water off prior to the water entering the heater core. If the water flows through the core, the gauges will read correct, and the temperature of the unit will only get to 65 degrees out of the vents. If you are unsure of the water flow, turn the engine over with the heater hoses disconnected from the engine to determine the direction of flow.
- 3) The outside heater hoses should be hooked up to the fittings that attach to the bulkhead fitting. Make sure the hose are hooked up properly to stop the water from entering the heater. (Using the stock heater control valve)

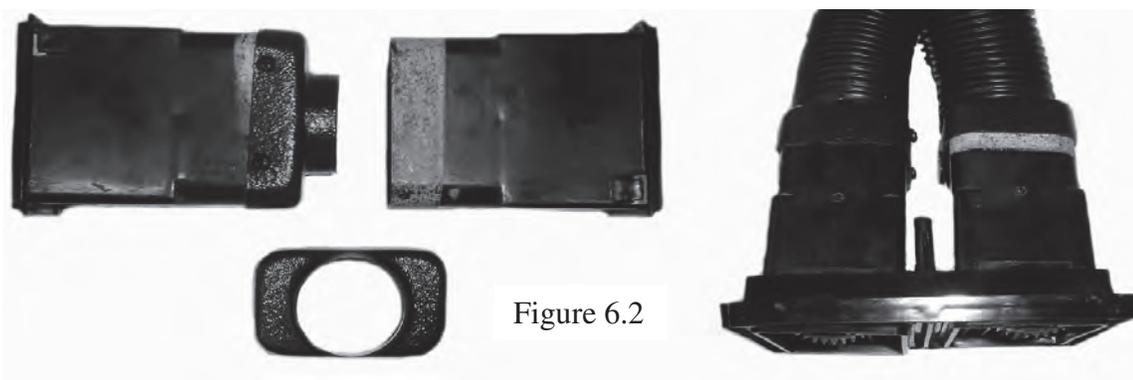
STEP SIX

Vents, Controls, Drain tube Installation

- 1) The vent selection will vary depending on the year of your MGB. If you have an earlier year vehicle the two center vents will be universal, the vents can be mounted anywhere that is comfortable for the passengers. The outer vents will mount to the dashboard. See figure 6.1



- 2) If your MGB has the center vents in the dash you will need to attach the vent adapters to the back of the vents. The vents must be left in the vehicle to attach the adapters. Self tapping screws are recommended to hold the adapter to the vents, and to hold the duct hose to the adapters. Pictures below are the vents and adapter assembled, be sure to leave the vents in the dash when attaching the adapters and duct hose. See figure 6.2



- 3) Before attaching the vent duct hose to the evaporator the thermostat probe must be inserted into the evaporator core. There is a hole next to a vent hose outlet on the evaporator. The probe should be inserted in the hole then pushed into the core through the vent hole. The probe needs to be inserted an inch to an inch and a half. Figure 6.3

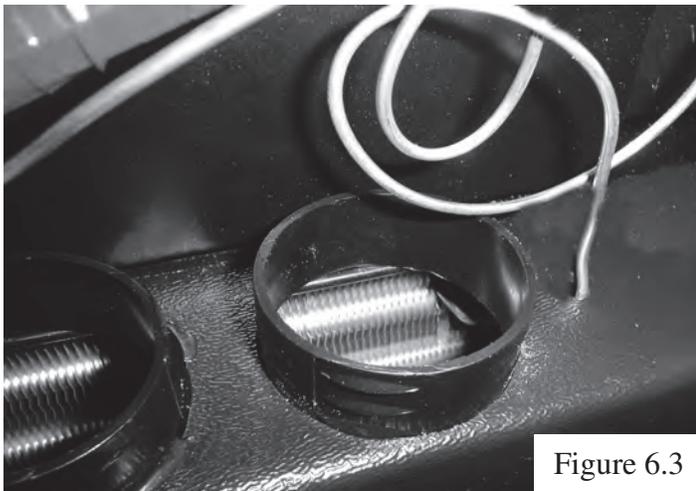


Figure 6.3

- 4) Attach duct hose to the evaporator, and vents.
- 5) The controls can be mounted in the dash panel or in the pod. The pod can be mounted anywhere within reach of the thermostat probe. See figure 7.1
- 6) There is a roll of black cork tape included in the kit. The tape is to be put on the a/c lines coming off of the evaporator. If this was done after attaching the lines skip this step. Wrap all the metal areas of the #6 and 10 hose.
- 7) Drain tube installation. The drain tube should be routed with the tee, then out through the firewall. The hole through the firewall is $\frac{3}{4}$ ", and should be routed so the water drains without being obstructed. If the compressor wire is routed through the firewall, use a grommet to protect from a short. Figure 6.4

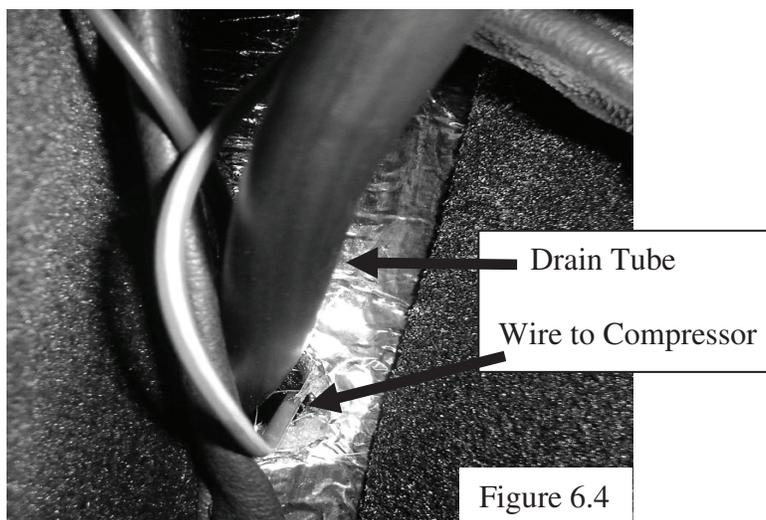


Figure 6.4

STEP SEVEN

Charging the system:

- 1) DO NOT ADD OIL TO ANY PART OF THE SYSTEM. DO NOT USE DYE, LEAK SEALANTS, OR ALTERNATIVE REFRIGERANTS IN THE SYSTEM. We are not able to diagnose problems if the directions are not followed.
- 2) The system should be evacuated in order to achieve maximum cooling from the system.
- 3) After the system is evacuated and ready to charge, plug the compressor wire in.
- 4) When charging the system start with 1.5 LBS of R-134a refrigerant. The ideal pressures of the system are 15-28 on the low side and 180-220 on the high side. If the system is not within this range with 1.5lbs of R-134a add more Freon in .25LB increments. If the high side gets high, and the low side stays low you have a condenser-cooling problem. Please see the first page.

If more assistance is needed please email or call us.

Thanks again for the purchase.

