

Installation Instructions

*Important information about your
new a/c system.*

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

***Rubber Bumper MGB
CK:2102***



◆ Contact us by email or phone if you need any assistance or information regarding this a/c system.

888-977-8889

Sales@nackits.com

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 Nostalgic AC 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.

- The **HIGH SIDE** gauge reading should not exceed 220 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

MGB RUBBER BUMPER COMPLETE A/C KIT

- | | |
|---|--------------|
| <input type="checkbox"/> COMPRESSOR | PN: 15-5000 |
| <input type="checkbox"/> CONDENSER | PN: 54-7781 |
| <input type="checkbox"/> CONDENSER TUBE | PN: 88-1002 |
| <input type="checkbox"/> STANDARD ORING DRIER | PN: 4-1000 |
| <input type="checkbox"/> DRIER STRAP | PN: 999-1002 |
| <input type="checkbox"/> HIGH LOW PRESSURE SWITCH | PN: 119-9900 |
| <input type="checkbox"/> PRESSURE SWITCH PLUG | PN: 119-9904 |
| <input type="checkbox"/> R-134a HOSE KIT | PN: HK-926 |
| <input type="checkbox"/> COMPRESSOR MOUNT KIT | PN: 2404 |
| <input type="checkbox"/> EVAPORATOR UNIT | PN: UD-610 |
| <input type="checkbox"/> DRIVER SIDE VENT POD W/ CONTROLS | PN: UD-615 |
| <input type="checkbox"/> 2" DUCT HOSE (four feet) | PN: DH20 |
| <input type="checkbox"/> CENTER VENT ADAPTERS X 2 | PN: P-312 |
| <input type="checkbox"/> VENT BLOCK OFF COVERS X 2 | PN: P-303 |
| <input type="checkbox"/> EVAPORATOR PARTS BAG | PN: 77-4012 |
| <input type="checkbox"/> EVAPORATOR SUPPORT BRACKET (ALREADY INSTALLED) | PN: 999-1055 |

77-4012 IS LOCATED IN THE EVAPORATOR KIT BOX

Parts included in 77-4012:

77-9401 Drain tube two feet
 5087 Drain tube Tee
 G101 Grommets x 2
 Self tapping screws x 12
 10-32 x 3/4 screws w/ washers x 4 & two nuts
 77-5030 3/4" spacer x 6
 5/16"-20 x 1-1/4" bolts with washers x 4
 O-rings

- KIT DIRECTIONS

Checked by _____

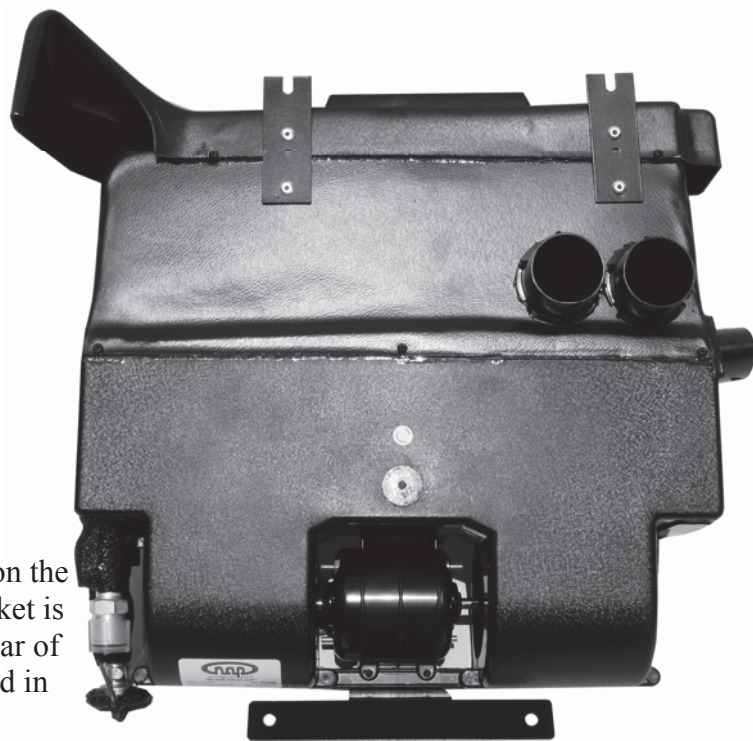
*This checklist serves as a reference of all the parts included with this kit.

STEP ONE

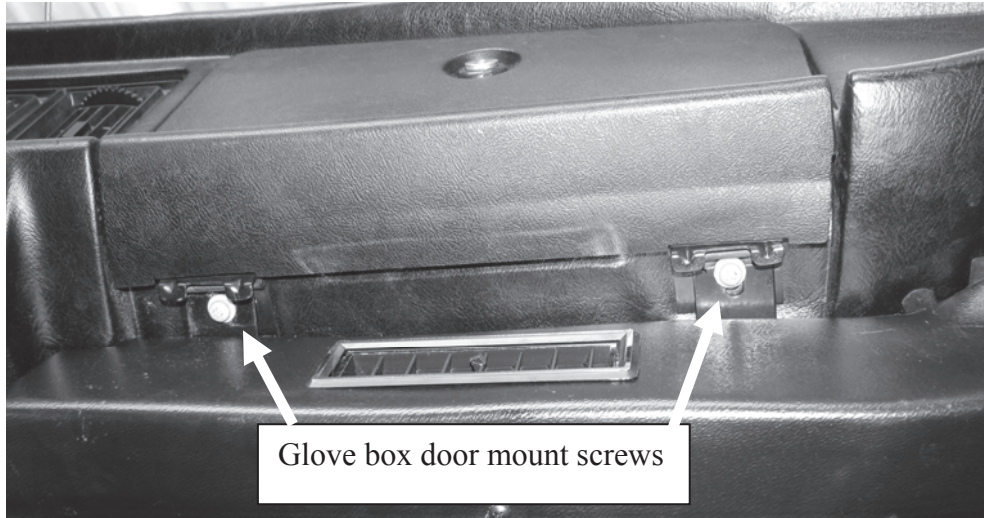
Installing the Evaporator unit:

- 1) Disconnect the battery before beginning the installation.
- 2) The evaporator on the rubber bumper MGB will mount on the passenger side beneath the glove box. There are four mounting points on the evaporator box. The two screws that hold the glove box door, and the rear support bracket that gets mounted to the firewall. The windshield wiper motor might interfere with the evaporator unit. If it does move the motor up to clear the unit. It will move by loosening the hex head bolt with a 7/16" wrench.

The 999-1055 bracket is on the rear of the unit. The bracket is designed to support the rear of the unit when it is installed in your MGB.



- 3) The evaporator unit is going to mount to the screws that hold the glove box door, and two screws for the rear support bracket. We have included four screws (10-32 x 3/4") to mount the unit at its four mounting points. Set the evaporator in place using the two glove box doors to mount the unit. Prop the rear end of the unit up against the cowl; make a mark for the rear two mounting holes. Remove the unit and drill the two holes. Once the holes are drilled you can mount the evaporator back into place.

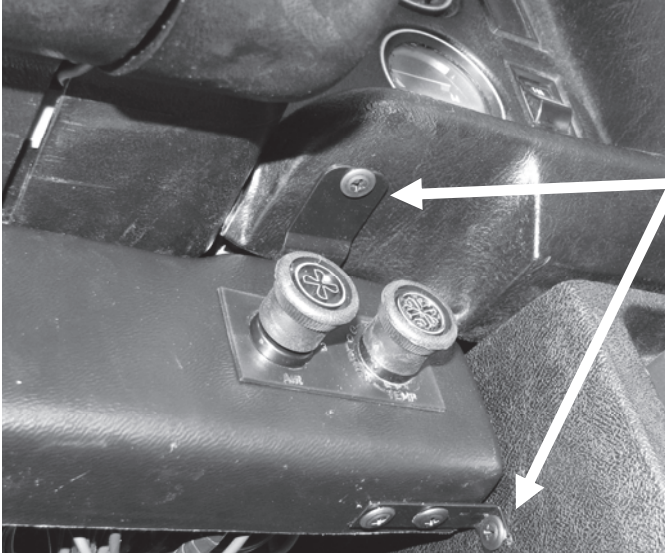


- 4) You will have to remove the evaporator unit after its mounted to drill your holes in the firewall as well as attach the hoses.
- 5) Attach the driver side vent / control pod under the dash. The pod is going to mount under the driver side of the dash board with three mounting points. Use the self-tapping screws to mount the pod. The pod will align with the dashboard and steering wheel.

The driver side mount pod will span from the left side of the dash board over to the console.

The bracket on the left side can be mounted behind the dash board with the screw provided.





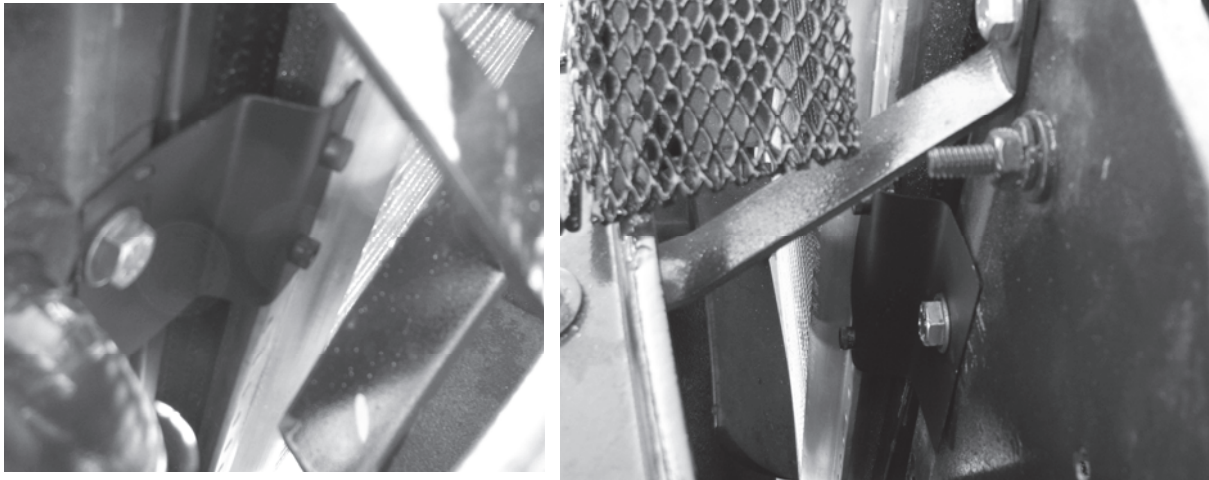
The right side of the pod is secured with two screws. One screw goes into the bottom of the dash and one screw goes into the console.

- 6) At this point of the installation you can skip ahead to wiring and duct hose installation. We recommend waiting on that step until the a/c hoses are connected to the back of the unit.
- 7) It would be easier to install the thermostat tube at this point. See step Six

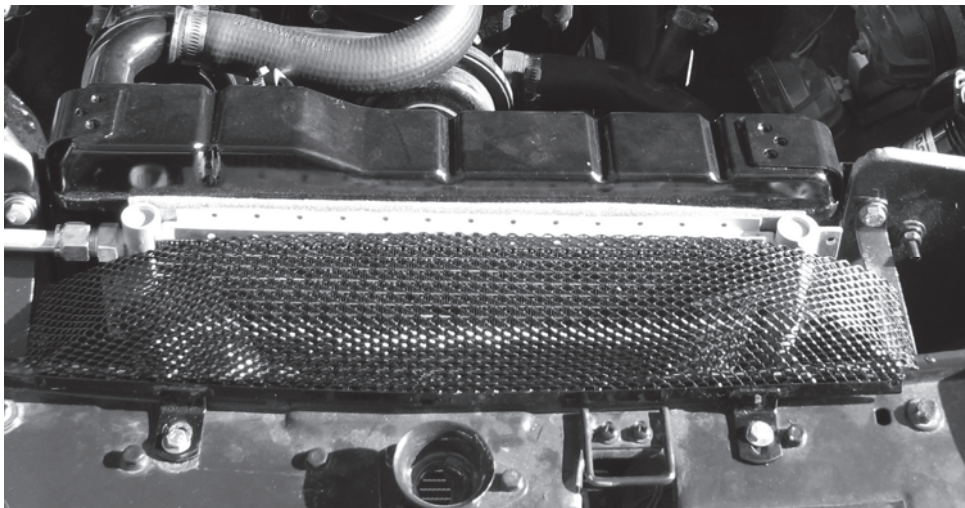
STEP TWO

Installing the Condenser:

- 1) The condenser is designed to mount in front of the radiator. The radiator will have to be moved behind the radiator core support with the included $\frac{3}{4}$ " spacers provided. The electric fans should not interfere with the installation of the condenser.
- 2) The condenser mounting tabs will mount through the middle radiator mounting holes.
- 3) To begin remove the radiator from the stock location and move it behind the core support. (Closer to the engine). Use the 1-1/4" bolts and $\frac{3}{4}$ " spacers to mount the radiator into its new position. Do not secure the middle radiator mount until the condenser is inserted.



The condenser is held in place with the two mounting tabs secured to the two middle mounts on the radiator.

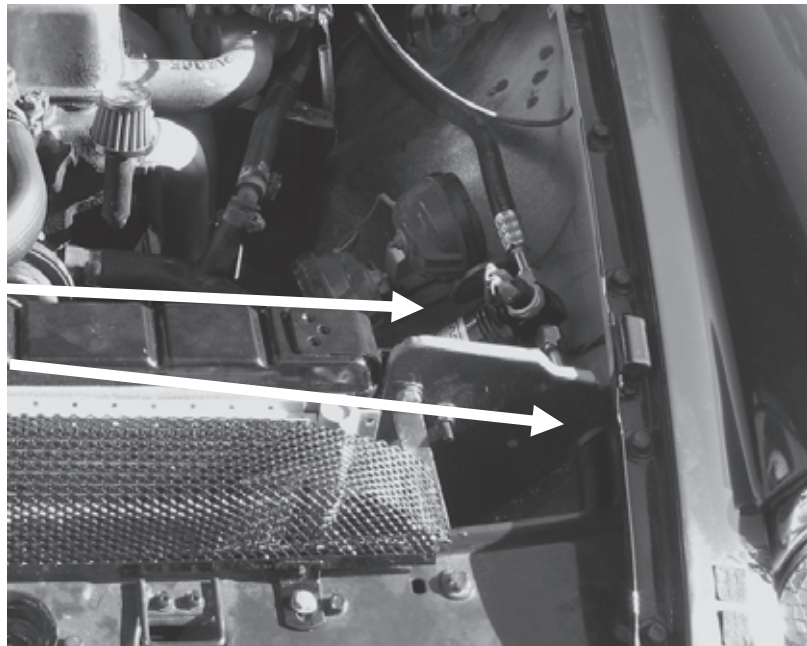


STEP THREE

Installing the drier and high low pressure switch:

- 1) We chose to mount the drier in the same location as the factory / dealer air. The drier will mount on the driver side inner fender well in the engine compartment.
- 2) The drier will have an IN on the top of one side. The IN side needs to face the front of the car; the hose coming from the condenser will go IN the drier.
- 3) After the orientation for the drier is figured out, the high low pressure switch can be installed. The switch goes into the port on the side of the drier. Remove the hex head bolt from the drier. Insert the pressure switch into the port hole. The drier is sealed with an o-ring; the switch only needs to be a quarter turn past snug.
- 4) Use the drier strap and self tapping screws to secure the drier to the inner fender well. The drier is going to mount near the core support so the hose can utilize the stock hole made in the core support.

The drier is on the inner fender well. The hose from the condenser uses a factory hole in the core support.



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****

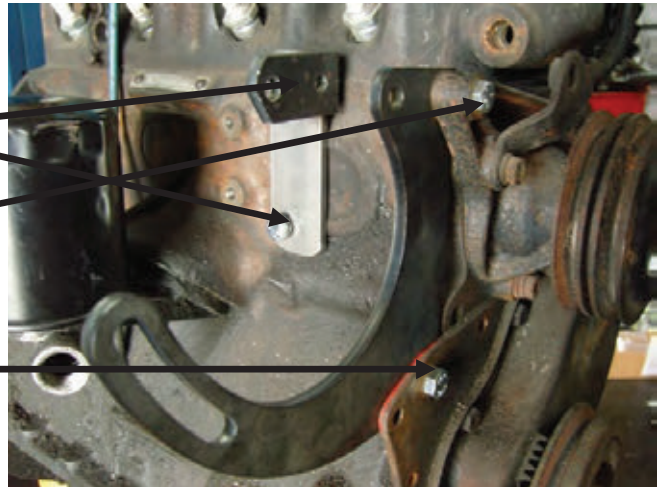


Figure 2



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****

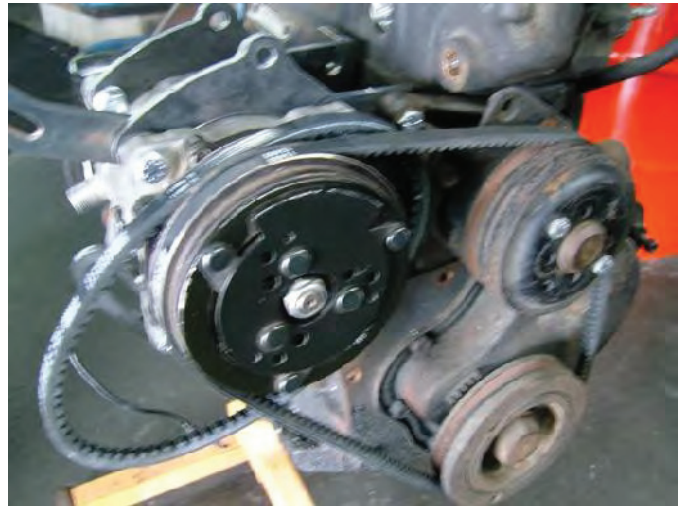


Figure 4

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

5. INSTALL ALTERNATOR USING:

- ONE 5/16" X 1 ¼" BOLT, NUT, FLAT WASHER, AND LOCK WASHER.
- ONE 5/16" X 1 ½" BOLT, NUT, FLAT WASHER, AND LOCK WASHER.



Figure 5

6. INSTALL NEW ADJUSTMENT BOLT (GOLD) FLAT WASHER AND ¼" SPACER AS SHOWN IN ALTERNATOR ADJUSTMENT ARM. INSTALL BELT AND TIGHTEN.



¼" SPACER

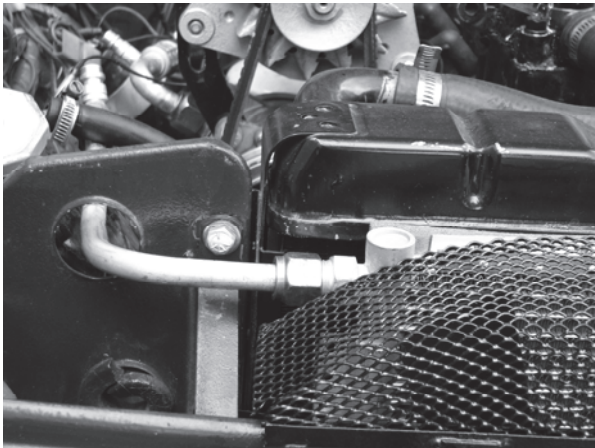
THIS IS WHAT YOUR FINAL SETUP SHOULD LOOK LIKE



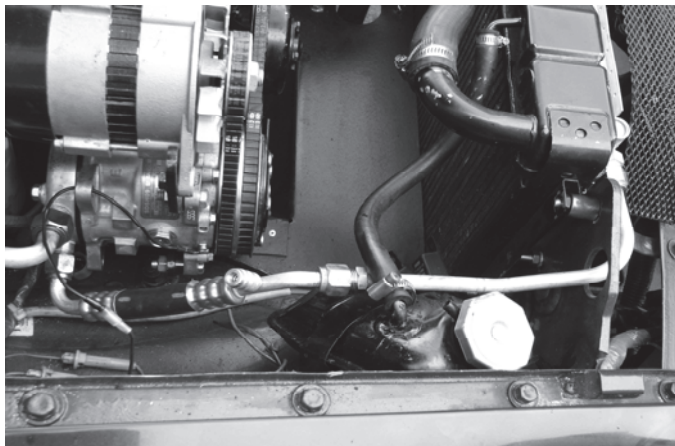
STEP FIVE

Connecting the hoses:

- 1) The a/c hoses for the MGB are already made to fit your vehicle. They cannot be installed incorrectly. Every fitting connection will require one o-ring.
- 2) Begin by attaching the top condenser fitting to the aluminum tube (PN: 88-1002). The tube is designed to exit through the factory hole on the core support.
- 3) Once the tube is fitted onto the condenser and ran through the factory hole on the core support you can tighten tube onto the condenser. Be sure an oring is installed. You not need to lubricate the oring, if you wish to that is ok. We recommend lubricating the threads on the fittings rather than the orings. The orings will get lubricated while the system is running, the threads may seize over time.
- 4) The next hose to install is the #8 discharge hose. It will run from the tube attached to the condenser to the smaller fitting on the compressor. Be sure an oring is on both fittings before attaching. The fittings do not have to be too tight. We recommend getting the fittings hand tight then turning them another ½ turn with wrenches.
- 5) The next hose will be the suction hose. This hose runs from the large fitting on the compressor to the large hose on the evaporator box. The hose will run back to the firewall, through the stock hole location, and into the cab. This hose will use an oring on both fittings, and can be tightened as explained earlier after it is attached.
- 6) The final two hoses are the # 6 liquid line hoses that run from the condenser to the drier, and from the drier to the evaporator. These fittings all use orings as well. The hose runs through the stock hole between the core support and the inner fender well, as well as through the stock hole location on the firewall. The hose that runs from the drier to the evaporator is designed to fit as the MGB hose fit when they added air. The hose wraps around the engine, through the firewall.

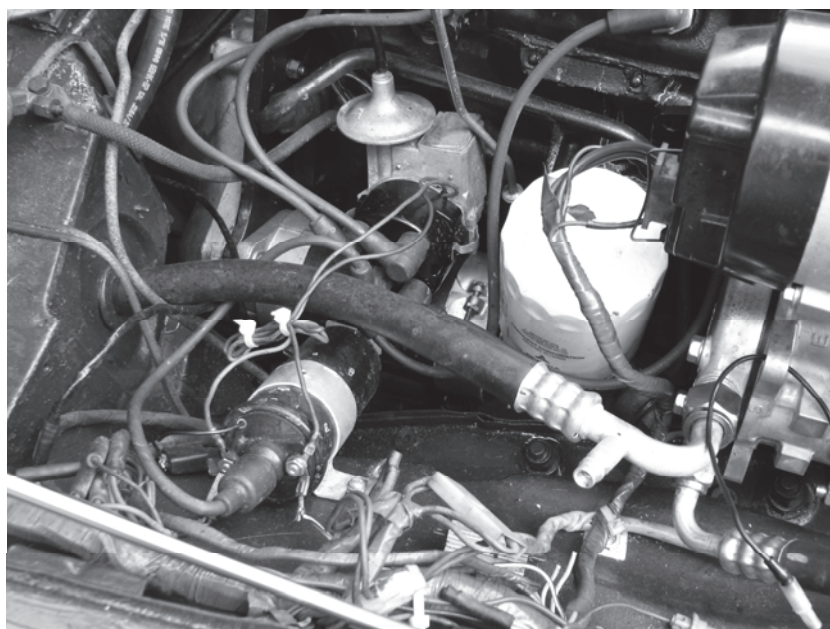


The tube runs from the condenser through the core support to connect to the hose on the other side. The 45 degree fitting with the charge port will connect to the tube.

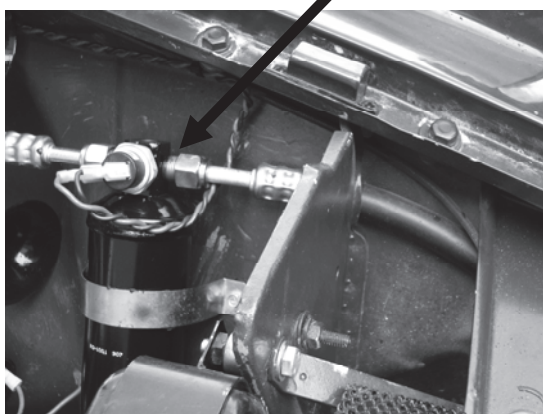


Notice the tube runs towards the compressor, and then the discharge hose connects to it with the charging port near the tube.

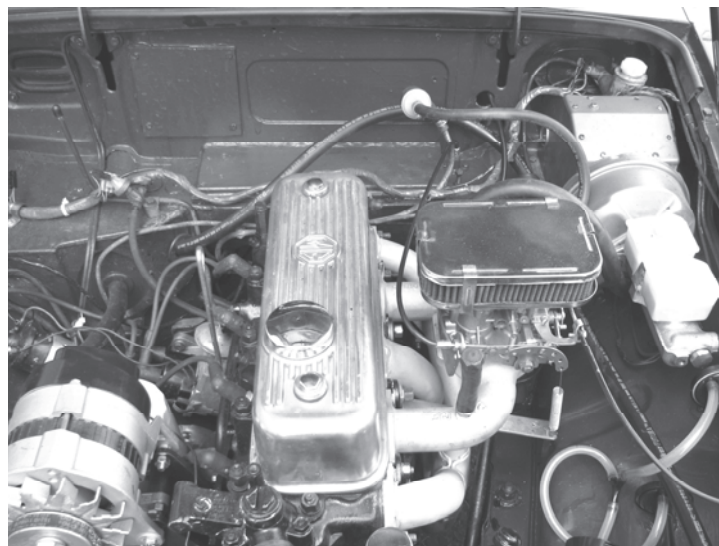
The suction hose will run through the firewall in the location of the original hose of the aftermarket systems. There is a "circle" embossed in the firewall, the grommet goes into the center of the circle.



The drier is mounted next to the core support with the hose attaching to it on the "IN" side. The drier will have a mark on the top that says "IN". The high low pressure switch is also attached to the drier. "IN"



The picture on the right shows the # 6 hose routed along the inner fender well onto the core support, and through a grommet in the firewall. The hose follows the inner fender well without rubbing. The wires from the high low switch should follow this hose also.



The wires from the high low pressure switch can run through the same grommet as the hose to keep a clean look.

STEP SIX

Controls and wiring:

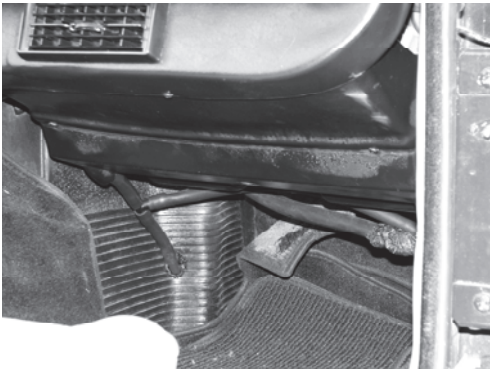
- 1) The controls on this evaporator unit are located in the panel that is mounted on the driver side of the dashboard. There are three wires for the entire system.
- 2) The first wire to hook up is the ground. On the passenger side of the vehicle under the dash is the evaporator case. The evaporator case will have a single black wire with a round eyelet and three wires (orange, red, yellow) with a plug at the end. The black wire with the eyelet is a ground wire. To ground it you can use the supplied self tapping screws or another metal surface.
- 3) The three wire plug on the unit will plug into the harness coming from the control panel. The wires and plugs will match up.
- 4) The next wire to hook up is the red /white (tracer) wire with the inline fuse. This wire will hook into a 12 volt ignition source. When the car is on you want this wire to get power.
- 5) The last wire is the compressor wire. The compressor wire (blue) will go to the high low pressure switch then to the compressor. The blue wire will plug into the high low pressure switch first. It can plug into either side (there is not an in or out), from the other side of the pressure switch the wire goes to the compressor. Do not hook up this wire until the system is charged.
- 6) The last part to hook up on the system is the thermostat tube. The tube runs from the control panel to the hole in the top of the evaporator unit. The tube cannot be kinked or broke. If it is the system will not operate properly. The tube has to be pushed into the fins of the evaporator. To do this push the tube into the hole marked "thermostat here". The tube should be inserted into the hole one to two inches.

STEP SEVEN

Duct hose and drain tube

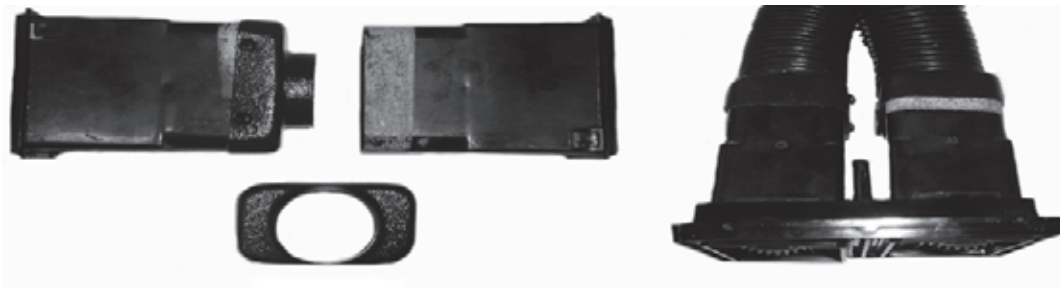
Installing the drain tube:

- 1) If the evaporator drain tube was not installed during step one you can do it now. This section serves as a reminder to install it. The drain tube goes from the drain outlets on the evaporator through the floorboard of the vehicle. The hole should be $\frac{3}{4}$ " and the drain tube should be straight without any kinks. Do not let the drain hose rub on any sharp edges that can cut a hole in it. Make sure the drain runs down, the water will not flow up if the hose is going up.



In the picture you can see we only run one tube through the floor. We use the supplied Tee to eliminate two holes in the floor. The drain can exit anywhere you choose. On this particular car the customer ran it out the transmission tunnel.

- 2) The duct hose can now be connected. There will be three pieces of duct hose to hook up. Two going to the center vents, and one going to the panel under the driver side of the dashboard.
- 3) The duct hose going to the driver side vent (under the dash) is a straight shot. The hose comes from the side of the evaporator unit to the rear of the vent. In our shop we use screws to secure the duct hose to the vent outlets; you can also use a wire tie strap.
- 4) The MGB center vents will require vent adapters to attach 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.



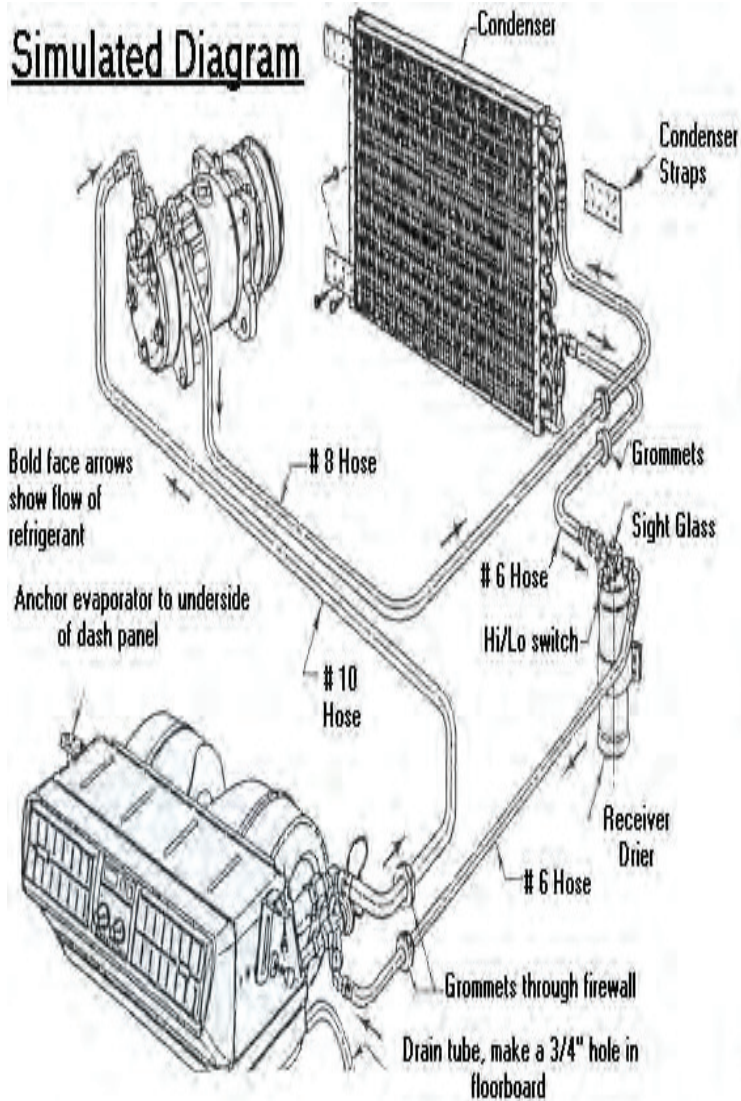
- 5) The center vents will require the old duct hose to be removed. We include two round plastic pieces to go into these holes in the firewall. We recommend blocking these holes off to keep fresh air from coming into the cab.

STEP EIGHT

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. Evacuate the system for 45 – 60 minutes. If the system is not evacuated the system may not cool properly.
- 3) After the system is evacuated and ready to charge, plug the compressor wire in.
- 4) When charging the system start with 1.35 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 R-134a 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.

Simulated Diagram



Wiring Diagram

