

MOSS

MGB Air Conditioning Installation Instructions

For 1962-'76 LHD cars w/alternator

PART #363-400

MOSS MOTORS, LTD.

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Tools required:

Sockets: 5/16", 7/16", 1/2", 9/16", 12mm, 14mm; Combination wrenches: 3/8", 7/16", two 1/2", 9/16", 3/4", 7/8", 15/16", two 1", 10mm, 12mm, 13mm, 14mm, 16mm, 19mm, 1/4" Whitworth; 3" and 6" extensions, Phillips and flat blade screwdrivers, 1/8" Allen wrench, 1/8", 1/4", 1/2" and 25/64" drill bits, 1 1/4" hole saw, drill motor, wire cutters, strippers and crimpers, large adjustable (crescent) wrench, hacksaw, coarse and fine files, side cutters (dikes), center punch, hammer, scissors, measuring tape, combination (tri) square, utility (exacto) knife, test light, drain pan, jack and jack stands, sandpaper and rags.

Read and understand these instructions completely before starting the install. Refer to the front, back, left and right as from sitting in the vehicle.



Note: Your engine should be in good mechanical condition and should have a recent tune up. The cooling system of your car should be in perfect working order. The a/c system removes heat from the cabin and disposes it in front of the radiator. For this reason your radiator might need to be upgraded, especially in hotter climates. In any case the fins of the radiator must be free of debris, bugs, leaves, etcetera. We recommend having all the factory radiator seals and a fan shroud #459-685 to maximize efficiency and reduce overheating at idle, with the a/c on, see steps 13, 14, and 17. We recommend you install a coolant overflow bottle if your car is not already equipped. We recommend bottle #850-320, cap #850-330 and bracket #850-340, see step 16. In extreme circumstances, such as pulling a large grade in excessive heat, we recommend shutting off the a/c to prevent overheating. Note: We also recommend using a cast iron water pump part #434-035. The aluminum water pumps may crack from the added stress

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of the a/c compressor. Some grinding on the water pump may be necessary if you have a smog pump. The original smog pump adjustment bracket may interfere with the support ribs on the cast iron pump.

You will need to drill several holes to mount brackets, supply a drain for the evaporator, and to pass the a/c lines into the cabin of the vehicle. If you do not wish to drill in your original pieces, we recommend you buy replacements with the a/c kit. The pedal aperture blanking plate part is #190-760. The pedal aperture blanking plate seal is part #281-880, see step 41. The radiator support is part #459-680 see step 16. If your vehicle is equipped with an oil cooler you will need to buy new, longer, 39" oil cooler hoses depending on application. We recommend the stainless steel oil cooler hoses as opposed to the rubber. They are more flexible and durable. Stainless steel oil cooler hose #435-680. As an alternative the 39" rubber oil cooler hose #435-580 can be used. 1968-1974 1/2 will need to replace the shorter of the two oil lines with a 39" line due to a new oil cooler hose route.

If you have a smog pump you will need to grind on the thermostat housing to obtain proper belt alignment. Thermostat housing is part #460-945 see step 8.

To complete the install, you will need to take your vehicle to a competent repair shop that can evacuate and charge your system with r134a refrigerant. Do not under any circumstance open the drier to atmosphere. It is filled with a desiccant (substance that absorbs moisture) and will be ruined if it is exposed to atmosphere. The compressor is pre-filled with the correct amount of a/c oil. Do not add dye to the a/c system, see step 78.

1. On a flat surface, jack the car up and place it on four jack stands. Do not work on the car while it is on the jack. Open the hood. Inside the vehicle, disconnect the battery ground cable.

2. Drain the cooling system into an appropri-

ate container so that the radiator can be removed. If your coolant is new, reuse it. If it is not, recycle it and replace it with new.

3. Slip the washer bottle out of its bracket. Remove the bracket from the radiator support using a Phillips screwdriver and a 5/16" socket. Illustration 3.



Illustration 3



4. If you do not have an oil cooler, skip to step 5. If you have an oil cooler, disconnect both hoses at the cooler and the engine. You will need to replace your oil cooler hoses with two 39" stainless steel hoses, Moss part # 435-680. Use a 15/16" combination wrench and a large adjustable (crescent) wrench to remove the oil hoses from the cooler. Be prepared to catch the oil from the lines and cooler with rags. On the engine side of the cooler lines, use two 1" combination wrenches to disconnect the hose near the oil filter housing. Use a 1/4" Whitworth combination wrench to remove the small oil pressure gauge hose near the back of the engine to allow access to the last oil cooler line connection. Use a 1" combination wrench and a large adjustable wrench to remove the final hose. Illustration 4.

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Illustration 4



5. Use a flat blade screwdriver to remove the upper and lower radiator hoses. Using a 1/2" socket and/or 1/2" combination wrench remove the radiator support braces. Save the braces and the hardware for later use. Remove the eight bolts securing the radiator support to the vehicle. Remove the radiator and support from the vehicle. Illustration 5.



Illustration 5



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Illustration 5 cont.

6. If your vehicle has an air pump, use a flat blade screwdriver to loosen the hose clamps and remove the hoses from the pump. There is an orifice in the hose from the gulp valve, do not lose it. Use a 1/2" socket and combination wrench to remove the air pump adjusting link bolt and pivot bolt. Remove the air pump and belt. Leave the air pump adjusting link mounted to the engine. Save the air pump hardware, it will be reused. The belt will not be reused. Illustration 6.



Illustration 6



Illustration 6 cont

7. Disconnect the plug from the back of the alternator. Use a 9/16" socket and an extension to remove the alternator adjusting link nut from the adjusting link pillar. Remove the belt. Use two 1/2" combination wrenches to remove the pivot bolts. Remove the alternator with the adjusting link attached from the vehicle. Using a 9/16" and 3/4" combination wrenches remove the alternator adjusting link pillar. The belt and the hardware removed will not be reused. Illustration 7.



Illustration 7





Illustration 7 cont



8. If you do not have an air pump, skip to step 9. To obtain proper belt alignment, the air pump must be moved rearward 1/4". To do this you must grind the front surface of the thermostat housing where the air pump pivots. If you do not want to grind your original thermostat housing, a new one can be purchased, Moss part # 460-945. Remove the thermostat housing using a 1/2" socket. Take a measurement of the air pump pivot area. Mark the housing 1/4" back from the front surface of the pivot. We used a 7/8" counter bore with a 5/16" pilot to cut the surface down. If you do not have those tools, use a hacksaw to cut most of the material away and clean it up with a file. Keep the

front surface parallel to the rear surface of the pivot. Measure across the pivot area to make sure 1/4" has been removed. Clean the gasket surfaces on the housing and the engine block. Install the new gasket and 160 degree thermostat. Install the modified housing reusing the hardware. Illustration 8.



Illustration 8



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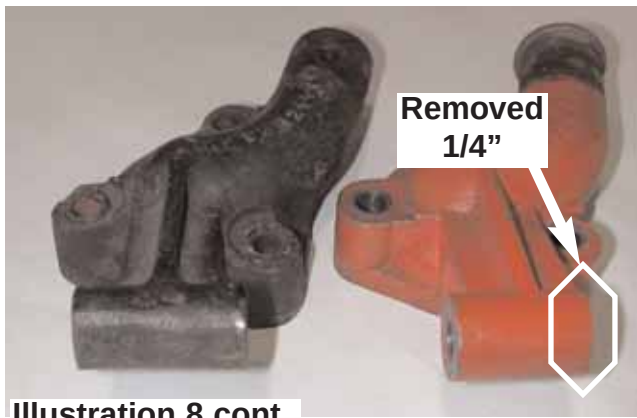


Illustration 8 cont.

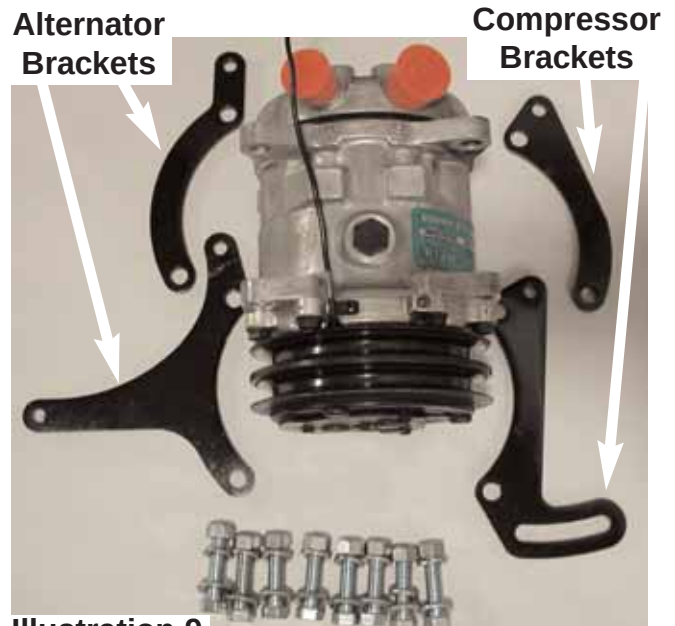


Illustration 9



9. Gather the four 1/4" thick compressor and alternator brackets, eight M10 x 35mm bolts, eight M10 flat washers, eight M10 lock washers, and eight M10 nuts. The flat washers will be used in between the bolt heads and the aluminum compressor. The lock washer will be used in between the nuts and the compressor brackets so that the aluminum compressor will not be damaged. Set the compressor on the bench so that the fittings point up. Mount the front and rear compressor brackets to the compressor on the back side of the ears. Mount the front alternator bracket on the back side of the compressor ears and the rear alternator bracket to the front side of the compressor ears. Tighten all of the bolts to 32 ft. lbs. using a 14mm combination wrench and a 14mm socket. Illustration 9.

10. Gather one 5/16" x 1 1/2" fine thread bolt, 5/16" x 1 3/4" fine thread bolt, two 5/16" fine thread nuts, two 5/16" lock washers, one 5/16" flat washer, one 3/8" x 1 3/4" fine thread bolt, one 3/8" fine thread nut, one 3/8" lock washer, one 3/8" flat washer. You will also need two spacers, one of the 3/4" outside diameter x 5/16" inside diameter x .700" tall spacers and the only 1 1/4" OD x 3/8" ID x 1/2" tall spacer. Use a 1/2" socket to loosen the rear alternator bracket that is attached to the engine. Take the compressor with brackets installed and the hardware over to the vehicle. The compressor will mount to the engine in the place the alternator used to mount. Slip the 5/16" x 1 1/2" fine thread bolt through the front compressor bracket, the water pump ear, the 5/16" flat washer, a 5/16" lock washer and finally thread on a 5/16" fine thread nut finger tight. Slip the 5/16" x 1 3/4" fine thread bolt through the alternator bracket that is attached to the engine, the 3/4" OD x 5/16" ID x .700" tall spacer, the rear compressor bracket, a 5/16" lock washer, and then thread the 5/16" fine thread nut on finger tight. Slip a 3/8" flat washer on to the 3/8" fine thread bolt. Slip the bolt and washer through the adjustment slide of the front compressor bracket, the 1 1/4" OD x 3/8" ID x 1/2" tall spacer, the hole in the engine plate that the alternator adjusting pillar used to bolt to, a 3/8" lock washer, and thread the 3/8" fine thread nut on finger tight. Illustration 10.



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11. Install the 7385 belt around the crank pulley, over the rear groove of the water pump pulley (if applicable) and then the rear groove of the compressor pulley. Pull up on the front alternator bracket that is mounted to the compressor to put tension on the belt. While you are putting tension on the belt tighten the 3/8" bolt running through the compressor adjusting slide with a 9/16" socket and combination wrench. After the belt is tight, torque the 3/8" bolt to 32 ft. lbs. Using a 1/2" socket and a 1/2" combination wrench, tighten the two compressor pivot bolts to 18 ft. lbs. Use a 1/2" socket to tighten the alternator bracket mounted to the engine to 18 ft. lbs. Illustration 11.



Illustration 11



Illustration 11 cont.



12. Install the temperature sensing fan switch into the radiator 3"- 4" below the upper radiator hose inlet. Sand a small area where the switch will touch the radiator. Be careful when installing the switch not to damage the radiator and make sure the switch is touching the radiator. Read the instructions included in the package with the switch. Disregard the step that tells you to cut the sensing probe to length. Illustration 12.

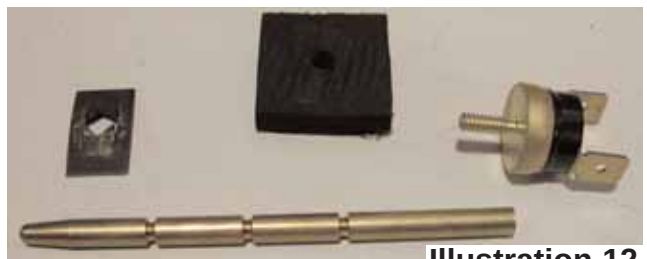


Illustration 12



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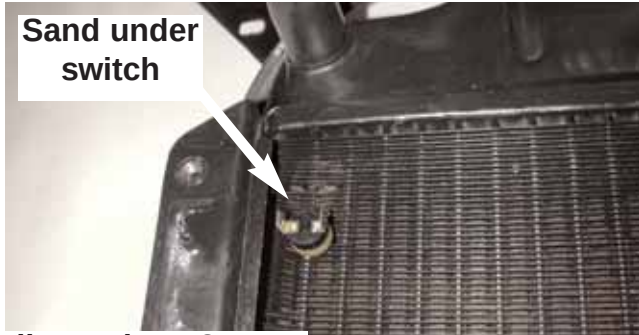


Illustration 12 cont.



13. We strongly recommend the use of an engine cooling fan shroud # 459-685 to increase the radiator's cooling efficiency at idle. If you do not have one and do not wish to purchase one skip to step 16. Using a 1/2" socket remove the six bolts securing the radiator to the support. Illustration 13.



Illustration 13



14. The fan shroud will have to be trimmed to allow clearance for the a/c compressor. Also a 1/2" hole will need to be drilled in the shroud to allow wires from the fan switch to pass through. Test fit the radiator shroud to the radiator and mark the location where the fan switch is. Remove the shroud from the radiator and drill a 1/2" hole in the shroud in the previously marked location. Now test fit the shroud to the vehicle in its approximate location so that you can see the area of the shroud that you will need to trim for compressor clearance. Mark the location of the compressor on the shroud. Take the shroud over to the bench and use a file to trim the area. The area that needs to be trimmed will start approximately 2 1/2" from the flat area of the fan shroud and extend down to approximately 7 1/2" from the flat. The depth of the clearance cut should be about 1/2" deep. The overall clearance from the bench to the clearance cut should not exceed 1 1/2". Illustration 14.



Illustration 14



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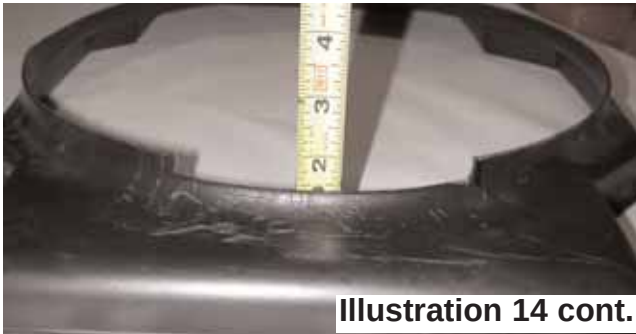


Illustration 14 cont.

15. Gather the 12" piece of 18 gauge yellow wire, two red male spade connectors and two red female spade connectors. Cut the 12" wire in half. Strip 1/4" of insulation of each end of both wires. Crimp a male and a female spade connector on to each wire. Connect the female spade connectors to the fan switch on the radiator. Illustration 15.

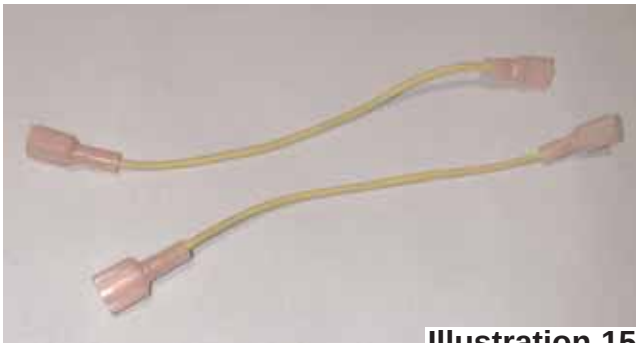


Illustration 15



16. If your vehicle doesn't have a coolant overflow bottle we recommend that you purchase one and install it. We recommend overflow bottle # 850-320 with cap # 850-330 and bracket # 850-340. You will need the hardware to attach the bracket to the

vehicle and a hose to connect the coolant bottle to the radiator. We used two 1/4" x 1/2" fine thread bolts, lock washers, 1/4" fine thread nuts and a 28" length of 5/16" hose. We use radiator cap # 834-825, a 13 psi cap that will allow coolant to be sucked back into the radiator from the bottle when necessary. We attached our coolant over flow bottle to the left rear side of the radiator support. Align the bracket as shown in the photo. The left edge of the bracket should be parallel to the raised portion of the radiator support. The bottom of the bracket should be about at the bottom of the raised portion of the radiator support. Mark, center punch and drill two 1/4" holes for the coolant bottle bracket. Attach the bracket to the radiator support using two 1/4" x 1/2" fine thread bolts. Illustration 16.



Illustration 16

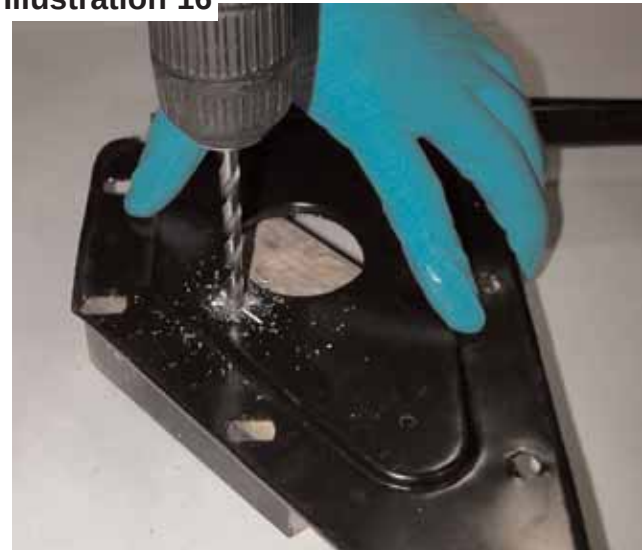




Illustration 16 cont.

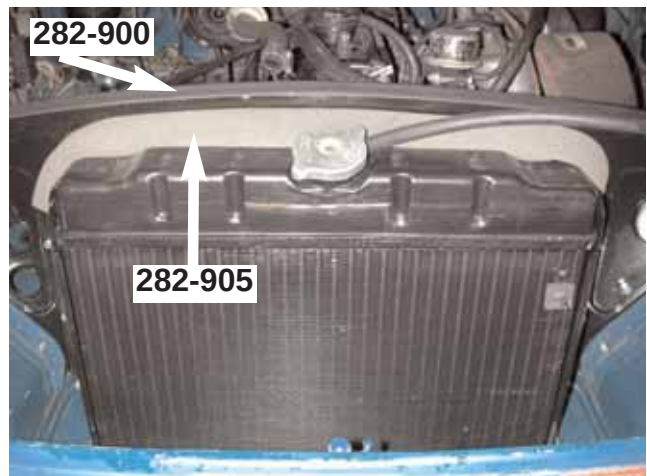
17. Use the original eight bolts to install the radiator support in the vehicle, finger tight for now. Gather six 5/16" x 1 1/4" fine thread bolts and six 5/16" flat washers. Set the fan shroud on the radiator and fish the wires for the fan switch through the hole. Install the radiator and fan shroud to the radiator support using the six bolts and washers. The fan shroud will be squeezed between the radiator and the radiator support. Before you tighten the radiator down, align the shroud so that it is centered on the fan. Make sure the relief cut you made for the a/c compressor is sufficient. If it is not, remove the shroud and trim as necessary. Install the upper and lower radiator hoses and tighten the clamps. Tighten the eight radiator support to vehicle bolts to 18 ft. lbs. Tighten the six radiator bolts to 18 ft. lbs. Once again make sure the fan shroud clears the compressor and the fan. Install the radiator and radiator support seals, #282-900 and 282-905. Illustration 17.



Illustration 17



Illustration 17 cont.



18. Fill the coolant bottle half way with coolant. Slip the bottle into the bracket. Push the 5/16" hose into the cap so that when installed to the bottle the hose will be about 1/4" from the bottom of the bottle. Install the bottle cap and route the hose to the overflow tube at the filler neck. Illustration 18 (on next page).

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Illustration 18

19. Gather the condenser, the receiver/drier, the hard line with four bends, the electric fan, the fan mounting kit, the right hand condenser bracket, the left hand condenser bracket, 24" of 1/4" x 3/8" adhesive backed foam rubber, 36" of rubber trim lock, one of the small o-rings, six 5/16" flat washers, six 5/16" lock washers, six 5/16" fine thread nuts, six 10-32 x 1/2" button head cap screws, six #10 flat washers, six #10 lock washers, six 10-32 nuts, two p-clamps, two spacers, two bolts, two lock washers, and two nuts. The receiver/drier may already be attached to the condenser. If so, make sure the p-clamps are mounted in the correct location. The top p-clamp should be in the fourth hole down from the upper fitting and the bottom p-clamp should be in the 10 hole down from the upper fitting, not counting any partial holes. Illustration 19.



Illustration 19

20. Lay the condenser down flat on the bench so that the fittings are to your left and the larger fitting is at the top. Use side cutters to cut the 33" piece of trim lock into three pieces. One 22" piece, one 6" piece, and one 5" piece. Set the two shorter pieces aside. The 22" piece will be attached to the condenser but must be trimmed first. Cut a 2" section of u-channel away from the rubber tube on each end of the trim lock. Attach the 22" piece to the lower, bottom rail of the condenser. Push the u-channel firmly onto the rail. The overall length of the trim lock should be as wide as the condenser and the u-channel should be as long as the condenser rail. Attach the 6" piece of trim lock to the bottom edge of the right hand condenser bracket. Attach the 5" piece of trim lock the bottom edge of the left hand condenser bracket. Illustration 20.

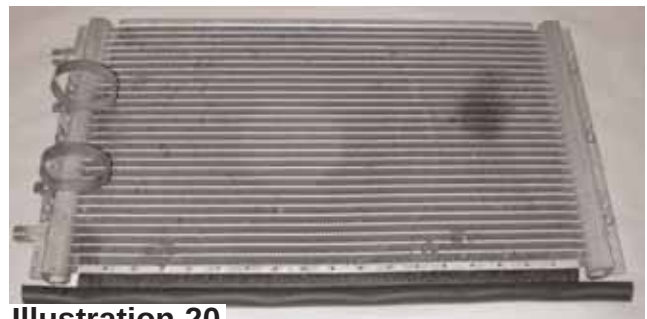


Illustration 20



21. Flip the condenser over on its horizontal axis so that the fittings are to your right and the bigger fitting is still on top. Use an alcohol prep pad to clean the top rail of the condenser. Attach the 24" strip of adhesive backed foam rubber to the top rail of the condenser. Trim off the excess. Flip the condenser over on its horizontal axis once again to its original position. Illustration 21.

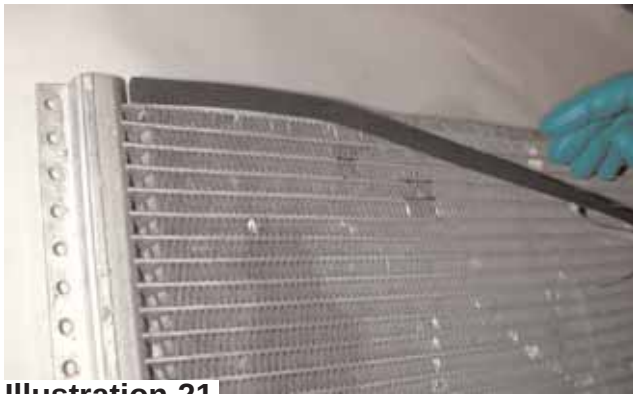


Illustration 21



22. Place the cooling fan on the table in front of you so the flat edges are at the top and bottom and the wires are pointing to the left. Place the four legs onto the cooling fan in the positions closest to the flat edges of the cooling fan housing. Push the legs down firmly into place. Position the fan on the front of the condenser. The bottom edge of the fan should be just above the bottom and run parallel to the bottom condenser rail. The middle of the fan will be 9 1/2" from the left edge of the condenser. Use the fan mounting kit to secure the fan to the condenser. Carefully push the plastic fasteners through the fan legs and then through the

condenser core. Pull the plastic fasteners all the way up against the fan legs. Do not attach the locking pads to the plastic fasteners as you may need to readjust the fan after a test fit in a later step. Illustration 22.



Illustration 22

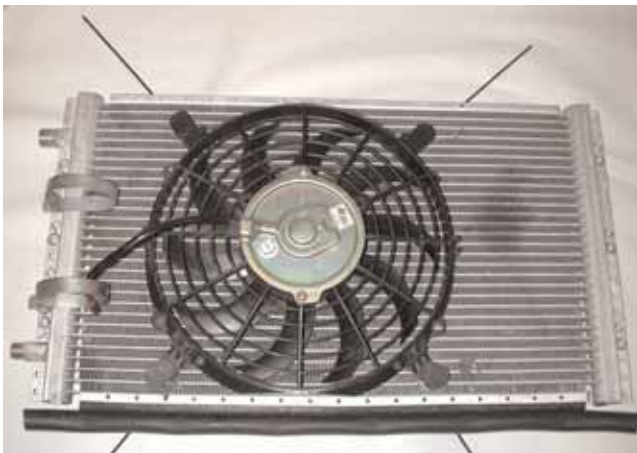


9 1/2"

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Illustration 22 cont.



23. If the drier did not come attached to the condenser slide it into the p-clamps. You may need to loosen the p-clamps with a 1/8" Allen wrench and a 3/8" combination wrench. The drier "IN" port should point toward the fan. Use the hard line to determine the height of the drier before tightening the p-clamps. Do not for any reason remove

the plastic caps or brass plugs from the drier. The drier is filled with a desiccant that will be ruined if it is exposed to the atmosphere (the air conditioner will not blow cold). When you take your vehicle to a qualified air conditioning repair shop, tell your service writer the drier will need to be hooked up and give them three of the small o-rings and the high/low pressure cut off switch. Use only the supplied a/c oil to lube the o-rings. Petroleum based oils will destroy a/c o-rings. At this time, lube one of the small o-rings and install it onto the "J" shaped end of the hard line. Remove the protective cover from the bottom fitting on the condenser. Attach the "J" shaped end of the hard line to the bottom condenser fitting. The line will route from the condenser under the drier and then up along side the drier. Do not attach the line to the drier. Tighten the condenser fitting to approximately 15-20 ft. lbs. with 16mm and 19mm combination wrenches. The goal is to crush the o-ring but not destroy it. Illustration 23.



Illustration 23



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Illustration 23 cont.



24. The left side condenser bracket is the larger of the two brackets with four bends in it. Place the left hand condenser bracket over the bolts used to secure the radiator to the radiator support with the trim lock down and the bracket angled forward. The right hand condenser bracket is smaller and flatter with only two bends. Repeat this step for the right hand condenser bracket. Use the stock hardware to loosely secure the radiator support braces to the vehicle. Slip a 5/16" flat washer, a 5/16" lock washer and start a nut onto each of the six bolts. Do not tighten the nuts. Illustration 24.



Illustration 24



Do Not Attach

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25. Test fit the condenser to the vehicle, check clearance between the oil cooler and the cooling fan. Adjust the fan as necessary. After verifying cooling fan clearance, slide the foam rubber pads on to the plastic fasteners, then slide the locking pads on to the plastic fasteners and pull snug. Use side cutters to cut off the excess part of the plastic fastener. Illustration 25.



Illustration 25

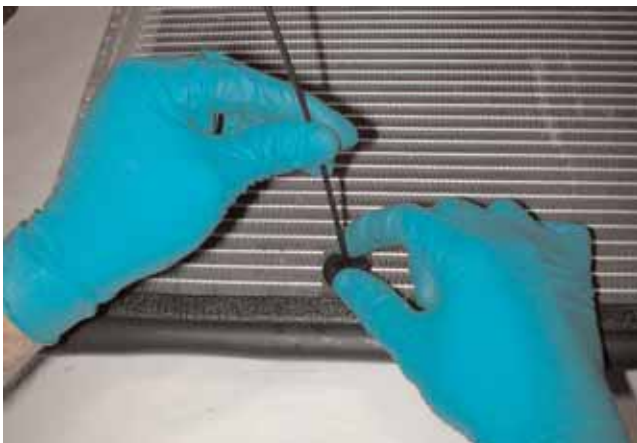


Illustration 25 cont.



26. Set the condenser assembly back in the vehicle. Make sure the trim lock is in between the body of the vehicle and the condenser. Use the six 10-32 x 1/2" button head cap screws, the six # 10 flat washers, six # 10 lock washers and six 10-32 nuts to secure the condenser to the condenser brackets. Starting on the left side install a 10-32 x 1/2" button head cap screw through the condenser and the condenser bracket in the fourth, tenth, and sixteenth holes counting from the top of the condenser. Slip a flat washer, a lock washer and thread a 10-32 nut onto each of the three screws. Be patient as the bottom bolt is difficult to access. You may need to further loosen the nuts securing the condenser bracket to the radiator support. On the right side, slip a 10-32 button head cap screw through the condenser and condenser bracket in the second hole from the top fitting, the sixth and the eleventh hole. Count only complete holes and include holes occupied by the drier p-clamps. Tighten the six nuts securing the condenser brackets to the radiator to 18 ft. lbs. using a 1/2" combination wrench and a 1/2" socket. Tighten the six button head cap screws to 6 ft. lbs. using a 1/8" Allen wrench and a 3/8" combination wrench. Illustration 26.

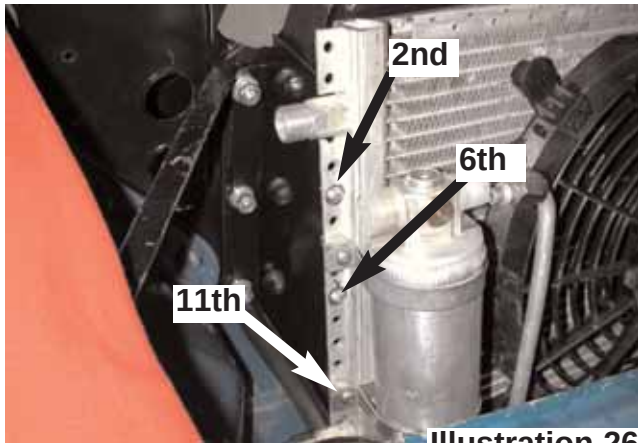
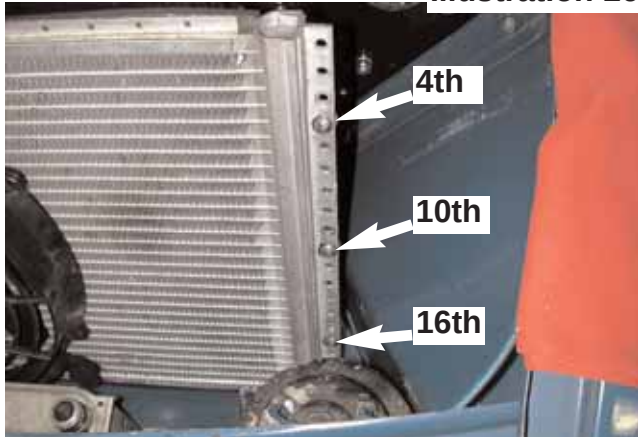


Illustration 26

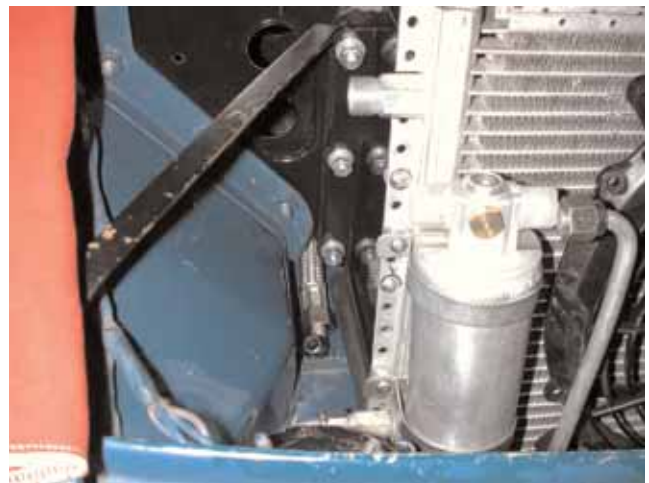


27. If your vehicle does not have an oil cooler skip to step 29. Route your new 39" oil cooler line(s) (# 435-680) through the space between the body and the bottom of the radiator support with the 90 degree fittings on the oil cooler end and the 45 degree fittings on the engine end. Start the 90 degree fittings onto the oil cooler. The hose attached to the left side of the cooler will route to the fitting near the oil filter. The hose attached to the right side of the cooler will route to the fitting near the back of the

engine. Once all of the fittings have been started and the hose routing is acceptable, tighten the oil cooler hoses. Use a 15/16" combination and large adjustable wrench to tighten the oil cooler side of the lines. Use a 15/16" combination wrench, a 1" combination wrench and a large adjustable wrench to tighten the engine side of the hoses. Reconnect the small oil pressure hose to the engine and tighten with a 1/4" Whitworth combination wrench. Illustration 27.



Illustration 27



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Illustration 27 cont.



28. We have included an 18" piece of 3/4" hose to protect the oil cooler lines and some of the aluminum a/c components. Cut the hose into several pieces and split them so they will slip over the oil cooler hoses. The areas where the oil cooler hose will need to be protected are at the motor mount area, under the radiator support area, and around the drier. Illustration 28.

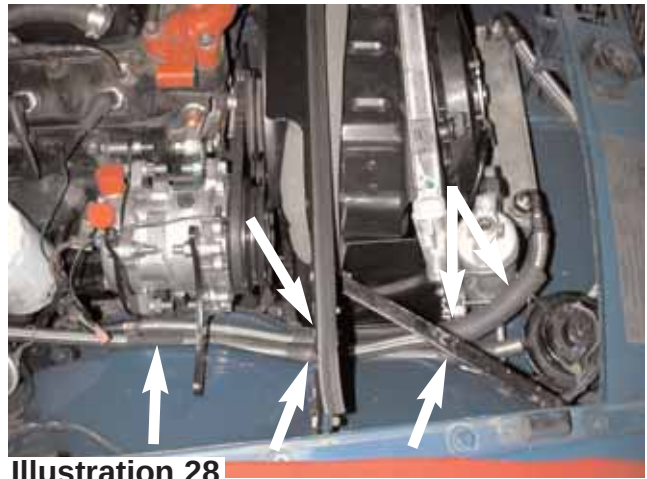


Illustration 28

29. Gather the two longer a/c hoses and two medium o-rings. Slip the smaller of the two a/c hoses through the bottom factory oil cooler hole. Do not attach the hose to the drier. Slip the longer a/c hose through the upper factory oil cooler hole. Remove the protective cover from the upper fitting of the condenser. Lube one of the medium o-rings and install it onto the end of the a/c hose that will attach to the condenser. Attach the hose to the condenser finger tight. Remove the protective cap on the "D" or discharge side of the a/c compressor. Lube another medium o-ring and install it onto the compressor end of the a/c hose. Attach the end of the a/c hose with the red high side protective cap on it to the discharge "D" side of the compressor. The 90 degree fitting should exit the compressor and run parallel to the engine. The rubber hose will then u-turn and run back through the upper oil cooler hole and connect to the condenser. Adjust the high pressure hose so that it runs through the middle of the upper oil cooler hole and doesn't come in contact with the radiator support or the body of the vehicle. Tighten the high pressure hose to the condenser using 3/4" and 7/8" combination wrenches. Tighten the high pressure line to the compressor using a 7/8" combination wrench. Again compress the o-rings without damaging them, approximately 15-20 ft. lbs. Illustration 29.

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Illustration 29



Illustration 30 cont.

30. Cut the flashing from the center two of the supplied grommets. Split the grommets and install them into the oil cooler hose holes around the a/c lines. Illustration 30.



Illustration 30



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31. If your vehicle has an anti run on valve, disconnect the hoses using a flat blade screw driver. Disconnect the two wires from the anti run on valve. Rotate the valve 1/4 turn counter clock wise and remove the valve.

Illustration 31.



Illustration 31



32. Disconnect the hoses from the top of the charcoal canister. Remove the four bolts that secure the charcoal canister to the vehicle using 7/16" and 1/2" socket. Remove the charcoal canister and the spacers under the front two bolts of the charcoal canister from the vehicle. The spacers will be reused, but the bolts will not. Illustration 32.



Illustration 32



Illustration 32 cont.



33. Use a Phillips screwdriver to remove the two screws and lock washers securing the pedal aperture blanking plate to the vehicle. Remove the blanking plate from the vehicle. You will be reusing the screws and lock washers. If you do not wish to drill through your original blanking plate you should purchase a new one part # 190-760. A new seal is also recommended part #281-880. Illustration 33.



Illustration 33



34. Gather the large evaporator mounting bracket, the evaporator support bracket, one 5/16" x 2" fine, full thread bolt, one 5/16" flat washer, three 1/4" x 1 1/2" fine, full thread bolts, two 1/4" fine thread nuts, three 1/4" flat washers, two 1/4" lock washers, two 1/4" x 1/2" fine thread bolts, three 3/4" OD x 1/4" ID x .385" tall spacers, and one 3/4" OD x 5/16" ID x .339" tall spacer. If your vehicle has a brace running along the top of the passenger (left hand drive cars) side foot well you will need to gather three 1/4" x 3" fine, full thread bolts, a 5/16" x 3" fine, full thread bolt, three 3/4" OD x 1/4" ID x 1 3/4" tall spacers and a 3/4" OD x 5/16" ID x 1.704" tall spacer. Illustration 34.

Illustration 34 cont.



35. If your vehicle has an under dash liner, or a passenger side map pocket you will need to remove them to install the evaporator. Place the evaporator bracket on the passenger side floor with the flanges down and the tapered ends of the flanges pointed toward the front of the vehicle. Locate the four weld nuts on the top of the foot well that the charcoal canister, if equipped, was bolted to. Slip a 5/16" flat washer onto the 5/16" bolt. Slip the bolt through the right front bolt hole in the evaporator bracket. Slip on the 3/4" OD x 5/16" ID x .339" spacer over the bolt. Start the bolt into the 5/16" fine thread weld nut at the top of the foot well. Repeat this process for three of the 1/4" bolts, flat washers, and spacers. Early cars have a rib on the top of the footwell. If present, use the 3" bolts and the longer spacers. As you snug the bolts with 7/16" and 1/2" sockets, make sure there is a space between the evaporator bracket flange and the right hand side kick panel big enough for the head of a bolt. You will also want clearance between the evaporator bracket and the oil pressure tube. Tighten the three 1/4" bolts to 12 ft. lbs. and the 5/16" bolt to 18 ft. lbs. Illustration 35.



Illustration 35

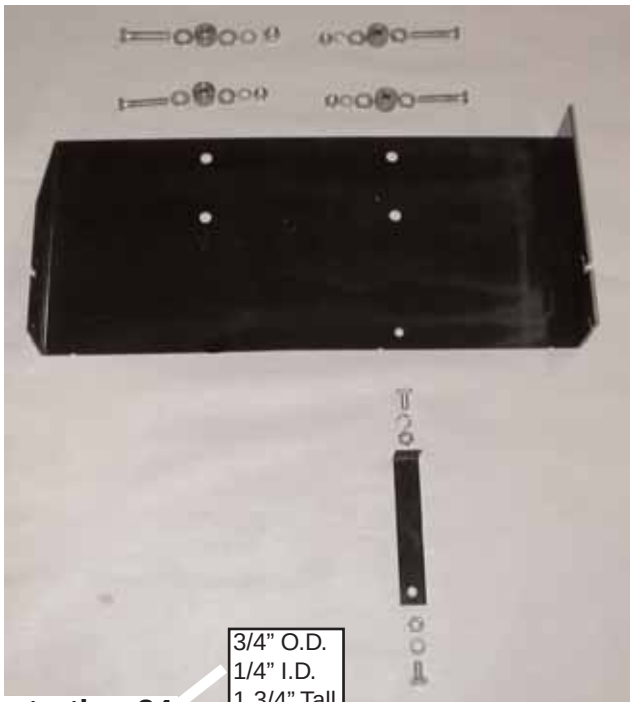
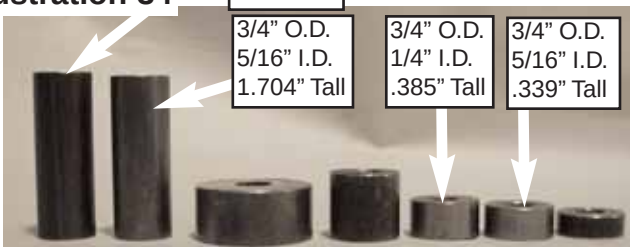


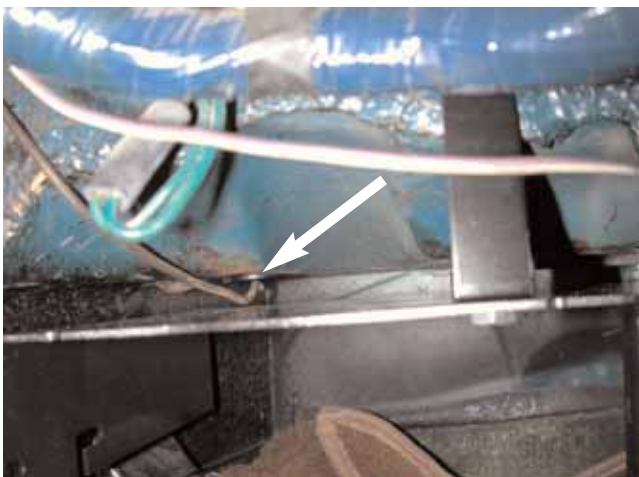
Illustration 34



MGB Air Conditioning Installation Instructions



Illustration 35 cont.



36. There is a small hole in the body of the vehicle above the evaporator bracket and to the left of the rectangular rubber plug. Push the small plug out of the hole into the engine compartment. Line up the hole in the bottom of the evaporator support bracket to the hole in the evaporator bracket, and the hole in the top of the evaporator support bracket to the hole in the body of the vehicle. Slip a 1/4" x 1/2" fine thread bolt in from the engine compartment through the evaporator support bracket, a lock washer and thread on a nut. Slip the other 1/4" x 1/2" fine thread bolt up through the evaporator bracket, the evaporator support bracket, a 1/4" lock washer and thread on a nut. Tighten these nuts using a 7/16" socket and combination wrench to 12 ft. lbs. Illustration 36.



Illustration 36



37. There are two wiring harnesses. The smaller harness with only 5 wires is the interior harness. The larger harness with relays and fuses is the exterior harness. Gather the evaporator/blower assembly, the remaining hard line (two bends), one small o-ring, the five wire interior harness, four 1/4" x 1/2" course thread bolts, four 1/4" large flat wash-

MGB Air Conditioning Installation Instructions

ers (fender washers), and the remaining 24" of 1/4" x 3/8" adhesive backed foam rubber. Slip a fender washer over each 1/4" bolt. Start a bolt in each of the four nuts that are captive in the sides of the evaporator. Cut the foam rubber into four 4" pieces and one 8" piece. Use an alcohol prep pad to clean the top surface of the evaporator and then stick the foam to it. Place one 4" foam strip about 1/2" from each edge of the evaporator. Place another 4" strip about 4" away from each edge. Stick the final 8" strip in the middle of the evaporator running from side to side. Illustration 37.



Illustration 37



38. Lube the small o-ring and slide it onto the end of the hard line. Attach the tube to the expansion valve on the back of the evaporator. Swing the tube so that it is 1 1/4" from the back of the evaporator. Tighten the tube in this position using 13 and 19mm combination wrenches to 15-20 ft. lbs. Illustration 38.



Illustration 38

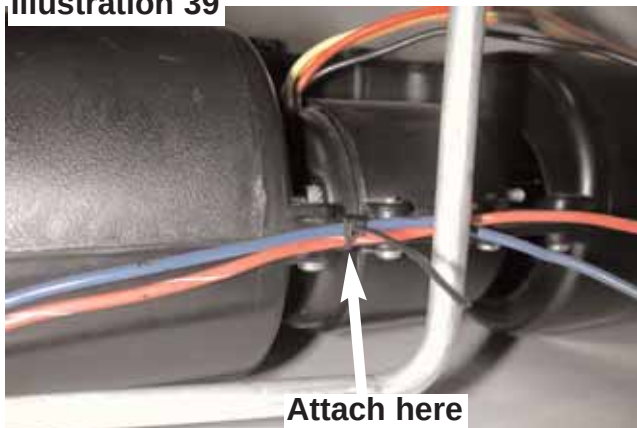


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39. Route the blue and red/white wire around the back of the evaporator between the blower and the hard line. Use a small zip tie to secure the wires to the blower housing. Trim the zip tie. At this point the red/white wire will separate from the blue wire and join together with the three red, yellow and orange blower speed wires. Do not include the black blower ground wire in this bundle. Use electrical tape to join the red/white wire with the red, yellow and orange blower speed wires. Connect the three pin connector from the blower motor to the three pin connector on the interior harness. There is a red/white in the interior harness (not the solid red wire) that will connect to the red/white wire from the evaporator. Over lap the two red/white wires and trim them so they meet near the three pin connector. Strip 1/4" of insulation from the ends of the wire where they meet. Crimp a blue female spade connector to the red/white wire coming from the interior harness. Crimp a blue male spade connector to the red/white wire coming from the evaporator. Connect the wires together. Illustration 39.



Illustration 39



Attach here

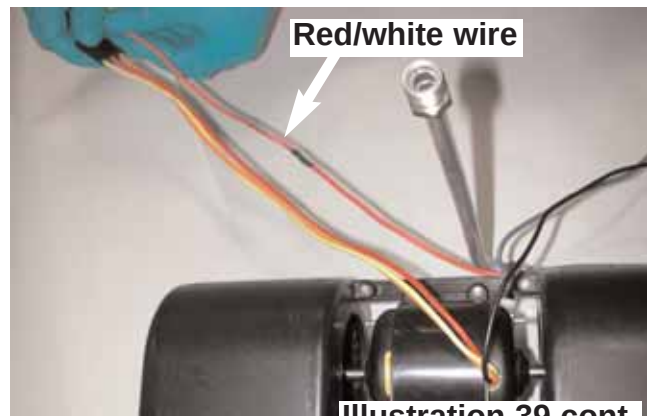
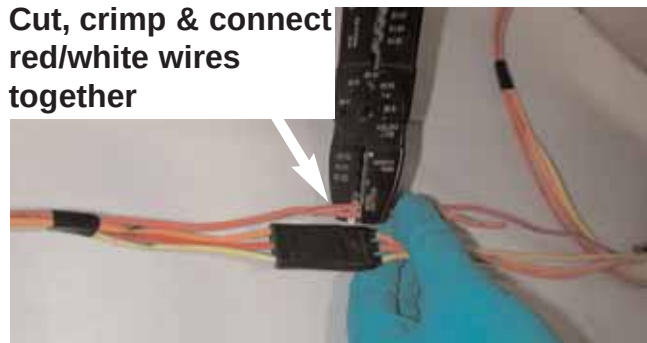


Illustration 39 cont.



Cut, crimp & connect red/white wires together



40. Route the solid red wire (not the blower speed wire) from the interior harness past the three pin connector to the evaporator. Use electrical tape to group this red wire with the blue wire from the evaporator and the black blower motor ground. Zip tie this group of wire to the back of the evaporator. These three wires will follow the hard line out of the vehicle. Use electrical tape to wrap the separate groups of wire to keep it tidy. Illustration 40.

MGB Air Conditioning Installation Instructions

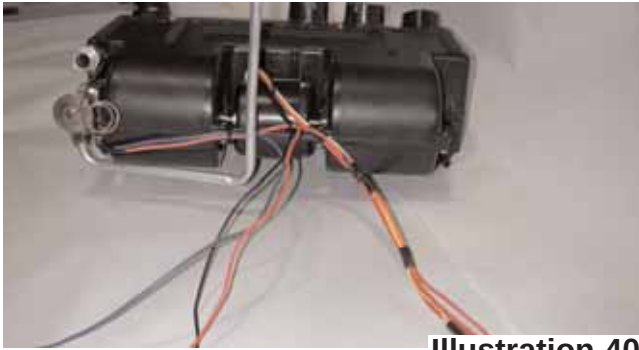
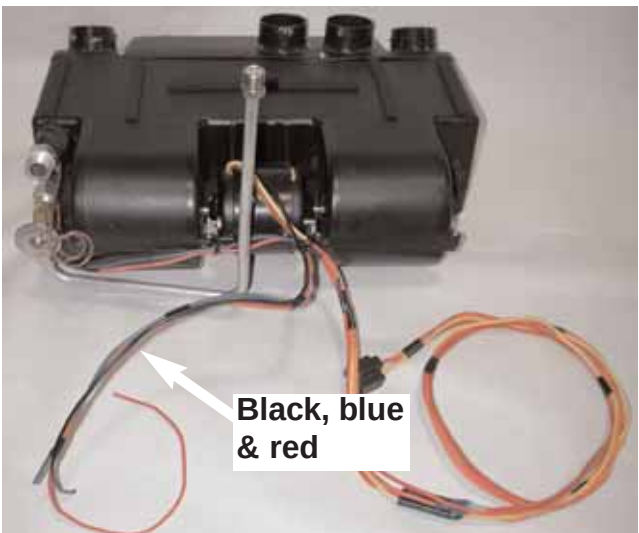
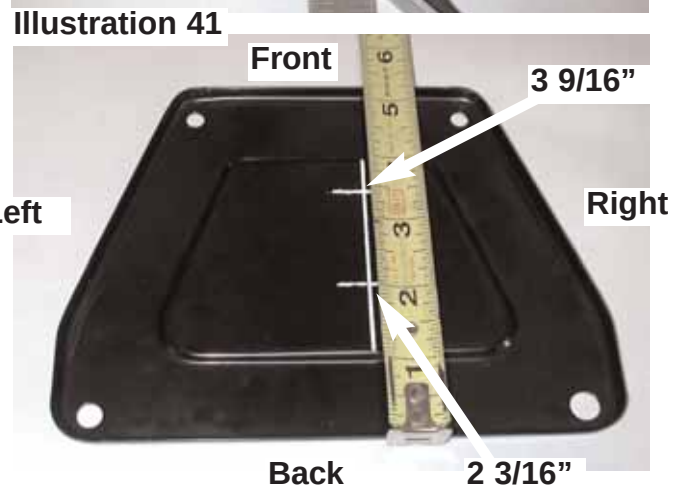
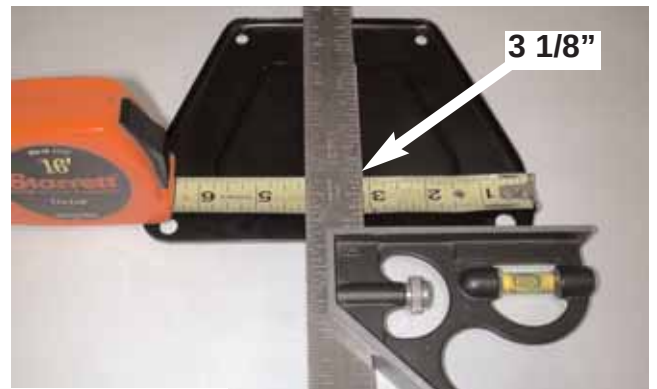


Illustration 40



Black, blue
& red

41. Gather the pedal aperture blanking plate part #190-760, a drill motor, a center punch, a hammer, a measuring tape, a combination square, a 1 1/4" hole saw, a de-burring knife or rat tail file and an 1/8" drill bit. Position the blanking plate on the bench so that the edges are pointing up and the longer flat side is facing you. Center punch the locations in which you will be drilling. The first hole will be 3 1/8" over from the right rear side of the blanking plate and 2 3/16" from the back. The second hole will be 3 1/8" over and 3 9/16" from the back. Drill a 1/8" pilot hole in each of these locations. Drill the hole to size using the 1 1/4" hole saw. De-burr the edges of the holes. Illustration 41



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Illustration 41 cont.



42. The last a/c hose with the blue low side pressure port is called the low side hose. Slip the low side hose, hard line first, through the top of the blanking plate in the rear hole. Slip the blanking plate seal (part #281-880) over the hose to the base of the blanking plate. Slip the blanking plate and gasket all the way up to the low side port. Slip the hose, hard line first through the square hole in the body of the vehicle. Feed the hose into the interior of the vehicle until the blanking plate and gasket are up against the body. Leave the blanking plate loose as it will need to be free until the evaporator is hung. Illustration 42.



Illustration 42



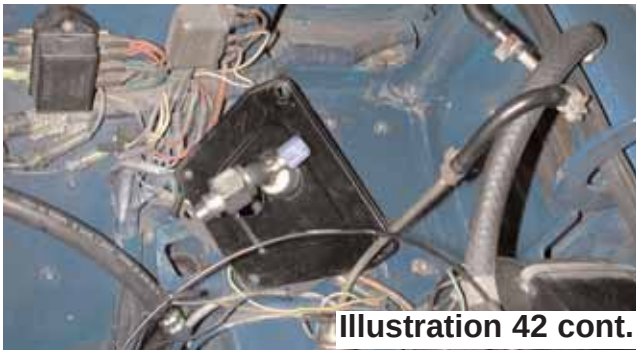


Illustration 42 cont.

43. You will need to provide a drainage hole for the evaporator. We drilled a drainage hole on the corner of the passenger (right) side floorboard near the frame rail. Peel the carpet back. Use a 25/64" drill bit to drill the hole. This hole will be a bit small for the drainage hose to insure a seal around the hose and the body of the vehicle. Illustration 43.



Illustration 43

44. Take the evaporator and one large o-ring to the passenger side floor of the vehicle. Lube the o-ring and install it onto the low side hose that is on the floor of the vehicle. Attach the low side hose to the large fitting on the back of the evaporator. The hard line part of the low side hose will route parallel and rearward of the hard line already attached to the evaporator. Tighten the hose to the evaporator using a 24mm combination wrench and a large adjustable wrench. Torque to 15-20 ft. lbs. Illustration 44.



Illustration 44



45. Carefully maneuver the evaporator so that it can be slid up into the evaporator bracket. The hard line and the metal part of the low side hose will exit the passenger compartment through the square hole. It is easier to do if you have someone under the hood guiding the low side hose out of the interior into the engine compartment. Once in position, carefully push up on the evaporator as you guide the two front 1/4" bolts on the sides of the evaporator up into the slots in the evaporator bracket. Make sure the fender washers on the bolts stay on the out-

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side of the bracket. When the front bolts are in the slots, align the two rear bolts with the slots in the rear of the evaporator bracket and push the evaporator forward. Use a 7/16" combination wrench to slide the front bolts all the way forward in their slots. Snug a couple of the bolts so that the evaporator doesn't fall out while you test fit the blanking plate. In the engine compartment, test fit the blanking plate to make sure both a/c lines are exiting through the center of the holes. If the lines are coming in hard contact with the edges of the holes or you cannot get the blanking plate to fit, remove the evaporator. Loosen and adjust the lines. Retighten the lines and reinstall the evaporator. When the lines clear the blanking plate acceptably snug all four of the evaporator bolts to 9 ft. lbs. Over tightening these bolts will cause damage to the evaporator. Illustration 45.



Illustration 45

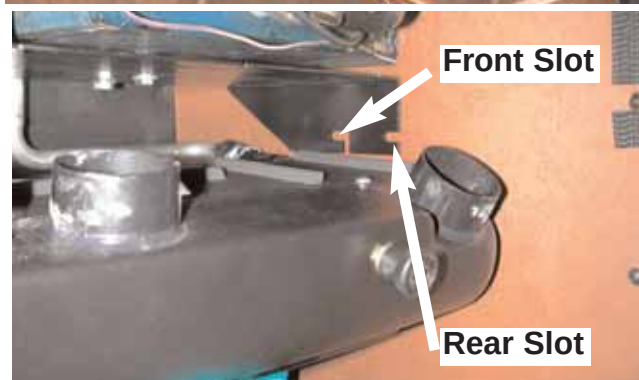


Illustration 45 cont.



46. Push the red, blue and black wires through the rearward hole in the blanking plate with the low side hose. Make sure the blanking plate seal is in place and install the two original blanking plate screws and lock washers to the front of the blanking plate. Illustration 46.



Illustration 46

47. Locate the last two grommets. You will need to cut a 1/4" hole in the flashing of one grommet and a 1/2" hole in the flashing of the other. We used gasket punches to do this. If you do not have gasket punches, use a utility (exacto) knife. This will allow a tight seal around the a/c lines. Cut a flat on each grommet to allow them to fit together when installed to the blanking plate. Split the grommet like before to allow it to be installed around the a/c lines. Install the grommets around the a/c lines and on to the blanking plate. The grommet with the 1/2" hole will install around the low side hose hard line. It may be necessary to use a small flat blade screwdriver. Illustration 47.



Illustration 47



Illustration 47 cont



48. The black blower ground wire will be fastened to the 1/4" bolt holding the evaporator bracket in place. Trim the wire to length, strip a 1/4" of insulation from the wire and attach a 5/16" un-insulated ring connector. Illustration 48.



Illustration 48

49. Gather the charcoal canister, two original spacers for the charcoal canister, one 5/16" fine thread nut, a 5/16" flat washer, a 5/16" lock washer, three 1/4" fine thread

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nuts, three 1/4" flat washers, and three 1/4" lock washers. Slip the two original spacers over the two front bolts aligning the blanking plate. Install the charcoal canister over the four bolts that align the blanking plate. Slip on a flat washer, a lock washer and start a nut on to each of the 1/4" bolts. Attach the blower ground wire to the 5/16" bolt. Slip on a flat washer, a lock washer and start the nut on the 5/16" bolt. Using 7/16" and 1/2" sockets tighten the 1/4" nuts to 9 ft. lbs. and the 5/16" nut to 18 ft. lbs. Illustration 49.



Illustration 49



50. Install and tighten the hoses to the top of the charcoal canister. Install the anti run on valve. Set it in its mount and turn it clockwise 1/4 turn. Connect its hoses and wires. Illustration 50.



Illustration 50

51. Use the a/c oil to lube one large o-ring and install it onto the end of the low side hose. Connect the low side hose to the "S" or suction side of the a/c compressor. It should be approximately parallel to the engine and not come in contact with the heater control valve before turning and going to the evaporator. Tighten the low side hose to the compressor using a large combination wrench to 15-20 ft. lbs. Next locate the hose that is coming from the condenser area of the vehicle that will eventually be attached to the drier. Route this hose straight back from the radiator support to the evaporator hard line. Lube and install a small o-ring onto the hose. Install the hose to the evaporator hard line. Tighten the hose using 16 and 19mm combination wrenches to 15-20 ft. lbs. Zip tie the hoses together in three places. Illustration 51.

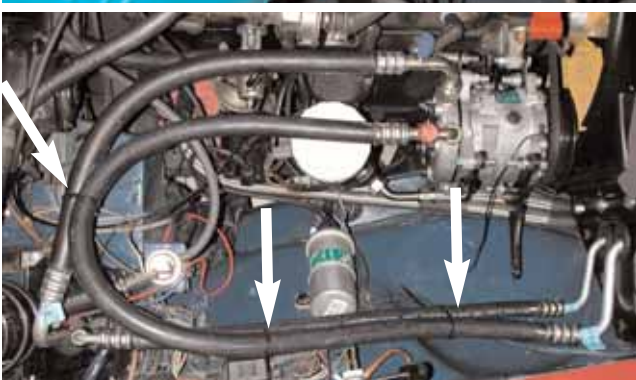
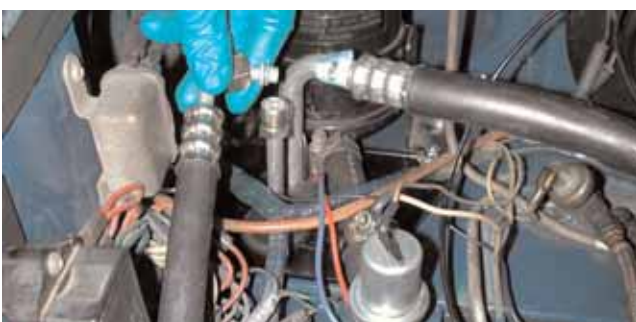


Illustration 51

MGB Air Conditioning Installation Instructions



Illustration 51 cont.



52. Bring the main harness with relays on it over to the vehicle. Locate the leg of the harness that has the blue, purple, white, black and the un-insulated 5/16" ring terminal on it. Feed this leg of the harness from the engine side of the radiator support through the hole in the support near the fender well. Feed the rest of the wires under the two a/c hoses. Attach the two relays to the inner fender well using the existing bolts or use the supplied self tapping screws. Illustration 52.



Illustration 52



MGB Air Conditioning Installation Instructions



Illustration 52 cont.



53. The white and black wire will provide power and ground for the fan. Cut the blue and black wires on the fan to length and strip 1/4" of insulation off of each wire. Crimp a blue female spade connector onto the blue fan wire. Crimp a blue male spade connector onto the black fan wire. Connect the black wire from the main harness to the blue fan wire. Connect the white wire from the main harness to the black fan wire. In the leg of the main harness with the blue and purple wires, cover the spade connector on the blue wire with

electrical tape. It is a hot wire and will be connected later to the high/low pressure cut off switch by the a/c shop that will be finishing the install. Zip tie the purple and blue wires to the radiator support brace to keep them out of harms way. The 5/16" ring terminal will supply ground to the relays and the fan. Remove the nut and lock washer securing the radiator support brace to the body of the vehicle. Slip the ring terminal over the stud and replace the lock washer and nut. Illustration 53.

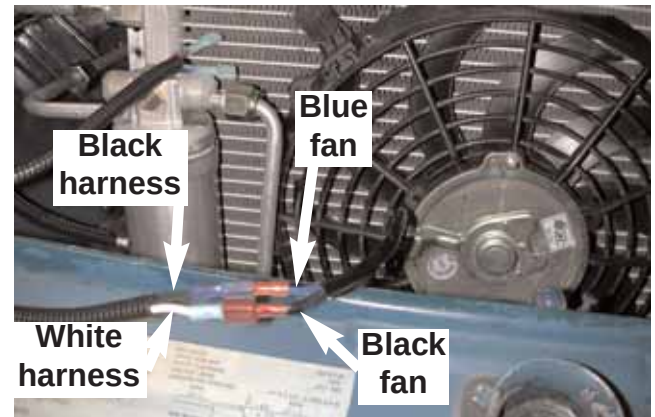


Illustration 53



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54. On the engine side of the radiator support, locate the leg of the harness with the purple wire. This wire is power to the a/c compressor. Cut the black wire from the compressor to length and strip off 1/4" of insulation. Crimp a blue female spade connector onto the compressor wire. Connect the compressor wire to the purple wire from the main harness. Next locate the leg of the harness with a single yellow wire. This is key-on system voltage. Locate the factory fuse box and find key on voltage. To find key-on voltage, temporarily connect the battery and use a test light to find the fused side of key on voltage. On our vehicle it was the third terminal down from the top. Connect the yellow wire from main harness to the fused side of key on voltage. Make sure to disconnect the battery when you are done testing. Illustration 54.

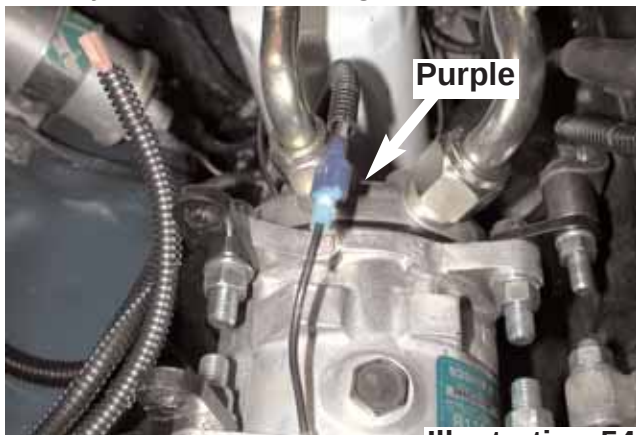


Illustration 54



55. Locate the longest leg of the harness with a yellow and a brown wire. The yellow wire supplies power to the temperature sensing fan switch. When the radiator reaches 180 degrees the switch closes and sends power down the brown wire to the relay which supplies power to the electric fan. Route the brown and yellow wires from the main relay down behind the a/c compressor, up the side of the engine block, and over to the temperature sensing fan switch. If your fan switch is in a different location route the wires as necessary. Connect the yellow and brown wires to the yellow wires at the switch. If you do not have a fan shroud, connect directly to the switch. Polarity of the wires is not important as it is only a switch (connect either wire to either side of the fan switch). Illustration 55.



Illustration 55



56. Locate the leg of the harness with the red and blue wires. Route them back toward the evaporator. Cut the red and blue wires from the

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evaporator to a length that will allow them to be connected to the red and blue wires from the harness. Strip 1/4" of insulation away from the red and blue evaporator wires. Crimp a blue male spade connector onto the red wire. Crimp a blue female spade connector onto the blue wire. Connect the blue wires together and the red wires together. Illustration 56.



Illustration 56



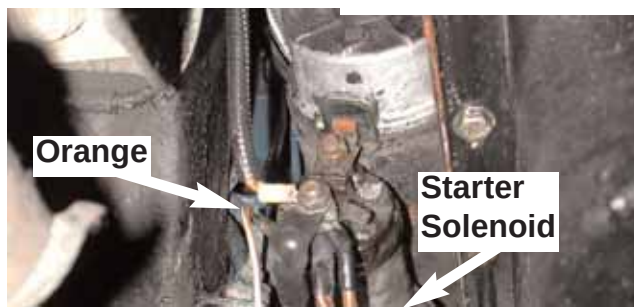
57. Locate the last leg of the harness with an orange wire and an insulated 5/16" ring terminal. This wire will provide battery voltage to the relays. Feed it down to the starter. Make sure the battery is disconnected. From under the vehicle remove the nut from the starter solenoid that the battery cable is attached to. Slip the 5/16" insulated ring terminal over the stud on the starter and replace the nut. Back up on top use small zip ties to secure the harness to the vehicle to keep it out of harms way. Illustration 57.



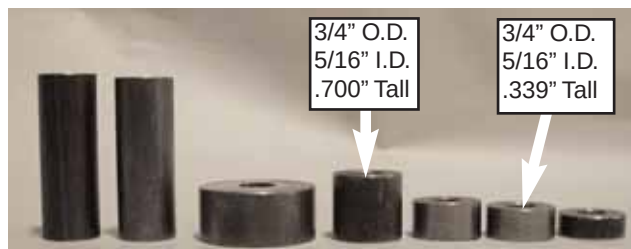
Illustration 57



Illustration 57 cont.



58. Next you will need to install the alternator. There are two configurations for the alternator depending on if your vehicle has an air pump or not. If your vehicle has an air pump, skip to step 61. If your vehicle does not have an air pump, gather the alternator with the adjustment slide attached, the 7255 belt, one 5/16" x 2" fine thread bolt, one 5/16" x 1 1/2" fine thread bolt, one 5/16" x 1 1/2" coarse, full thread bolt, three 5/16" lock washers, two 5/16" flat washers, two 5/16" fine thread nuts, one 5/16" coarse thread nut, two 3/4" OD x 5/16" ID x .339" tall spacers, and a 3/4" OD x 5/16" ID x .700" tall spacer. Remove the alternator adjustment slide from the alternator. You will reuse the bolt, lock washer and adjustment slide. Slip the 5/16" x 1 1/2" coarse, full thread bolt through the pivot hole of the alternator slide, through the 3/4" OD x 5/16" ID x .700" tall spacer, and then through the alternator bracket which is bolted to the a/c pump, slip on a 5/16" lock washer and start the 5/16" coarse thread nut. Illustration 58.



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Illustration 58



59. Set the alternator into place on the alternator brackets. Slip a 5/16" flat washer over the 5/16" x 1 1/2" fine thread bolt. Slip the 1 1/2" bolt through the front ear of the alternator, one of the .339" tall spacers, the front alternator bracket, a 5/16" lock washer and start a fine thread nut. Slip the 5/16" x 2" fine thread bolt through the rear alternator ear, the other .339" tall spacer, the alternator bracket, a 5/16" lock washer and start a fine thread nut. Illustration 59.

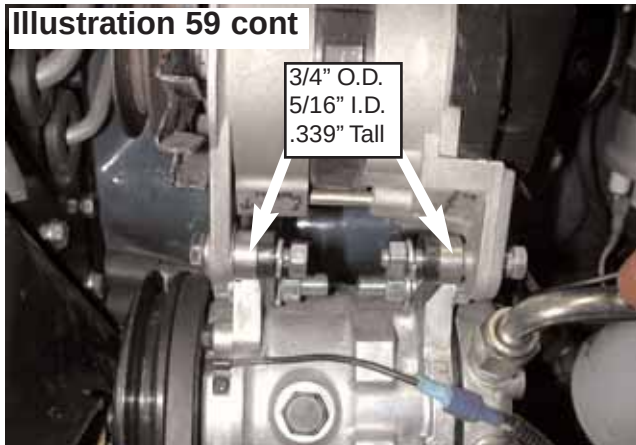


Illustration 59



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Illustration 59 cont



60. Slip the 5/16" flat washer over your original bolt and lock washer. Install the bolt to your alternator through the slot in the adjustment link. Wrap the 7255 belt around the a/c compressor and alternator pulleys. Pull up on the alternator to get belt tension and tighten the two alternator adjustment slide bolts using a 1/2" socket and combination wrench. Tighten both alternator pivot bolts using a 1/2" socket and combination wrench. Torque all 5/16" bolts to 18 ft. lbs. Connect the vehicles' wiring harness to the alternator. Connect the coolant temperature sender. Skip to step 67. Illustration 60.



Illustration 60



Illustration 60 cont



61. If your vehicle does have an air pump, gather the alternator with the adjustment slide attached, one 5/16" x 2" fine thread bolt, one 5/16" x 1 1/2" fine thread bolt, one 5/16" x 1 1/2" coarse, full thread bolt (or one M8 x 40mm full thread bolt), three 5/16" lock washers, two 5/16" flat washers, two 5/16" fine thread nuts, one 5/16" coarse thread nut (or one M8 nut) and three 3/4" OD x 5/16" ID x .339" tall spacers. Remove the alternator adjustment slide from the alternator. You will not reuse the adjustment link or its hardware. Depending on the thread of your alternator ear you will use either the M8 x 40mm full thread bolt and nut or the full thread 5/16" x 1 1/2" coarse full thread bolt and nut. Choose the right bolt for your application and slip a 5/16" flat washer on it. Thread the bolt into your alternator ear from the front until it bottoms out, slip on a .339" tall spacer. Guide the bolt into the alternator bracket from the front so the spacer is in between the alternator and the alternator bracket. Slip on a 5/16" lock washer and thread on the nut. Illustration 61.



Illustration 61



Illustration 61 cont



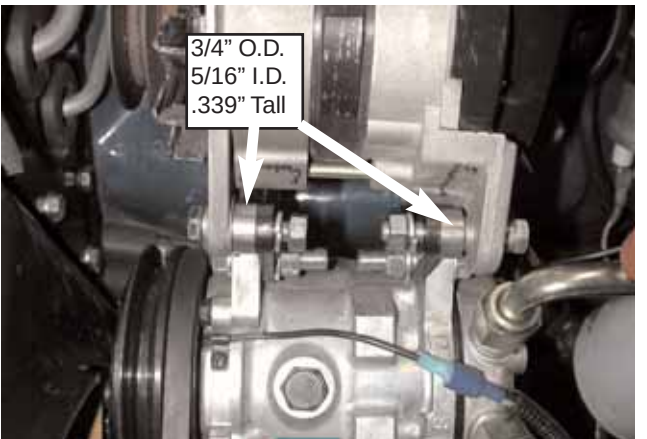
62. Slip a 5/16" flat washer over the 5/16" x 1 1/2" fine thread bolt. Slip the 1 1/2" bolt through the front ear of the alternator, one of the .339" tall spacers, the front alternator bracket, a 5/16" lock washer and start a fine thread nut. Slip the 5/16" x 2" fine thread bolt through the rear alternator ear, the other .339" tall spacer, the alternator bracket, a 5/16" lock washer and start a fine thread nut. Tighten all three bolts using a 1/2" (or 12mm if applicable) socket and combination wrench to 18 ft. lbs. Connect the vehicles' wiring harness to the alternator. Connect the coolant temperature sender. Illustration 62.



Illustration 62



Illustration 62 cont



MGB Air Conditioning Installation Instructions



Illustration 62 cont.



63. Remove the intake air filter and hose from the air pump using a flat blade screwdriver and a 10mm combination wrench. The hose and the nuts will not be reused but the clamps and filter will be reused. Illustration 63.



Illustration 63



Illustration 63 cont

64. Gather the original air pump hardware, the 7312 belt and a 3/4" OD x 5/16" ID x 1/4" tall spacer. Wrap the belt around the a/c compressor pulley, the alternator pulley and the smog pump pulley while the pump is not secured to the vehicle. Lean the air pump toward the alternator and slip the original bolt through the air pump adjustment slide and thread it into the lower air pump ear. With the belt around the three pulleys, slip the original air pump pivot bolt through the rear smog pump pivot ear, the 1/4" tall spacer, the modified thermostat housing and the front air pump pivot ear. Slip on the original lock washer and start the original nut. Pull up on the air pump to get belt tension. Tighten both bolts with a 1/2" socket and combination wrench to 18 ft. lbs. Illustration 64.

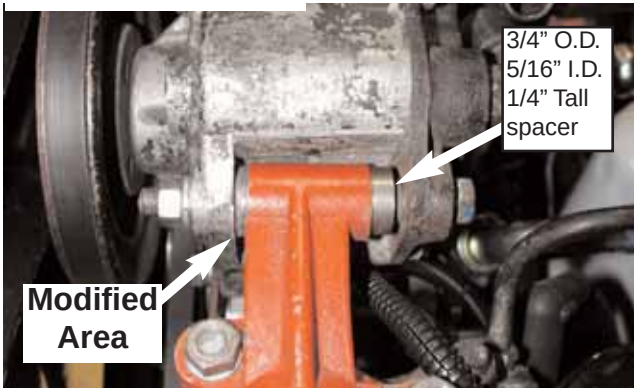


Illustration 64





Illustration 64 cont



65. Using a #3 Phillips screwdriver, remove the screw in the right side inner fender in between the coil and the fire wall. Gather the smog pump air filter, a 1/4" x 1 1/2" fine thread bolt, a 1/4" lock washer, a 1/4" flat washer, a 3/4" OD x 5/16" ID x .700" tall spacer, a 30" piece of 3/4" hose, and the two original smog pump hose clamps. Slip the 1/4" lock washer and flat washer over the 1/4" bolt. Slip the bolt through the hole in the housing, in line with the filter outlet. Install the air filter so the outlet points down using the threaded hole you removed the screw from. Tighten the bolt with a 7/16" combination wrench to 9 ft. lbs. Illustration 65.

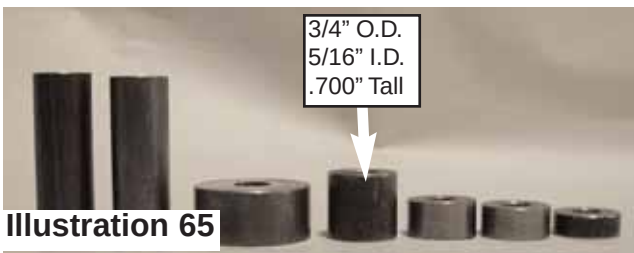


Illustration 65



Illustration 65 cont.



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Illustration 65 cont.

66. Route the 3/4" hose from the filter down to the body (frame rail), under the coil wire, up to the air pump. Slip a factory hose clamp on each end of the hose. Connect the hose to the filter and to the 90 degree fitting on the pump. Tighten the hose clamps with a flat blade screw driver. Reconnect the factory hoses to the "T" fitting on the air pump and tighten the hoses clamps. Make sure the orifice is inline with the hose to the gulp valve. Illustration 66



Illustration 66

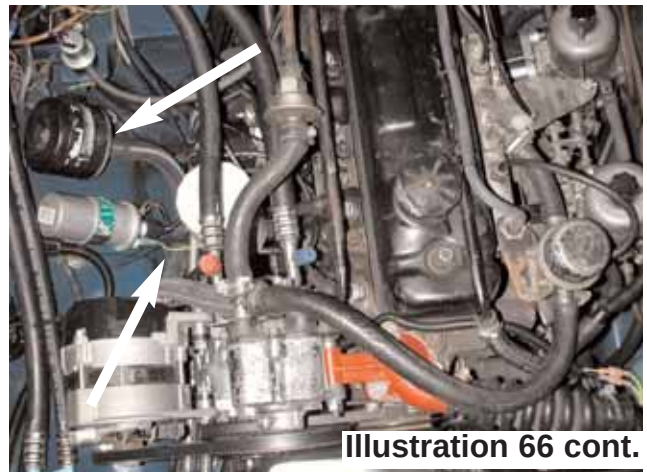


Illustration 66 cont.

67. Gather the two 2" p-clamps, two 10-32 x 3/4" screws, two #10 flat washers, two #10 lock washers and two 10-32 nuts. Loosen the ignition coil bracket and slide the coil up to expose 2 1/2" of the coil above the bracket. Tighten the coil bracket. Slide the p-clamps over the coil as shown. Attach the original washer bottle bracket to the p-clamps using the 10-32 screws. Slip the screws through the washer bottle bracket, the p-clamps, the flat washers, lock washers and start a nut on each screw. The p-clamps can be rotated around the coil to make installation easier. Once the nuts are started rotate the p-clamps so the bracket is between the coil and the smog pump air filter. Tighten the hardware using a Phillips screwdriver and a 3/8" combination wrench. Set the washer bottle in place and connect the hose. Illustration 67.



Illustration 67



Illustration 67 cont.



Illustration 67 cont.

68. Locate a place in the passenger compartment you would like to mount the a/c control switch. The area on the back side must have enough room to clear the back side of the switch and the wiring harness that will connect to it. We mounted ours to the front section of the center console. Remove the rear bolt in the rear section of the center console using a Phillips head screwdriver. Remove the four bolts holding the shifter boot to the vehicle using a #3 Philips screw driver. Loosen the jam nut on the shifter and remove the shift knob. Remove the rear section of the center console. Using a Phillips screw driver remove the two screws on each side of the front section of the center console that secure it to the vehicle. Slide the front section of the center console rearward in the vehicle so that the a/c control switch can be installed and the a/c ducting can be run behind it. Illustration 68.



Illustration 68

MGB Air Conditioning Installation Instructions



Illustration 68 cont.



Illustration 68 cont.



69. Gather the a/c control switch, and a 1/2" flat washer. Our vehicle had a hole in the console that was unoccupied. If your vehicle doesn't have a hole you will need to drill a 1/2" hole. Our hole was a bit oversized so we used the flat washer to make up the differences in diameter. Remove the knob, the plastic bezel and the nut from the switch. Slip the switch through the hole from the backside of the console. Slip the flat washer over the switch if applicable and start the nut. Carefully tighten the nut using a 14mm socket. Slip the plastic bezel over the nut and push the knob onto the switch. Route the interior harness from the back of the evaporator to the back of the switch and plug it into the switch. Illustration 69.



Illustration 69

MGB Air Conditioning Installation Instructions



Illustration 69 cont.



Illustration 69 cont.



70. You must now choose where the a/c vents will be located and how you will attach them. We chose to position our vents on each side of the front center console, and one at the top of the driver (left) and passenger (right) side kick panels. We attached our vents using adhesive backed dual lock (Velcro) rather than self tapping screws. We recommend the dual lock in case you would ever like to reposition the vents or reroute the air to the defroster or the factory vents. In any case test fit vents and sit in the vehicle to make sure they are not obstructing your sitting position. Cut the 32" of dual lock into eight 4" strips. Clean the flat side of each vent holder with a supplied alcohol prep pad. Peel and attach a 4" strip of dual lock to each of the vent holders. Attach another strip of dual lock to the front side of the dual lock already attached to the vent holder. Illustration 70.

MGB Air Conditioning Installation Instructions

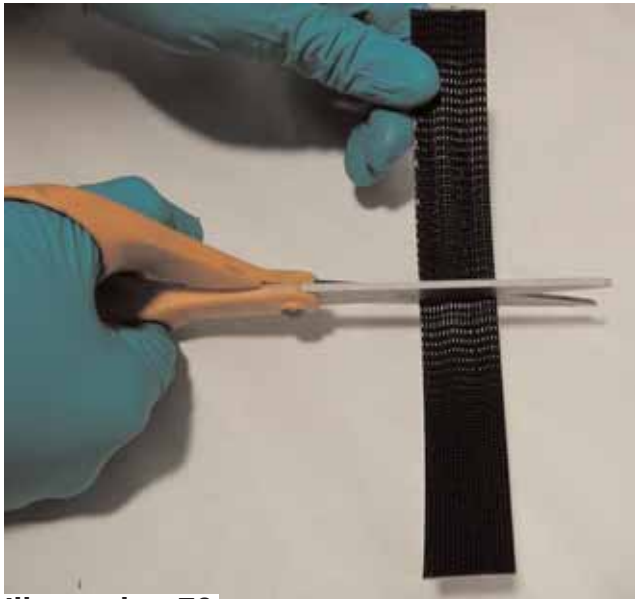


Illustration 70



71. Clean the areas where the vents will go with an alcohol prep pad. Peel the backing away from the adhesive on the trim lock that is attached to the vent holders and firmly press each vent to the cleaned area in the vehicle. Route the 10' of a/c ducting starting from the passenger (right) side floor, behind the center console brace over to the vent on the driver (left) side kick panel. Attach the end of the tubing to the back of the vent. You will notice small bumps on the back of the vents that secure the ducting to the vent. Make sure the ducting is pulled past those bumps. Pull any excess ducting back toward the evaporator. This duct will attach to the evaporator at second port over from the center console. Cut the ducting to length and attach the end of the ducting to the second port of the evaporator. Use zip ties to secure the ducting to the vehicle. Illustration 71.



Illustration 71





Illustration 71 cont



72. Next route the remainder of the ducting from the passenger (right) side floor, behind the center console support, over to the vent attached to the driver (left) side of the center console but do not attach it to the vent. Install the center console using the original hardware. Now attach the end of the ducting to the vent on the driver side center console. Pull any excess ducting back toward the evaporator. On the passenger (right) side, cut the hose and attach it to the third port from the left on the evaporator.

Illustration 72.



Illustration 72



Illustration 72 cont.



MGB Air Conditioning Installation Instructions

73. Install the rear half of the center console using the original hardware. Install the shift boot and shift knob. Illustration 73.



Illustration 73



74. Next, route a hose from the passenger (right) side center console vent to the first port on the evaporator. Cut it to length and attach it to the evaporator and the vent. Finally, route the hose from the vent on the passenger side kick panel to the fourth port on the evaporator. Cut the hose to length and attach it. Zip tie the extra length of interior harness together and neatly tuck it out of view, along side of the evaporator and behind the center console. Illustration 74.



Illustration 74



Illustration 74 cont



75. Gather the 27" piece of 10mm silicone hose, a 10" piece of 6mm hose, the vacuum "T", and three small zip ties. Cut the 27" piece of 10mm silicone hose in two pieces, 20" and 7" long. Attach the two pieces of 10mm hose to opposite ends of the "T". Use two small zip ties to secure the hose to the "T". Attach the 10" piece of 6mm silicone hose to the bottom of the "T" and secure it with a small zip tie. Illustration 75.



Illustration 75



MGB Air Conditioning Installation Instructions

76. Take the hose assembly and two more small zip ties over to the vehicle. Find the two drain ports at the back of the evaporator. Attach the shorter of the 10mm hoses to the right hand drain port of the evaporator. Attach the longer of the 10mm hoses to the left hand drain port. Secure them with small zip ties. Run the 6mm hose out through the drain hole previously drilled in the floor board, about 1". Illustration 76.



Illustration 76



77. Fill your cooling system with appropriate antifreeze. If you have an oil cooler you will need to check the oil level after your vehicle has been started. Connect the battery cable. Start the vehicle and check for leaks at the oil cooler hose fittings and check for coolant leaks. Adjust the engine idle to about 1200 rpm. This will keep the engine from stalling when the technician fills your system. When you get the vehicle back, turn the a/c on and make sure the compressor clutch is engaged before setting the idle to factory specification. Your engine will idle higher than normal anytime the compressor clutch is not engaged. This completes your portion of the install. The rest of the install will need to be completed by a qualified automotive air conditioning shop. Take the instructions, three small o-rings, and the high/low pressure cut off switch to the air conditioning shop of your choice. Illustration 77.



Illustration 77

78. To the technician completing this install: The a/c compressor is pre-filled with oil, do not add any. Remove the brass plug in the front of the drier. Install an o-ring on the high/low pressure cut off switch. Install the switch in the drier. Install an o-ring onto each of the hard lines leading to the drier. Connect the hard line from the condenser to the "IN" side of the drier and the line leading to the evaporator to the opposite side of the drier. Cut the zip tie holding the blue and purple wires to the radiator support brace. Remove the electrical tape from the blue wire. Connect the wires to the

MGB Air Conditioning Installation Instructions

high/low pressure cut off switch. Polarity is not important as it is only a switch. Evacuate and charge the system with approximately 2 lbs. of r134a. Up to 1/4 pound more or less may be needed, use your discretion. Do not use the sight glass to charge the system as bubbles may be present in a perfectly operating system. Do not exceed 190 psi on the high side. Illustration 78.

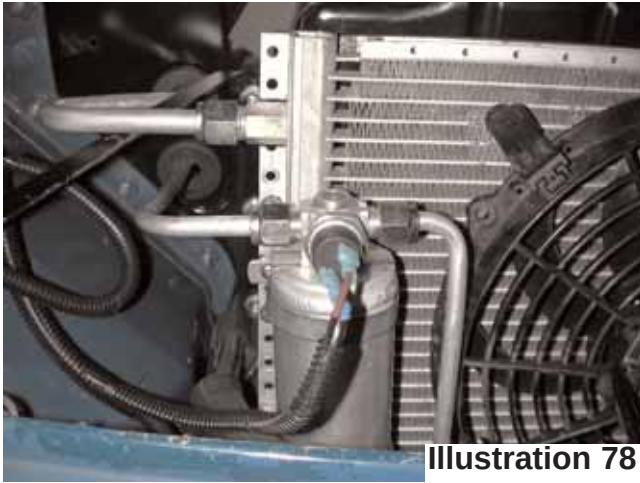
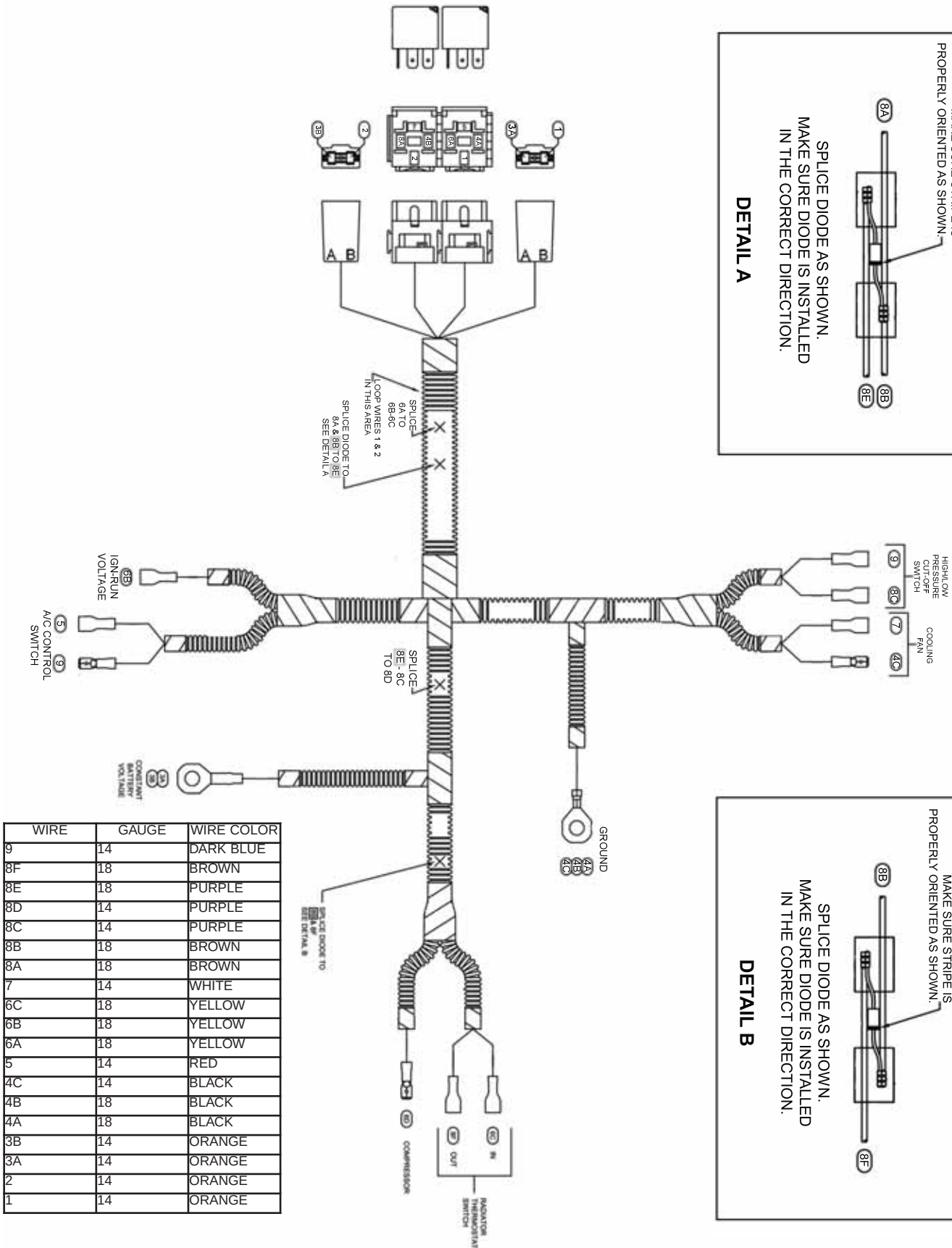
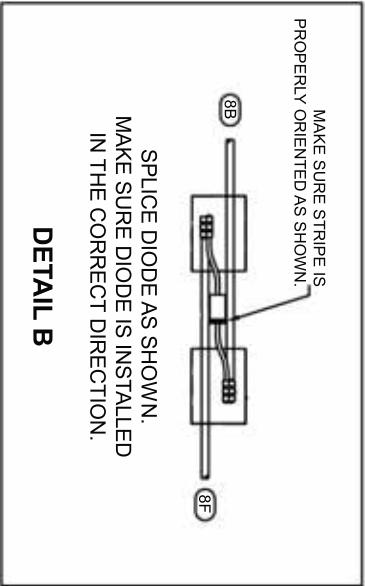
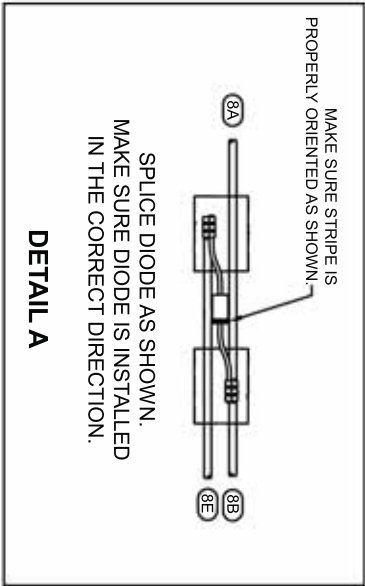


Illustration 78

MGB Air Conditioning Installation Instructions



WIRE	GAUGE	WIRE COLOR
9	14	DARK BLUE
8F	18	BROWN
8E	18	PURPLE
8D	14	PURPLE
8C	14	PURPLE
8B	18	BROWN
8A	18	BROWN
7	14	WHITE
6C	18	YELLOW
6B	18	YELLOW
6A	18	YELLOW
5	14	RED
4C	14	BLACK
4B	18	BLACK
4A	18	BLACK
3B	14	ORANGE
3A	14	ORANGE
2	14	ORANGE
1	14	ORANGE

MGB Air Conditioning Installation Instructions

Contents of the kit #363-400

Note- Specifications and components are subject to change and revision without notice.

Item No.	Qty.	UOM	Description
052-756	1	EACH	SD-505 COMPRESSOR
052-757	1	EACH	ID-250 EVAPORATOR W/VENTS&CNTR 1 - Evaporator/Blower Assembly w/internal thermostat and w/expansion valve 10' - 2" Vent Hose 4 - 2" Black, Round Vents 4 - 2" Black, Vent Holders 1 - Blower Motor Control 1 - Tube of PAG A/C Oil 1 - Interior Harness 1 - Bag of O-rings 7 - Small 5 - Medium 5 - Large
052-758	1	EACH	SW 4086P BINARY NO PLUG
052-759	1	EACH	RD-0026 DRIER W/TWO STRAPS 1 - RD-0026 Drier 2 - 2 3/8" P-clamps 2 - Spacers, 1/2ODx.193IDx3/8L 2 - 10-32x1", Pan Hd, Phill, Scrw 2 - #10 Lockwashers 2 - 10-32 Nuts
052-760	1	EACH	44-1220 CONDENSER
052-761	1	EACH	10SB W/MT 10" ELECT FAN W/MTKIT 1 - 10" Electric Fan 1 - Fan Mounting Kit
052-762	1	EACH	HOSE, EVAPORATOR TO COMPRESSOR
052-763	1	EACH	TUBE, CONDENSER TO DRIER
052-764	1	EACH	HOSE, A/C COMP TO CONDENSER
052-765	1	EACH	TUBE, HOSE TO EVAPORATOR
052-770	1	EACH	HOSE, DRIER TO TUBE
772-391	1	EACH	REAR ALTERNATOR BRACKET
772-392	1	EACH	FRONT ALTERNATOR BRACKET
772-393	1	EACH	REAR COMPRESSOR BRACKET
772-394	1	EACH	FRONT COMPRESSOR BRACKET
772-421	1	EACH	BRACKET, CONDENSER, LH, MGB AC
772-422	1	EACH	BRACKET, CONDENSER, RH, MGB AC
772-406	1	EACH	EVAPORATOR MOUNTING BRACKET

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772-399	1	EACH	EVAPORATOR SUPPORT BRACKET,
052-766	1	EACH	BELT, GATES 7385 -crank pulley,wpump,a/c comp
052-769	1	EACH	BELT, GATES 7312 -a/c comp, alt, smog pump
052-768	1	EACH	BELT, GATES 7255 -a/c comp, alt, no smog pump
772-436	1	EACH	WIRING HARNESS, MGB AC
231-690	1	EACH	TEMP CONTROL, PRESET
772-558	1	EACH	INSTRUCTIONS, MGB A/C, 67-76
988-550	1		HARDWARE BAG, MGB AC, 62-76
772-424	4	EACH	SPACER 1, MGB AC 1-evaporator bracket to car 1-alt.,single ear,fixed,w/smog 2-alt. pivots
772-425	1	EACH	SPACER 2, MGB AC 1-early B evap. bracket to car
772-426	3	EACH	SPACER 3, MGB AC 3-evaporator bracket to car
772-427	3	EACH	SPACER 4, MGB AC 3-early B evap. bracket to car
772-429	1	EACH	SPACER 5, MGB AC 1-a/c compressor slide
772-430	3	EACH	SPACER 6, MGB AC 1-a/c comp. rear pivot 1-alt. slide to a/c bracket 1-smog pump intake filter
772-432	1	EACH	SPACER 7, MGB AC 1-smog pump
772-294	2	EACH	P-CLAMP, 2.00" ID,SS, NEOPRENE 2-washer bottle to coil
772-554	8	EACH	BOLT, M10 X 1.25 X 35MM, ZINC 8-brackets to compressor
051-081	8	EACH	WASHER, FLAT, M10 8-brackets to compressor
051-050	8	EACH	WASHER, LOCK, M10 8-brackets to compressor
052-935	8	EACH	NUT, M10X1.25, ZINC 8-brackets to compressor
322-025	1	EACH	BOLT, 3/8 UNF X 1 3/4 1-compressor adjustment slide
324-580	1	EACH	WASHER, FLAT, 3/8 ID, ZINC 1-compressor adjustment slide

MGB Air Conditioning Installation Instructions

051-581	1	EACH	WASHER, LOCK, 3/8 IN 1-compressor adjustment slide
310-050	1	EACH	NUT, HEX, 3/8 UNF, G5, ZINC 1-compressor adjustment slide
771-644	1	EACH	BOLT, HEX, 5/16-24 X 1.75 1-rear compressor to engine
322-265	2	EACH	BOLT, 5/16 UNF X 1 1/2 1-compressor to water pump 1-front alternator pivot
051-588	18	EACH	WASHER, FLAT, 5/16 IN., SAE
051-587	13	EACH	WASHER, LOCK, 5/16 IN.
052-339	12	EACH	NUT, STANDARD, 5/16 UNF
771-643	6	EACH	BOLT, HEX, 5/16-24 X 1.25 6-radiator to radiator support
772-163	6	EACH	SCREW, 10-32 X 0.5 AHCS 6-brackets to condenser
314-135	2	EACH	SCREW, 10-32 X 3/4, PHIL, ZINC 2-washer bottle relocation
315-055	8	EACH	WASHER, FLAT, #10 6-brackets to condenser 2-washer bottle relocation
051-602	8	EACH	WASHER, LOCK #10 6-brackets to condenser 2-washer bottle relocation
310-040	8	EACH	NUT, 10-32, G2, ZINC 6-brackets to condenser 2-washer bottle relocation
772-555	4	EACH	BOLT, 1/4-28X1.5, FULLTHRD, ZINC 3-evaporator bracket to car 1-smog pump filter
770-303	7	EACH	WASHER, FLAT, SAE, 1/4 IN. 6-evaporator bracket to car 1-smog pump filter
051-583	6	EACH	WASHER, LOCK, 1/4IN 3-charcoal canister to car 2-evap. bracket brace to car 1-smog pump filter
770-812	5	EACH	NUT, STANDARD, 1/4-28 3-charcoal canister to car 2-evap. bracket brace to car
052-774	1	EACH	BOLT, 5/16-24 X 2, HEX HEAD, GR8 1-evaporator bracket to car
322-170	2	EACH	BOLT, HEX, 1/4 UNF X 1/2, G5 2-evap. bracket brace to car

MGB Air Conditioning Installation Instructions

322-375	4	EACH	BOLT, 1/4 UNC X 1/2 G8 4-evaporator to bracket
770-787	4	EACH	WASHER, FENDER 4-evaporator to bracket
771-896	1	EACH	WASHER, FLAT, 1/2 ID X 7/8 OD 1-fan speed switch
051-089	1	EACH	BOLT, HEX, M8 X 1.25 X 40 1-alt.,single ear,fixed,w/smog
051-073	1	EACH	NUT, STANDARD, M8 X 1.25 1-alt.,single ear,fixed,w/smog
052-773	1	EACH	BOLT,5/16-24 X 2, HEX HEAD,GR5 1-rear alternator pivot
052-639	1	EACH	BOLT, 5/16-18 X 1.5, ZINC 1-alt.,single ear,fixed,w/smog
771-488	1	EACH	NUT, 5/16-18 X 17/64 HT 1-alt.,single ear,fixed,w/smog
052-771	3	EACH	BOLT, 1/4-28 X 3,HEX HEAD, GR5 early B, evap.bracket to car
052-772	1	EACH	BOLT, 5/16-24 X 3 HEX HEAD,GR8 early B, evap.bracket to car
772-331	10	EACH	SCREW, #8-18, SELF DRILL&TAP 8-vent mounting 2-relay mounting
988-551	1	EACH	HOSE BAG, MGB AC
051-508	48	INCH	HOSE, COOLANT, 3/4 PER INCH cut hose into two pieces 30"-smog pump filter relocate 18"-protect oil cooler hose
051-777	32	INCH	VELCRO, 1IN. WIDE, BULK -mount a/c vents
771-276	12	INCH	WIRE, YELLOW, 18 GA., BULK
051-094	10	EACH	CABLE TIE, BLACK, 11 IN
051-016	10	EACH	CABLE TIE, 4IN.
771-143	4	EACH	ALCOHOL PAD, FOR SURFACE PREP
052-074	1	EACH	RING CON, 16-14 GA, 1/4IN blower motor ground
052-777	5	EACH	SPADE CON, FEMALE, 14-16 GA 1-compressor clutch 1-evaporator thermostat 1-electric cooling fan 1-power to hi/lo switch

MGB Air Conditioning Installation Instructions

052-778	4	EACH	SPADE CON, MALE, 14-16 GA 1-evaporator thermostat 1-electric cooling fan 1-interior harness power
052-775	3	EACH	SPADE CON, FEMALE, 18-22 GA 2-thermal switch, electric fan
052-776	3	EACH	SPADE CON, MALE, 18-22 GA 2-thermal switch, electric fan
282-975	4	EACH	GROMMET, OIL HOSE 2-a/c lines, radiator support 2-a/c lines, blanking plate
771-907	3	FOOT	RUBBER, BLOCKER, TRIMLOK bottom of condenser & brackets
772-557	48	INCH	FOAM RUBBER, ADHESIVE BACKED 24"-top of condenser 24"-top of evaporator
051-451	1	EACH	TAPE ELEC. 7-MIL VINYL
051-758	10	INCH	HOSE, SILICONE, 6MM ID, BLACK evaporator drain
771-372	27	INCH	HOSE, SILICONE 10MM ID, BLACK evaporator drain
051-240	1	EACH	TEE. VACUUM. 5/16 evaporator drain
434-180	1	EACH	THERMOSTAT, 165F, 74C
296-380	1	EACH	GASKET, THERMOSTAT HOUSING