MGB Supercharger System

Installation Instructions
For 1975 to 1980

PART # 150-070

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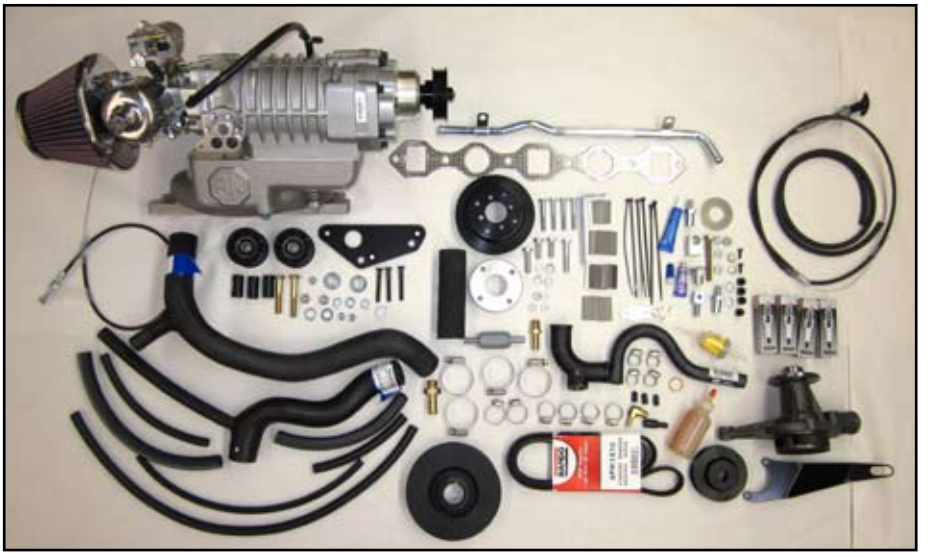


Please read and understand these instructions completely before you begin the installation.

A few notes before you begin:

Emission Equipment - This supercharger system may not be legal in your state.

Installation – The mechanical installation of a supercharger system is a relatively simple bolt-on affair. However, tuning a supercharged engine for maximum performance and engine life requires a high level of skill and understanding of engine systems. Achieving the proper balance of air/fuel ratio, boost and ignition timing could require considerable effort. The kit has been engineered for a stock engine and should provide a reasonable state of tune with good performance. Your results will definitely be different and may require further tuning.

Hose clamps: Re-use hose clamps, or purchase new ones where necessary. Use new hose clamps on all fuel connections.

If you have vacuum assisted brakes - you MUST install a check valve (Moss Part # 150-071) in the vacuum line. This will prevent pressurized air from reaching the brake booster system and damaging it. To install, remove the larger of the 3 plugs in the back of the supercharger manifold and install the barbed fitting using teflon tape on the threads. Using 3/8in vacuum line, install the check valve between the barbed fitting and the brake booster (closer to the booster) with the check valve arrow pointing toward the supercharger manifold.

Your one-piece intake-exhaust manifold will not work with the Moss supercharger system. You will need to either purchase a header (we used 459-045 for our install) or source a used early style cast iron exhaust manifold (swap meets or eBay may help). This will require exhaust work.

Engine condition - This system is designed to suppliment an engine in good condition, not to make up for lost power in a tired one. If your car

has a tired engine, you should overhaul it before installing a supercharger system. Your engine should have a fresh tune up, including new spark plug wires, points, condensor, distributor cap and rotor. NGK BPR7ES (2023) spark plugs, #052-504, are included with the system, gap 0.035in. Be aware that when replacing plugs, cross-referenced plugs may NOT be the same heat ranges, "hotter" plugs could lead to detonation and engine damage.

How superchargers work - Superchargers compress the air/fuel mixture, filling cylinders with a greater charge that when normally aspirated. Normally aspirated engines produce vacuum, read in inches of mercury, superchargers and turbochargers produce boost, read in positive pounds per square inch.

Boost capacity is determined by supercharger RPM which is, of course, affected by pulley size (the smaller the supercharger pulley, the faster the supercharger turns at the same engine speed). Actual boost is determined by atmospheric pressure (a combination of altitude, temperature, humidity) and internal engine back pressure which is governed by engine design, intake/exhaust valve overlap and engine compression.

Assuming that the car has a stock camshaft and the engine is in good shape, you may expect 6 to 8.5 LBS of boost with the Moss supercharger system utilizing the supplied 2.75" pulley.

Raising your compression ratio one point (8:1 to 9:1) is equivalent to adding two psi of boost. Therefore a higher compression engine with a less boost will make similar power to a low compression engine with more boost, all else being equal.

Higher boost in a higher compression engine will often lead to detonation and engine damage. The most common mistake in supercharged tuning is trying to run too much boost.

Distributor - For optimum performance, we recommend changing to the #143-110 vacuum advance distributor. If you are not going to change your distributor, set the ignition advance statically to 13 degrees before disassembly. If your car has a fully centrifugal advance style distributor, set the initial advance to 3 to 4 degrees at 850 RPM.. This will yield a total of 35 to 36 degrees of advance. We recommend that you know what advance curve your distributor has before setting the initial timing. **Full advance too soon or too much total advance can lead to detonation and engine damage.**

Carburetor - The supplied SU HS6 carburetor has been pre tuned and jetted for a supercharged MGB with a stock engine. The metering rod, jet, and slide have been altered to run properly and safely on a wide range of supercharged, unmodified engines. We will not be responsible for modified engines - we recommend dyno tuning modified engines, while reading the air fuel ratio to avoid running into lean conditions. The carburetor has a BCG needle, a red spring, and 85-90 WT oil in the dashpot.

Fuel Requirements - **You must run premium fuel in your supercharged MGB.**

Engine Mounts - If your engine mounts are old or worn, we recommend replacing them. The part is #413-065, two are needed.

Pulleys and Boost - Our low compression car made the most power from 7.25 to 8.5 lbs. of boost with the stock cylinder head and the supplied 2.75" pulley. We achieved the most boost at sea level, on a 50° morning. When you change the pulley to anything other than the supplied 2.75" pulley, it voids your supercharger warranty.

If you have a modified cylinder head, you may have good results with the high boost, 2.60" pulley, #052-221 and we recommend a camshaft with enough duration to relieve cylinder pressure. There was no HP gain from installing this pulley on an engine without any modifications.

If you are using the high boost pulley and have detonation problems and/or very high boost you may want to consider the lower boost 2.85in pulley, #052-276. This pulley should lower the boost 1 to 1.5 PSI. Although we had no problems with an early model car (with a higher compression engine) you may have improved driveability with this pulley.

Our dyno sheets were produced with the recommended distributor, the same carburetor tuning as supplied in this system, and 17° of initial timing, on a 1973 MGB with a stock engine and 8.0:1 compression, at sea level using a Mustang chassis dynamometer - **your results will definitely vary**.

Changing the supercharger pulley - The nose of the supercharger is delicate and should be treated as such. You may have luck removing the pulley without removing the supercharger. If not, you need to remove the supercharger and use the appropriate pulley puller. When installing a pulley, put anti-seize on the pulley shaft. Slip the pulley over the key and threads, wiggle if necessary - do not use a hammer. Use an 18mm socket, and torque the pulley to 40 ft-lb. Use a crescent or 1-1/2" wrench on the back of the pulley to counteract the torque. See image.

Supercharger Accessories:

- Boost Gauge Kit, #150-028 - period correct face
- Vacuum Check Valve, #150-071 - Required if your car has vacuum assisted brakes
- Distributor, #143-110 - it has the proper advance curve and was used for all dyno testing and tuning
- NGK BPR7ES (2023) Spark Plugs, #052-504
- K&N Air Filter Cleaning Kit, #001-130
- High Boost 2.60” Pulley, #052-221
- Low Boost 2.85” pulley, #052-276

Tools required:

Sockets: US - 5/16”, 7/16”, 1/2”, 9/16”, 7/8” (or 22mm), 1-5/16”, 13/16” spark plug. Also a 1/2” swivel socket will make installation easier. Metric - 10mm, 22mm (or 7/8”). 6mm Allen socket if you have one.
Drives: 1/4”, and 3/8” ratchet. 1/2” drive torque wrench and breaker bar. A 1/2” impact wrench and 3/8in air ratchet will make installation easier.
Wrenches: 1/2”, 7/16”, 9/16”, 7/8”, and a 13mm combination. 1/2” ratcheting wrench. 7/16” tubing (flare nut) wrench.
Allen wrenches: 6mm, 7/32” and 5/32”.
Other tools: A feeler gage or spark plug gap gage. Cold (flat) chisel, large and small flat blade screw drivers. A floor jack. Gasket scraper. Brake clean and rags. Coolant and a catch pan. A bottle of anti-seize and a hammer. An electric drill and 1/4” bit. A timing light - we recommend a timing light with an adjuster wheel so that you can set your timing more accurately.

Installation:

1. Disconnect the battery negative cable, block your wheels, and open the hood.

2. Drain coolant; please dispose of properly if you are not re-using it. On some cars the radiator has a pet -cock to drain coolant and on others the lower radiator hose must be disconnected from the radiator. Once the radiator is drained, and you haven't already, disconnect the lower radiator hose from the radiator.

3. Using a 1/2" socket, remove the air cleaner and disconnect the throttle return springs. Disconnect the hot air hose and remove the air cleaner.

Illustration 3

4. Once the air cleaners are removed, you can disconnect the throttle cable.

5. Disconnect the coolant hoses leading to and from the automatic choke.

6. Disconnect the fuel hose and various vent and vacuum lines to and from the carburetor. If you decide not to go with our recommended distributor, pay close attention to the vacuum arrangement of your distributor - it will either be manifold or ported vacuum. Manifold vacuum is taken from the intake manifold. Ported vacuum is taken from the top of the carburetor.

7. Using a 10mm combination wrench, remove the nuts securing the carburetor. Then remove the carburetor.

8. Once the carburetor is removed, remove the nut from the heat shield mount which secures the coolant pipe. Unplug the wire on the back of the induction heater and slide the induction heater off of the studs. You can either trace the wire back to its source and eliminate it, or cap it and zip-tie it up safely. This wire is HOT and can not be left to dangle. Remove the heat shield mount.

Illustration 8

9. Disconnect rubber hose on engine side cover vent.

Illustration 9

10. Then loosen the clamp connecting the “gulp” valve to the intake manifold and remove. Disconnect the “gulp” valve vacuum source from the intake manifold. Using a 1/2” socket remove the clamp holding the gulp valve hose to the thermostat housing. Lay the valve to the side. The smog pump will not be used in conjunction with the Moss Supercharger System.

Illustration 10

11. Remove upper radiator hose. Now, using a 1/2” socket and wrench, remove the 4 bolts that secure the radiator, and remove the radiator from the car. Note - for 1977 to 1980 cars radiator removal is NOT necessary although it will give you more room to work.

12. Completely remove the lower radiator hose assembly, and disconnect the heater hose that runs to the pipe. Next, disconnect the pipe from the heater core and remove the pipe from the car (it will not be re-used). Remove the vacuum source for the brake booster from the intake manifold by removing the clamp and pulling the hose away.

Illustration 12

13. Remove the hose clamp and hose that leads to the air injection rail.

Illustration 13

14. Remove the smog pump (air pump). Remove the adjuster bolt for the smog pump. Loosen the pivot bolt, then remove the fan belt. Now remove the pivot bolt, and remove the smog pump. The smog pump will not be re-installed for the Supercharger System.

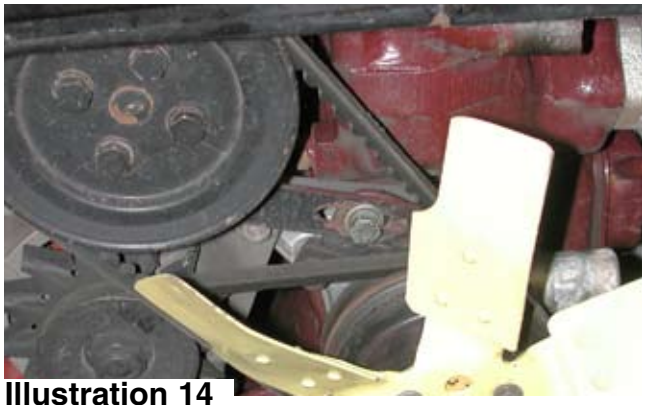
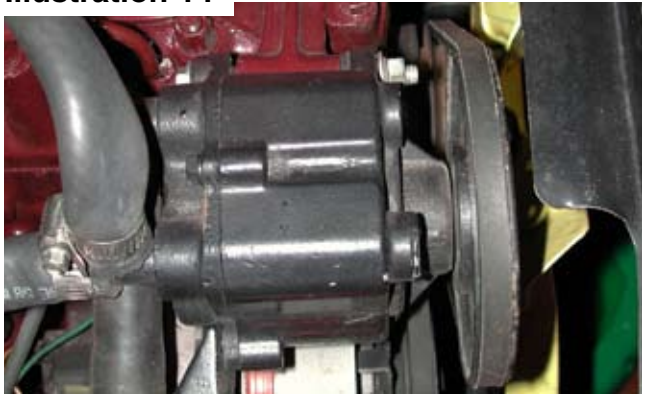


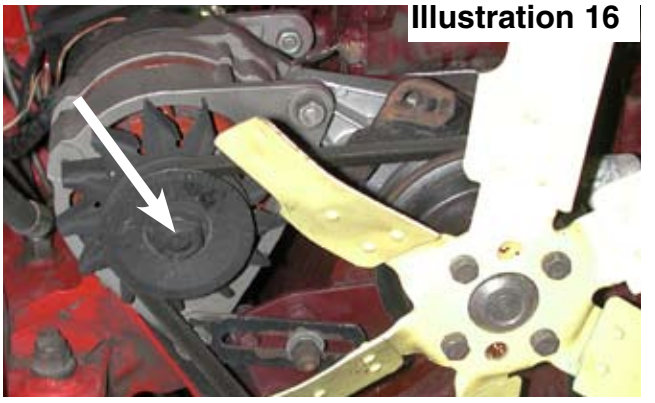
Illustration 14



15. At this time, using a 7/16” socket, just loosen the four bolts which hold the fan to the water pump.

16. Loosen the 22mm (this could be different for your car, use the appropriate socket) nut in the center of the alternator. You will need to stop the fan from turning, a carefully positioned rag can help. We recommend using an impact wrench for loosening this nut.

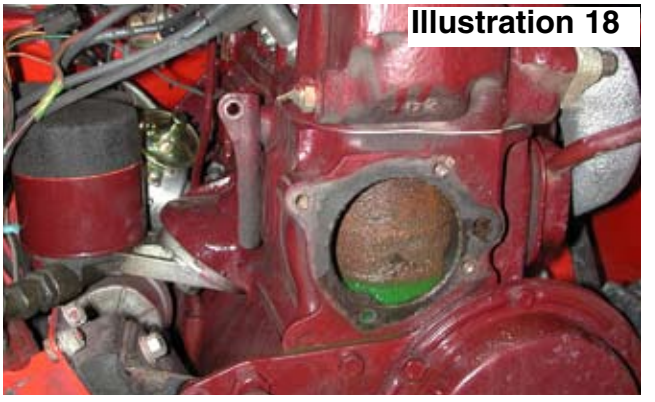
Illustration 16



17. Loosen the alternator bolts, and remove the belt.

18. Remove the four 7/16” headed bolts holding on the fan and water pump pulley, and remove them. Using a fiIN socket, remove the water pump. You may need a catch pan for additional coolant. Scrape the gasket surface in preparation for the new water pump.

Illustration 18



19. Install the supplied new water pump. Included is a new gasket, new bolts, and lock washers (2 - 5/16-24 x 1”, 1 - 5/16-24 x 1.25”, 1 - 5/16-24 x 1.75”). You will not need to re-install the smog pump adjuster bracket.

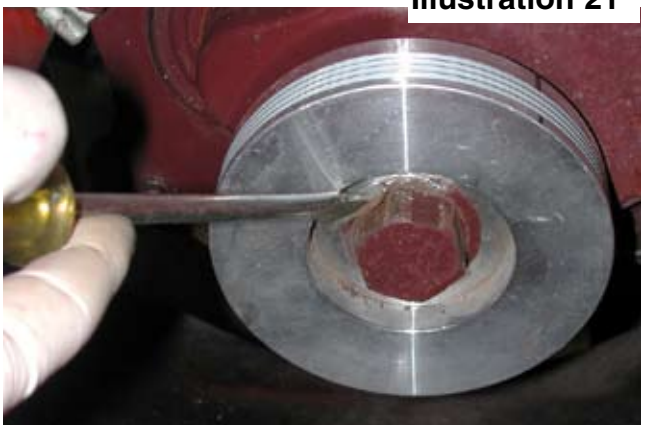
Illustration 19

20. Remove the crank pulley. There is a tab-locking washer holding the crank pulley bolt in place. Using a hammer and a chisel bend the tab away from the bolt. Put the car in gear and set the e-brake. Using a breaker bar and a 1-5/16" socket remove the crank pulley bolt. You may need a friend to hold the brakes on. You may also need an impact wrench to remove the bolt if it is stubborn. With the bolt removed, remove the pulley. You may have to rock it back and forth to slide it off of the crank.

Illustration 20

21. Now install your new serpentine pulley. The new pulley has two timing marks, please determine the appropriate mark for your application. If desired, you can use a black marker on the extraneous mark to eliminate confusion. Installation: a little anti-seize on the end of the crank may ease installation. You may also need a rubber mallet to install it. We have supplied a new tab washer that will need to be bent toward the crank pulley and fit into the slot on the pulley. Make sure that the bent tab on the tab-locking washer sits properly in the crank pulley. Tighten and torque the bolt to 70 lb-ft (9.6 kg. m.). You may want to also use anti-seize on the crank pulley bolt. Again you may need someone to hold the brakes while you torque the bolt. Bend the tab-locking washer over the bolt head, with a screwdriver. Use a rag to protect the pulley.

Illustration 21



22. Remove the air injection tubes. We highly recommend that you use a tubing wrench (flare nut wrench) to break them loose! Then a standard open end wrench may be used once they are loose. However a standard open wrench is not recommended for breaking the nuts loose, they can very easily damage the heads. The wrench size is 7/16". Be patient, these seem to have very long threads. You will then insert the four 7/16-20 by 1/2" set screw plugs into the air injection tube holes. We recommend putting anti-seize on the plugs. Use a 7/32 allen wrench, tighten snugly.

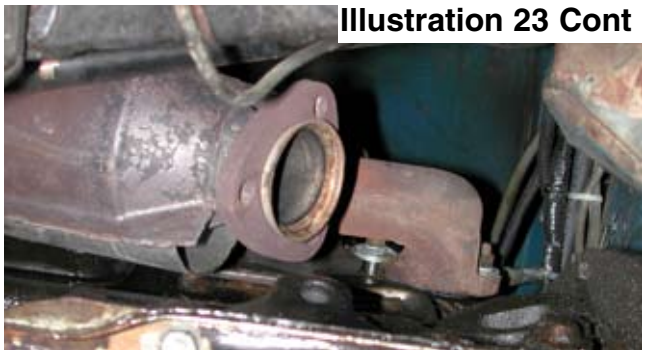
Illustration 22

Illustration 22 Cont

23. Lowering the head pipe (this is easiest from under the car). Remove the 3 bolts that fasten the head pipe to the catalytic converter. Remove the brackets securing the head pipe to the engine. Lower the head pipe enough to avoid interference with the new header (or used manifold).

Illustration 23

Illustration 23 Cont



24. Using a 1/2” combination wrench, remove the 6 nuts securing the intake/exhaust manifold, and remove the manifold. At this time remove the old intake/exhaust gasket, clean the surface of any remaining gasket material and install the new gasket. This is also a good time to inspect the studs and replace them if they are worn.

Illustration 24

25. Install your choice of a used early cast-iron manifold or a new header (Moss # 459-045). Header installation - we have chosen Moss part # 459-045 for our install. You will have to trim the header flanges at the cylinder head to allow space for the supercharger manifold. You can hold the header flange up to the new intake manifold prior to installation, mark, and cut the flange. A hack-saw or cutoff wheel should suffice. The “hooks” that sit over the studs will be

removed, the remaining flange should be nearly flush with the studs. You also may need grind the remaining extra weld material so that your shims sit properly.

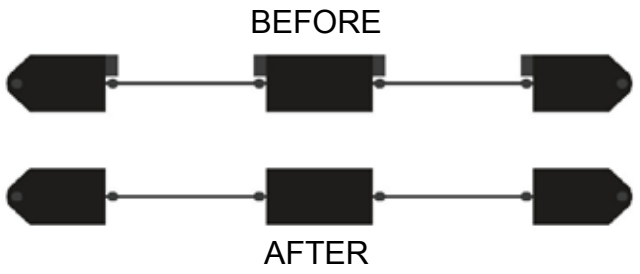
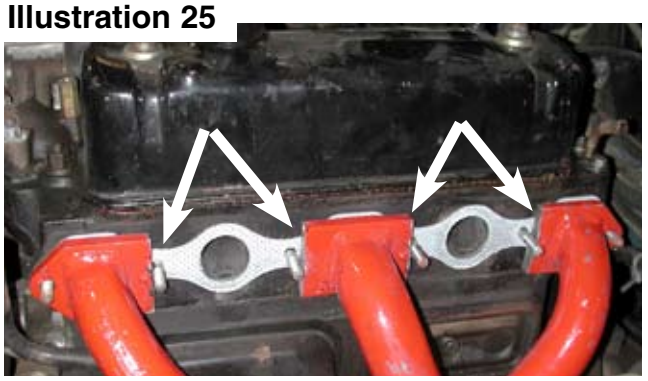


Illustration 25



26. Slip the header into place (this may require some elbow grease. If you have space problems, you may have luck removing the studs on the block to buy some space. Another option is to detach the engine mounts and jack up the engine slightly). Once the header is in place, start the outside nuts. Depending on your exhaust system, you can cut your existing system in a manor that allows it to slip into the header, and clamp it. If not, you will need to secure the exhaust and take your vehicle to a muffler shop. Also note that Moss sells a header-back system that is designed to work with the recommended header, part # 459-035.

27. Now to the timing cover. You will remove three timing cover bolts to install the idler pulley plate. Use a 7/16" socket.

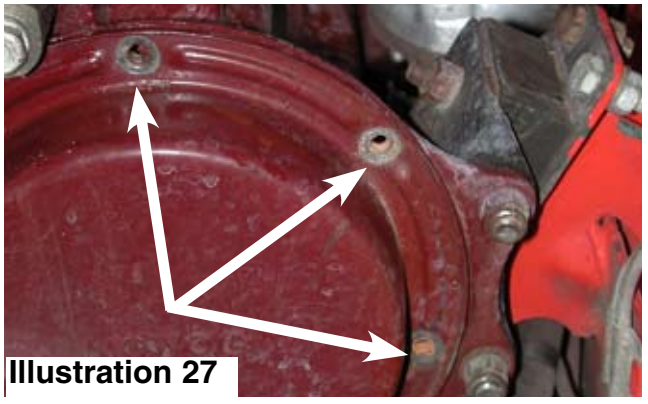
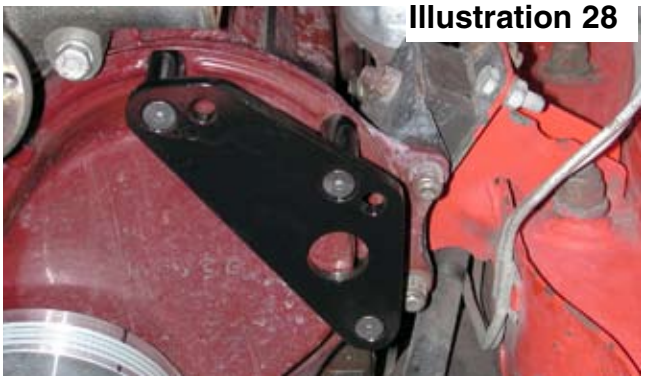


Illustration 27

28. Install the idler plate, with the three spacers behind it, using the included 1/4-28 flat head screws, and tighten using a 5/32 allen wrench. Loctite (thread-lock) the screws.

Illustration 28



29. Now install one idler pulley. Mount inner most idler pulley first, this is the one that is closest to the water pump and uses the shorter of the two 3/8 bolts. Slip the flat washer over the bolt, then the idler, then the spacer (cone inside the pulley). Install this assembly on the on the idler plate, in the hole closest to the water pump, then start the lock nut. Tighten to 25 ft-lbs. You can not install the outer idler until the super-charger is in place.

Illustration 29

30. Back to the alternator. Inspect your alternator - this supercharger system puts more load on the bearings than the conventional belt drive. Spin your alternator by hand and listen for noisy bearings. If you are in need of a new alternator, we highly recommend using Moss part # 130-100. Either way, you will need to use your existing alternator fan. Our alternator required a 7/8" or 22mm socket. Remove the nut.

31. Remove the alternator pulley. Leave the fan on unless you would like to re-finish it at this time. Also remove the adjuster slide and its bolt.

32. Install the new pulley and start the nut. Tighten the nut to 45 ft-lb. We have had good luck holding the fan with a rag and using an impact to tighten the pulley.

Illustration 32

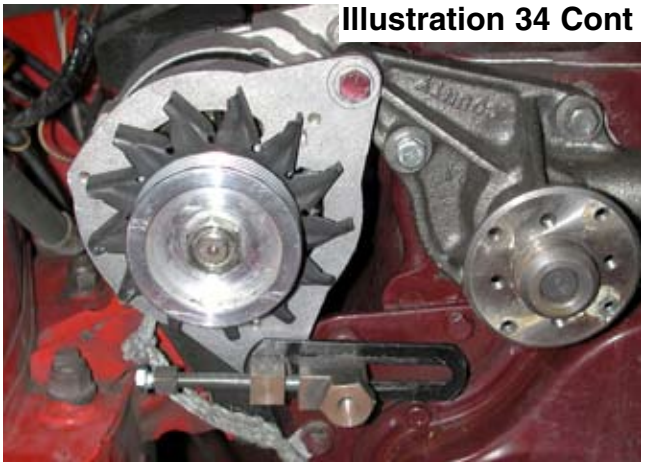
33. Now install the slide and tensioner assembly. Place the slide (slotted part) over the stud, then place the square headed adjuster bolt through the hole in the tensioner slide, and thread it into your alternator. The square headed adjuster should not be tightened all the way - the slide needs to be able to move a little. Install and snug a nylock nut on the male threads of the square headed adjuster bolt on the inside of the alternator ear. Now find the 2.5" long 5/16-24 bolt, and thread the jam nut all the way on, now thread this assembly through the square headed adjuster, the bolt will thread toward the slide (as shown in the photo). This bolt is used to adjust the alternator to create proper belt tension.

Illustration 33

34. Now you will install the tensioner slide system. Slip the adjuster receiver block over the big, custom adjuster nut, and install on the stud. Slip the end of the long adjuster bolt into the adjuster receiver block. Snug the nut over the slide but do not tighten - you will need to actuate the slide when you put the belt on. Snug the alternator pivot bolts.

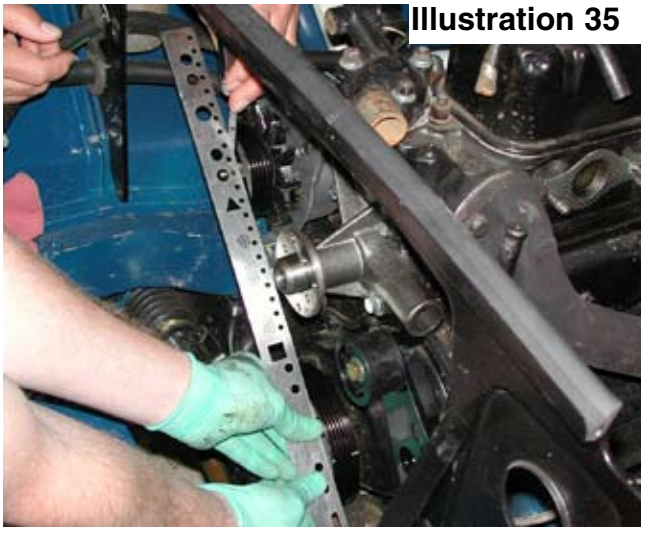
Illustration 34

Illustration 34 Cont



35. Using a straight edge, check alignment of the alternator pulley - if necessary, you can use up-to two (of the 4) supplied 5/16 washers as shims on the pivot brackets. With the straight edge on the crank pulley there should be about 1/16" gap between the straight edge and the alternator pulley. This is due to flange thickness variations and is normal.

Illustration 35



36. Now to the supercharger assembly. Your supercharger, manifold and carburetor come pre-assembled from Moss Motors

Illustration 36

37. Fill the carburetor dashpot with oil. The carburetor is shipped dry and should be filled with the included 85-90WT oil (# 052-335). Unscrew the black dashpot cap, and pull it up to remove the damper. Set it aside. Now fill the center shaft (piston shaft) to about 1/2" from the top, with the supplied oil (you may want to use side-cutters to increase the opening in the bottle nozzle). Reinstall the damper and screw on the dashpot cap. Although oil weight can be changed for tuning, we highly recommend using the included 85-90WT oil unless you are very familiar with SU carburetors, and have a dynamometer and wide-band O2 sensor available for tuning.

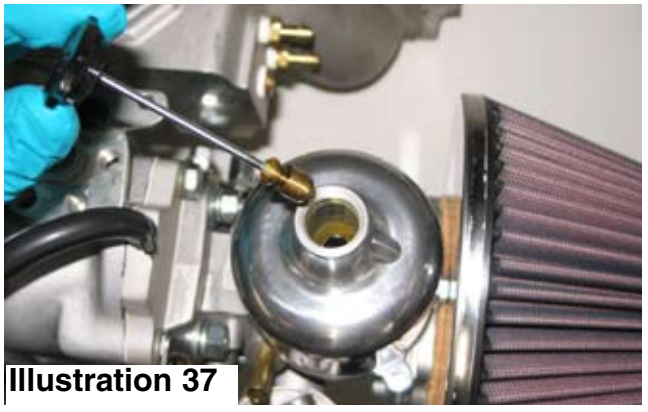


Illustration 37

38. You will re-use your old, large manifold fastener washers and manifold nuts.

39. Install the supercharger assembly. Measure the flange thickness of the supercharger manifold. Compare this measurement to the exhaust flange measurement. If the measurements are the same, install the supercharger. If not, you will need to shim the washers. Use the supplied shims to achieve the proper thickness. The supplied adhesive can be used to hold multiple shims together and also hold the shims to the washers to aid in assembly. Once your shims are in-place, install the supercharger assembly. Slip on the big washers, lock washers, and start the nuts. Tighten the manifold fasteners from the center ones to the outer ones; torque them to 20 ft-lb (we had good luck using a swivel socket).

Illustration 39

Illustration 39 Cont

40. Install the front supercharger support bracket. Using a 6mm allen wrench, remove two blower housing bolts - the two bottom most bolts on the gear housing. They are tight, you may want to use an allen socket. Install the support bracket to the supercharger, apply loctite to the bolts, and finger tighten (make sure the bolt heads are all the way down, against the bracket). This brace connects the blower to the back of the idler plate, assure that the bracket faces the right way.

Illustration 40

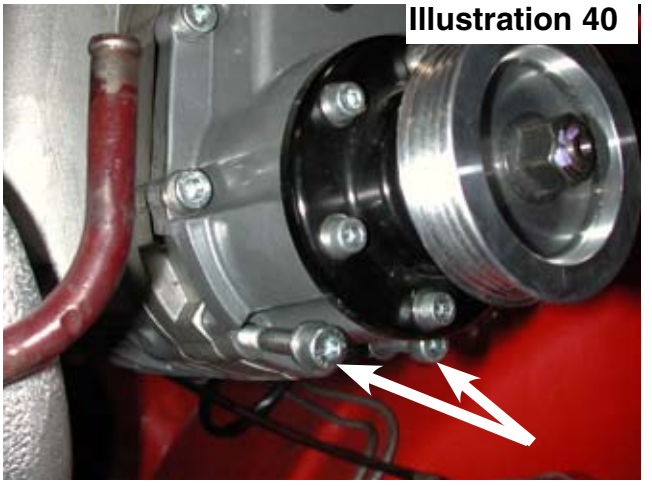
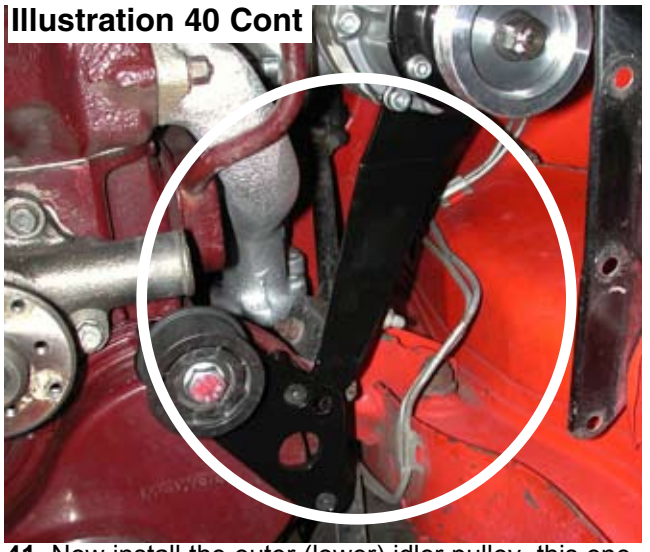


Illustration 40 Cont

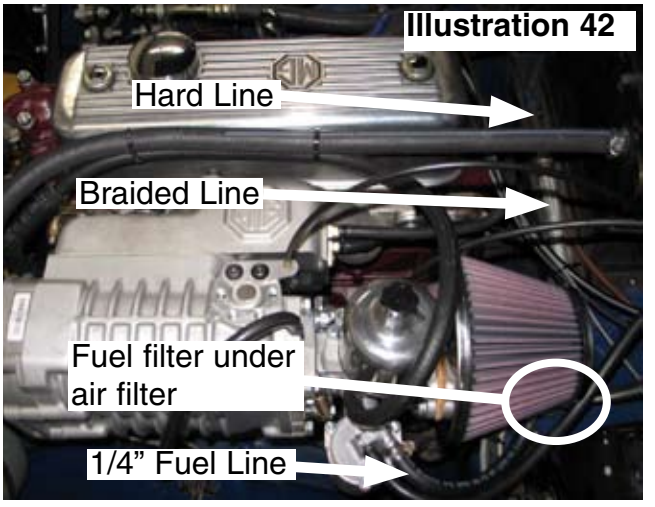


41. Now install the outer (lower) idler pulley, this one uses the longer of the two 3/8IN bolts. Again, slip the flat washer over the bolt, then the idler, then the spacer (cone inside the pulley). Install this assembly on the idler plate in the available hole, make sure the bolt goes through the supercharger support bracket, then put on the M10 “D” washer (the “D” washer sits against the back of the support bracket) and start the lock nut. Tighten the idler bolt to 25 ft-lbs. Then tighten the blower housing bolts, and torque them to 20 ft-lb

Illustration 41

42. Now to the fuel line. The fuel lines differ year to year, we have included the parts necessary to do a typical installation. Now connect your hard fuel line to the carburetor. Included in the supercharger system are new flexible fuel lines, and a new fuel filter. Remove your fuel filter and the flexible line leading to it. Your new 5/16” line connects to where you just disconnected the fuel line (approx 6”). Slip it over and clamp it. Connect the fuel line to the “IN” side of the fuel filter, and connect about 8” of 1/4” fuel line from the “OUT” side of the filter to the carburetor. Clamp all connections. Make sure that there are no kinks in the hoses, and tighten all connections. If the new line does not work (it worked for all models we researched), you should be able to devise a viable solution with the included parts.

Illustration 42



43 A) MGB years 1975 to 1977 cars: On to the lower radiator hose assembly. You will only use a portion of the provided molded lower hose. See the pictures for a better understanding of the assembly. The new hose will be cut 5-3/4” from the end furthest from the small diameter offshoot. The uncut end will connect to the radiator while the cut end will connect to the uncluttered end of the elbow. If you want, use some silicone lubricant or WD-40 to ease the installation of the elbow. Make sure to note the proper alignment of the molded hose. Now install the 5” of straight radiator hose on the other end of the elbow. Put the washer on the hose barb, and install the hose barb into the elbow. Tighten. Then install the 11” of 1/2” heater hose. Make sure to clamp all connections.

Illustration 43A

Illustration 43A Cont

43 B) MGB years 1977 to 1980 cars: On to the lower radiator hose assembly. You will only use a portion of the provided molded lower hose. See the pictures for a better understanding of the assembly. The new hose will be cut about 13” (this is the furthest distance from the 90° end to the cut end, see photos) from the end furthest from the small diameter offshoot. The uncut end will connect to the radiator while the cut end will connect to the uncluttered end of the elbow. If you want, use some silicone lubricant or WD-40 to ease the installation of the elbow. Make sure to note the proper alignment of the molded hose. Now install the 5” of straight radiator hose on the other end of the elbow. Put the washer on the hose barb, and install the hose barb into the elbow. Tighten. Then install the 11” of 1/2” heater hose. Make sure to clamp all connections.

Illustration 43B

Illustration 43B Cont

44. Now install your lower radiator hose assembly to the water pump. Please look at the images to make sure that your hose is the right shape and will not interfere with anything. Install the provided metal tubing onto the valve cover studs (this tube crosses the valve cover). Note - if you do not have the studs as pictured: you will either need to drill out the mounts in the tube to make them work, or use the included pair of studs. Attach with included nuts and tighten. . Remove the outlet (on the back of the cylinder head) that provides the coolant feed to the carburetor choke, clean the surface, and install the gasket and block-off plate. Now attach the heater line from the elbow to the metal tubing that you just installed, and clamp (use 2 new clamps). Install 8" of 1/2" heater hose from the heater core to the metal valve cover tube. Double check all clamps. Slip the lower radiator hose clamp over the hose and wedge it there for later.

Illustration 44

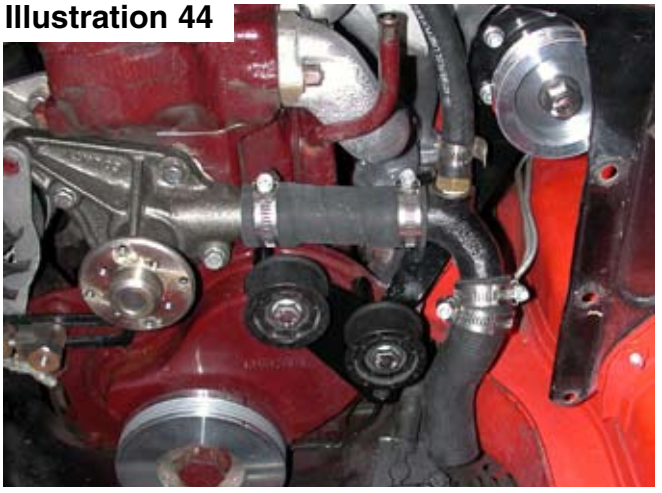


Illustration 44 Cont

45. Install the new water pump pulley and your old fan (if applicable). If you had a long water pump you will need the supplied fan spacer. Use the supplied bolts if you use the spacer, and your old bolts if you don't, and a 7/16" socket. Don't forget the lock washers. Tighten to 9 ft-lb. Snug in a cross pattern. Spin the fan to make sure everything is OK. Note - on the later cars, with electric cooling fans, you will use your previously removed hardware.

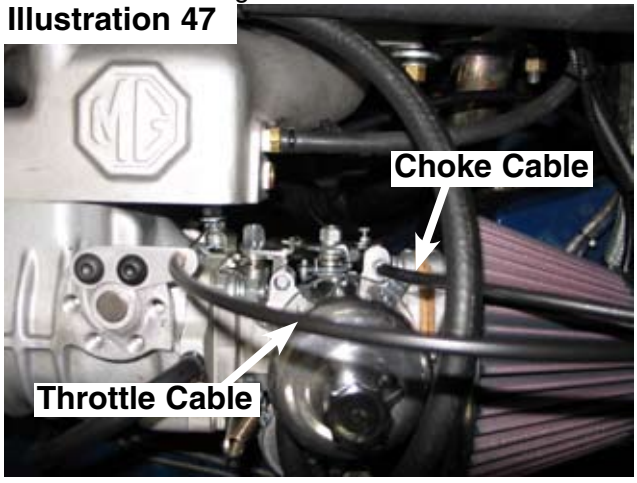
Illustration 45

46. Install your new throttle cable. Your new cable must be modified using heavy-duty side cutters: on the carburetor end (the end with the adjuster) you must cut off the swaged end of the cable and pull the cable out of the jacket, then cut off the adjuster assembly on the jacket of the cable (you can mock up the cable now and cut off additional cable housing to your liking, or just zip tie it out of the way). Now lubricate the cable with automotive grade grease and re-install. The rest is very straightforward, just trace

the old cable. Route the cable behind the hood hinge to avoid interference. Make sure the cable is not bent so much that it can not function properly.

47. Slip the throttle cable through the top hole on the throttle cable bracket, over the bellcrank, and through the trunion. Lock the cable in with the trunion bolt. Check travel - make sure you get full range of motion, both wide open throttle and closed throttle. You will need to verify the same on the choke. Trim excess cable leaving about 1-1/2" extra.

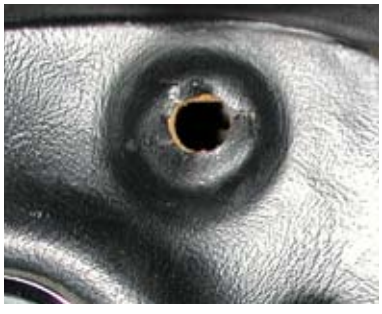
Illustration 47



48. (1975-1976)

a) Remove the drivers side, under-dash liner and set aside. Remove the round, plastic plug on the right hand side of the steering wheel in the dash board. There is a metal retaining washer on the back side of the plug that must be removed before the plug can be removed.

Illustration 48A



b) Once the plug is removed, unscrew the nut from the back of the new choke cable handle and remove the nut and lock washer. Route the new cable through the hole in the dash and straight down toward the floor. Slip the lock washer and nut back over the cable. Slide them all the way up the cable and thread the nut back into place. Align the "T" handle and tighten the nut.

Illustration 48B

c) Now route the cable over the steering column toward the left side of the car.

48. (1977-1980)

a) Remove the drivers side, under-dash liner and set aside. Mount the included choke cable bracket to the drivers side of the radio console. Remove the upper screw securing the radio console. Slip the screw through the last hole in the "L" bracket and reinstall the screw in it's original location. Snug.

Illustration 48A

b) Align the bracket so that it is approximately parallel with the top edge of the radio console. Drill a 9/64" hole through the first hole in the bracket into the plastic. Thread the new sheet metal screw into the plastic to secure the bracket. Firmly snug both screws.

Illustration 48B

c) Remove the nut and lock washer from the back of the new choke cable handle. Slip the cable end through the bracket and slide the lock washer and nut over the cable. Thread the nut back into place. Align the “T” handle and tighten the nut.

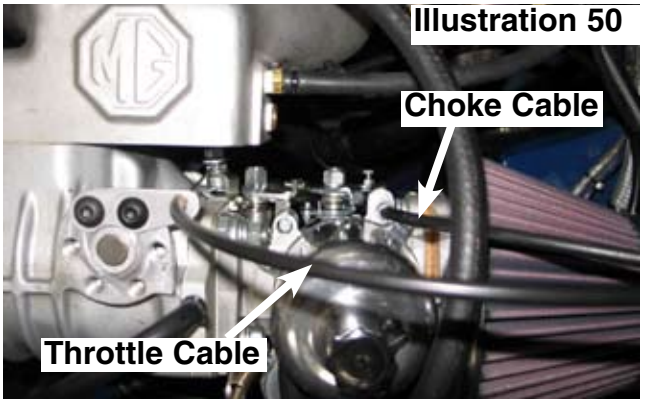
d) Route the cable over the steering column toward the left side of the car.

49. The Moss Supercharger system requires the use of a manual choke cable. Whether or not you use the new choke cable, the route will change - if you happen to have an existing manual choke cable, pull it back through the firewall, into the interior of the car. Now, either way, remove the big body plug (a rubber panel approx 2” x 4”, located behind the clutch master cylinder) from the inside the car. Drill a 1/4” hole in the plug - the hole needs to be located in the recess on the right side (center of the car) of the plug in the lower quadrant, once it is re-installed.

Illustration 49

50. Slip the cable through the hole in the body plug you made in step 51 (the plug should be free), feed the cable into the engine compartment (snaking it through the master cylinder bracketry), and install the body plug. Now route the cable to the carburetor, feed it through the lower hole in the throttle cable bracket, and the trunion and tighten. Check travel - make sure you get full range of motion, both wide open choke and closed choke.

Illustration 50



51. Install the serpentine belt. Follow the belt path in the photo. Now tighten the belt with the alternator adjuster system to 90 lbs of tension. You can estimate this to be 3/8 perpendicular deflection over a 1 foot span. Do not over tighten the belt or premature belt wear or bearing failure may occur. After 500 miles, recheck the belt tension and periodically thereafter. Lock the jam nut on the adjuster and using a 7/8in socket, tighten the custom adjuster nut. Also tighten the pivot bolts.

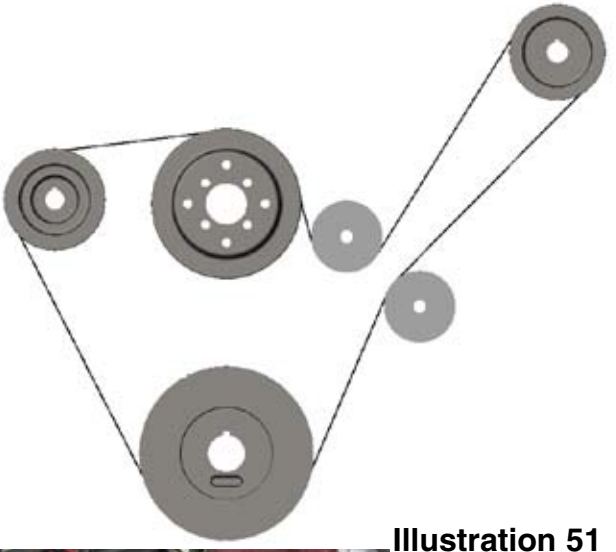


Illustration 51

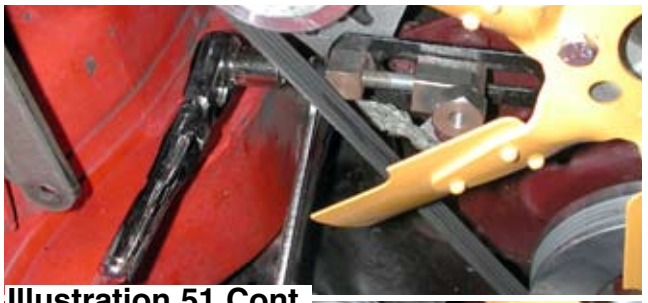
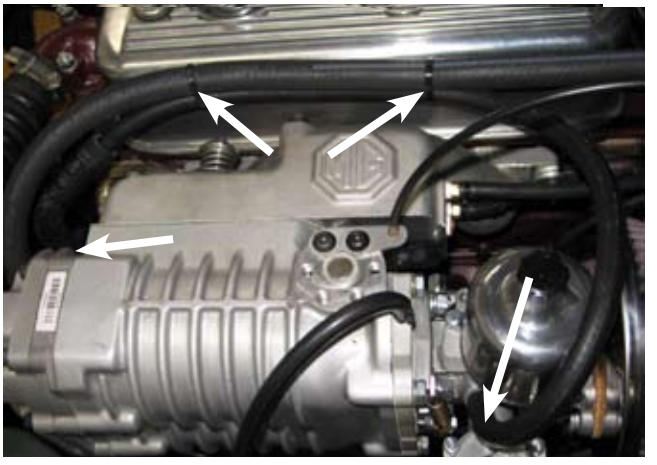


Illustration 51 Cont

52. Install the side cover vent. Assemble the hose setup: find the 1/2in diameter molded hose, the barb adapter, and 18in of the 5/16in hose. Cut the molded hose as shown in the photo. Install the barb into the 5/16in hose, and connect it to the long, straight side of the shortened molded hose. Now install the hose assembly. The large end fits over the side cover vent tube and the hose routes up to the coolant tube on the valve cover. The hose follows the tube rearward to the carburetor and connects to the barb on the engine side of the carburetor, closest to the blower (see photo). Use two of the included tie wraps to secure the hose to the coolant tube.

Illustration 52

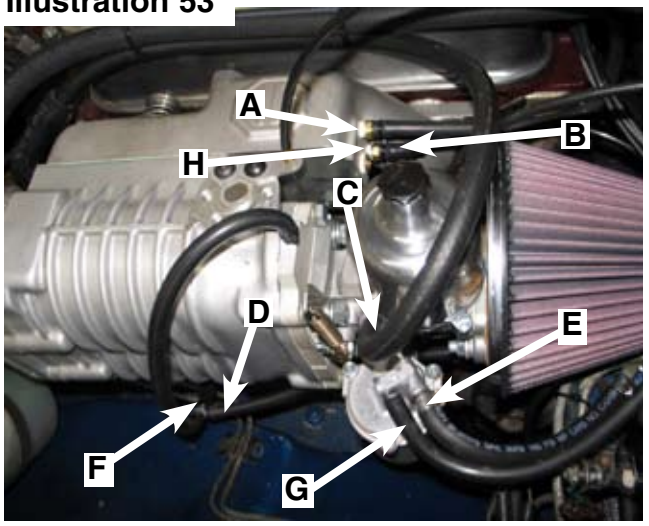
Illustration 52 Cont



53. Hook up the vacuum advance using the 5/32in vacuum hose. For the recommended distributor, the hose connects to the “T” fitting in the vacuum hose that connects the supercharger bypass valve to the carb. adapter plate (“D” in the illustration). Route the hose behind the valve cover, to the distributor. We highly recommend using distributor #143-110. You may already have this distributor, which is great. If you don’t, your existing distributor may not have an advance curve that is compatible with the supercharger. If you do not use the recommended distributor, see step 63. You may need to use some of the

supplied vacuum caps, and on other cars you will need to hook up your evaporative system. Also, if you have a run-on valve, you will need to hook it up to the hose barb on the intake manifold. There are three ports on the manifold, one each for the run-on valve, boost gauge (#150-028), and vacuum brakes source. If your car has vacuum boosted brakes, you MUST use a check valve, #150-071. Also, do NOT plug the carburetor bowl vent. Either hook it up to the evap system with the supplied 7/32in hose or if your car does not have an evap system, you may also connect the carburetor vent hose to one of the original metal tubes that fasten to the engine and vent out at the bottom of the engine.

Illustration 53



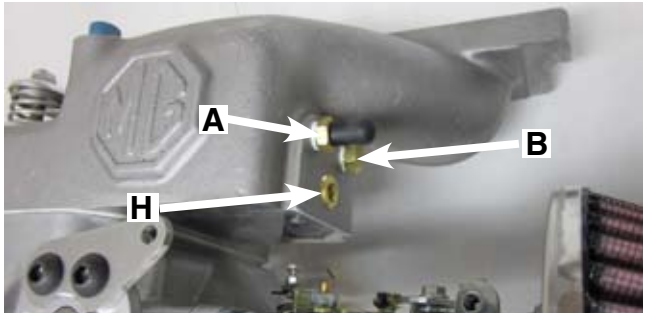


Illustration 53 Cont

GLOSSARY:

A - To anti run-on valve
B - To boost gauge
C - To side cover vent
D - To vacuum on distributor (non-boosted manifold vacuum)
E - Fuel Inlet
F - Supercharger bypass valve
G - To charcoal (EVAP) canister or free air bowl vent
H - Port for vacuum assisted brakes

54. Time to re-install the radiator, if you took it out. Make sure you already have a lower radiator hose clamp on the lower hose. Slip the radiator into place and start all the bolts using a 1/2” socket. Work at it gingerly. Tighten the radiator bolts. Now work the lower radiator hose over the fitting. Some lubricant may be helpful in slipping the hose over. There is not much room to work, so be patient. Make sure that there is clearance to the idler pulleys, the belt system, and the chassis. If everything is OK, tighten the hose clamp. If not, you will need to twist (rotate) the hose assembly to gain clearance. Then tighten the hose clamp. Use a 5/16” socket and a 1/4” drive ratchet to tighten the hose clamp. Also make sure there are no kinks in the hoses.

Illustration 54

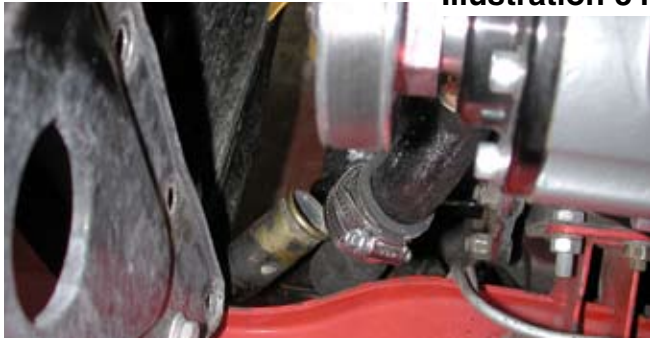
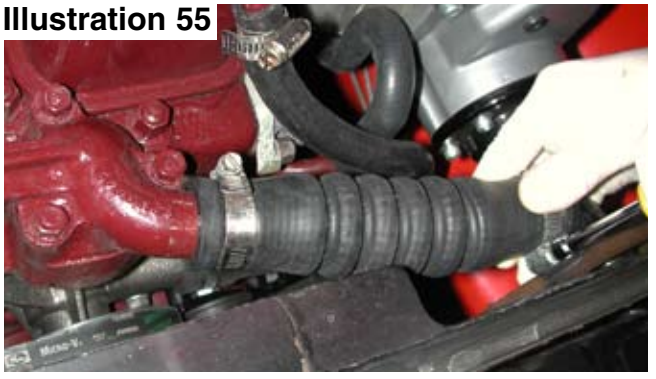


Illustration 54 Cont

55. Now install the upper radiator hose, if your hose or clamps show any age, we highly recommend replacing them.

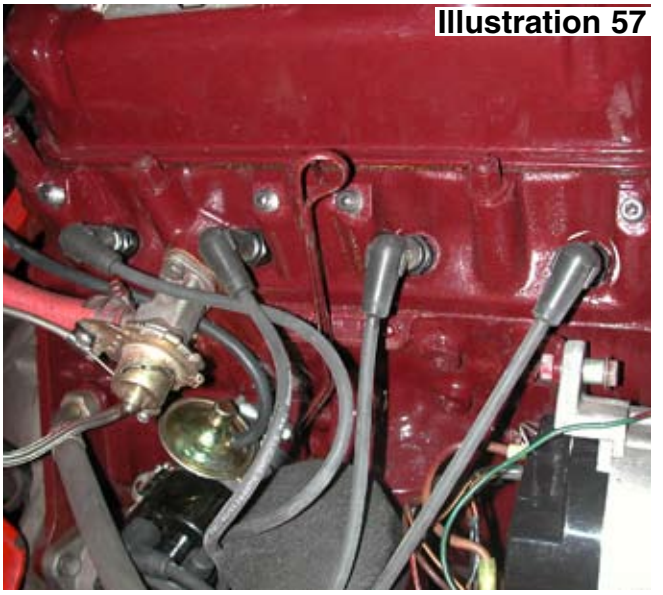
Illustration 55



56. Double check all radiator hose connections and clamps, and refill your radiator with the proper mix of coolant and water. Re-install the radiator cap - check the cap, and replace it if it is no longer functioning at the indicated pressure.

57. Install the supplied spark plugs. We recommend using anti-seize on the threads. The gap is .035". Again, we highly recommend installing new spark plug wires, points, condenser and the cap and rotor. You will use a 13/16" socket on the new plugs.

Illustration 57



58. Double check everything, especially all bolts, connections and fuel line clamps.

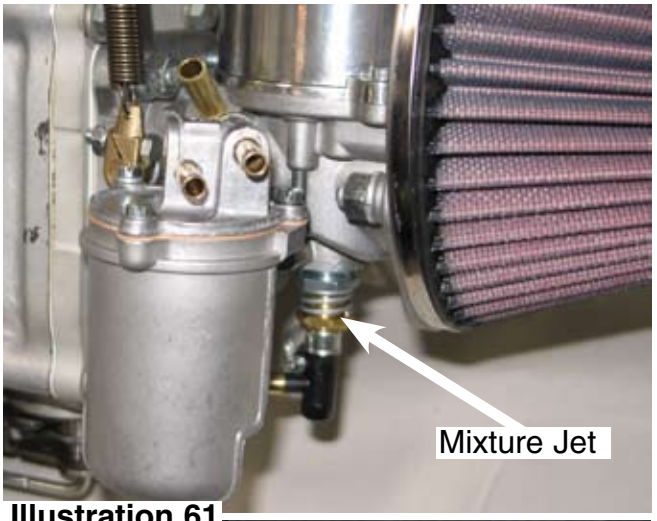
Illustration 58

59. Check that your fire extinguisher is close and in good working order.

60. Pressurize the fuel system. Re-connect the battery negative cable. Turn the ignition to on, and your fuel pump should pressurize. Turn the key off, and check very carefully for fuel leaks.

61. Pull the choke to the full on position. Do not depress the throttle pedal. Start the car. When the car starts for the first time with the supercharger, bring the engine up to 2200 RPM, as the car warms, reduce the choke amount until the car is warm enough to run without it. With the supercharger pushing volumes of air into the engine, you will have to use the choke more frequently and for longer periods of time than you

may be used to. Do not roll into the throttle hard until the engine is fully warmed up, this can cause backfiring - the backfire valve is there to protect your engine as best it can. The mixture jet has been set 1 turn (6 flats) down from flush with the bottom of the carb. We found this to be a good initial setting. If your car is not idling smoothly, turn the jet in or out a few flats until the idle smoothes out. Turning the jet down enriches the mixture and up leans out the jet mixture. As the engine smoothes out it may rev up and an adjustment must be made to the idle stop screw. **Use caution when working around the hot exhaust manifold**.



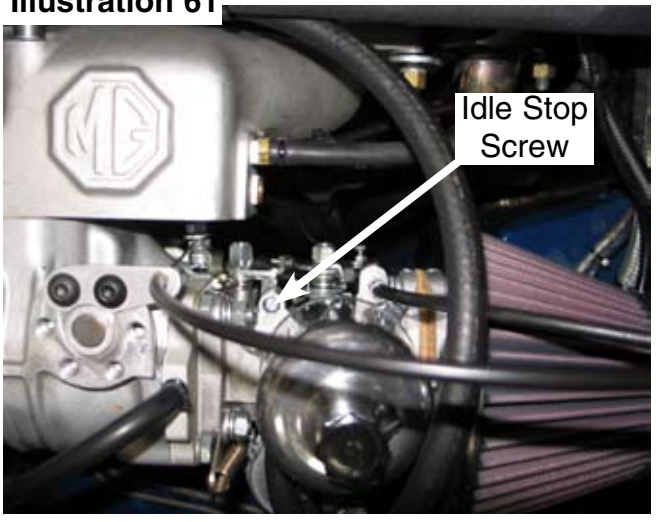


Illustration 61

62. Turn off the car and double check everything. After running it up to operating temperature, check everything again. Once it cools, you will need to recheck the coolant level.

63. Run your engine, and set your idle at 900 to 950RPM. Remove the vacuum advance, plug it, and set 13° of timing, this is a conservative number, we recommend 15° and found that 17° was the most we could run in our 8:1 compression engine - you are free to experiment at your own risk. Test the timing: When driving under load, listen very carefully for engine knocking (detonation), if you hear any sort of knocking, you will need to retard your timing, and experiment. Our recommended numbers worked for the cars we tested, however every MGB is a little different. If you want to experiment with additional timing, be very careful, and advance your timing 2° at a time. Listen for knocks/ detonation. A knocking engine will self-destruct fairly quickly.

The new HS-6 carburetor does not have a "ported vacuum" source. The difference between ported and manifold vacuum is that ported vacuum does not supply the distributor with vacuum (and therefore advance) at idle or closed throttle. The throttle must be depressed (the butterfly must be open) for vacuum to reach the distributor. Ported vacuum is in general used for smog purposes, I.E. less advanced (or more retarded) ignition timing at idle makes for a cleaner burn out of the tail pipe. Retarded ignition timing raises exhaust gas temperatures, keeping the catalyst hotter and more efficient.

Manifold vacuum is just as implied. Whatever vacuum is in the manifold is supplied to the distributor at all times regardless of throttle position. More timing at idle and light throttle applications makes for a smoother, quicker responding and cooler running engine. In a wide open throttle situation, manifold and ported vacuum are identical.

If your distributor was hooked up to ported vacuum try hooking it to manifold vacuum. You will need to experiment more with your base timing settings. Any change to base timing will impact the whole range. If you simply cannot get rid of the "tip in" detonation that may occur when transitioning from light to heavy throttle applications, unhook and cap off the distributor and vacuum source. You will only have centrifugal advance.

64. Enjoy you new MGB Supercharger! Please see Moss Motors for all of your performance, accessory and restoration needs!

Warranty - Moss Superchargers are warranted against defects in material and workmanship by Moss Motors, Ltd., for **12 months from the date of shipment** provided that there is no alteration or substitution of the provided components and configuration. we will replace defective components or refund your purchase price at our discretion. The warranty does not cover labor, failure of a related component, failure resulting from faulty installation, failure resulting from the use of low octane fuel nor would the liability of Moss motors, Ltd., exceed the cost of the original supercharger kit. For warranty repairs, contact your selling dealer. Warranty for all components must be supported by the proper registration documentation including the original purchase invoice.

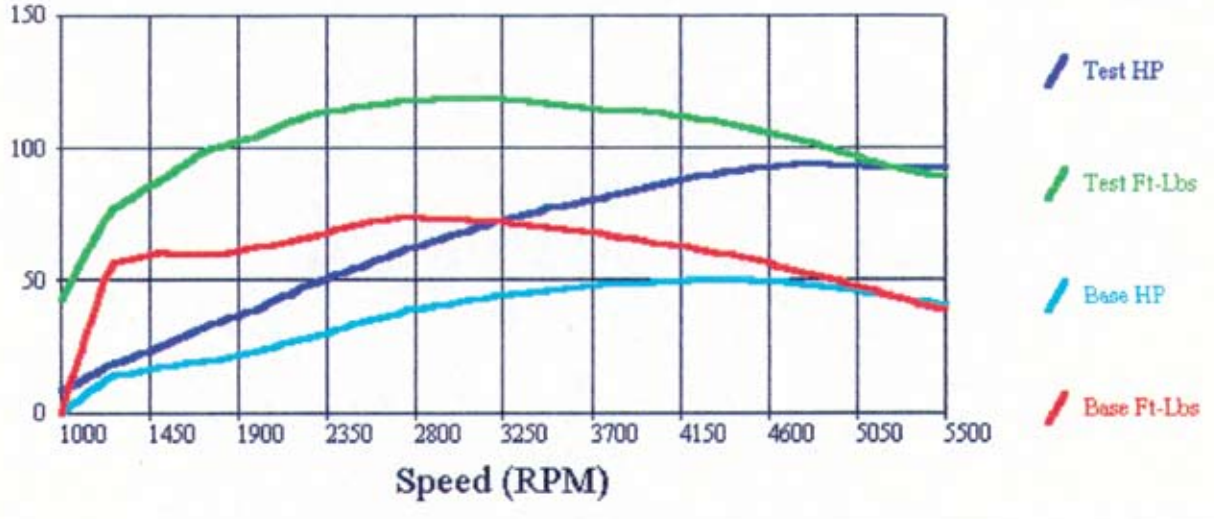
Moss Motors, LTD.
440 Rutherford Street
P.O. Box 847
Goleta, California 93117

www.mossmotors.com

Customer	: Moss Motors, ,	Miles	: 95171.0
License	: MG4VIC	Weight	: 0.0
VIN	:	HP @ 50 MPH	: 0.00
Yr/Mk/Mdl	: 1973 MG B Roadster	Cyl/Disp.	: 4/1800
Comments	:		

HorsePower Curve Test Results

Test Run	: 1/29/2003 10:57:45 AM	Base Run	: 2/18/2003 10:30:20 AM
Max Power	: 94.0 @ 4750 RPM	Max Power	: 50.1 @ 4250 RPM
Max Torque	: 118.4 @ 3000 RPM	Max Torque	: 74.1 @ 2750 RPM
Comments	:		



Bill of Materials for 150-070

Item No.	Description	Quantity
988-382	INTAKE & SC ASSY,75-80,MGB,HS6	1
051-207	SCREW, AHCS, M8 X 1.25 X 25	4
051-203	PLUG, PIPE, 1/8 NPT, HEX HEAD	1
051-438	SPRING, AFPR	1
051-446	NUT, STANDARD, 5/16-18	4
052-835	GASKET, OUTLET, M45 GEN4	1
052-834	GASKET, INLET, M45/MP62 GEN4	1
051-551	HOSE, VACUUM, 7/32 IN., BULK	15
053-290	AIR FILTER & PLATE, MGB SC HS6	1
051-587	WASHER, LOCK, 5/16 IN.	6
051-719	O-RING, VITON, NO. 202	1
051-720	O-RING, VITON, NO. 218	1
051-074	WASHER, FLAT, M8	4
053-150	MANIFOLD, SUPERCHARGER TO HEAD	1
052-096	PULLEY, MGB S/C, 2.75 4-RIB	1
052-838	S/C GEN4 MP45CW,NO NOSE PULLEY	1
053-235	ANGLE ADAPTER, HIF44 TO MP45	1
051-142	HOSE BARB, 5/32 VACUUM	1
053-308	CARB, FIN, SU HS6, MGB S/C MOD	1
053-228	SCREW, AHCS, M8 X 1.25 X 90	1
051-736	SCREW, AHCS, M8 X 1.25 X 50	1
052-947	BOLT,BHCS,M8X1.25X25,ZINC	2
052-247	STUD, 5/16-18 X 1.25	4
052-257	PLUG, PIPE,1/4 NPT,SOCKET HEAD	1
322-290	BOLT, 5/16 UNF X 1, G5	2
052-840	GASKET, HIF44 TO MANIFOLD	1
770-572	VALVE BODY, POP-OFF	1
770-573	RETAINER, SPRING	1
770-576	STUD, POP-OFF VALVE	1
770-577	NUT, NYLOC, 1/4-28	1
053-314	BRACKET, THROTTLE CABLE, MGB	1
051-147	SCREW, BHCS, M8 X 1.25 X 16	2
053-282	THROTTLE SPRING, TR3-4 SC	1
053-251	RETURN SPRING BRACKET, TR3	1
375-128	CABLE STOP	2
051-389	TEE, VACUUM, 3/16	1
051-151	CAP, VACUUM, RUBBER, 5/32	3
051-016	CABLE TIE, 4IN.	4
051-242	CAP, VACUUM, RUBBER, 5/16	1
052-339	NUT, STANDARD, 5/16 UNF	2

Item No.	Description	Quantity
051-917	HOSE BARB, 1/8NPT X 3/16	1
988-930	HARDWARE AND HOSE BAG	1
051-081	WASHER, FLAT, M10	2
051-627	PULLEY, 2.0IN IDLER, NYLON	2
052-092	PLATE, IDLER	1
052-093	SPACER, IDLER PLATE	3
052-240	SPACER, IDLER, .310	2
771-645	NUT, NYLOC, 3/8-16	2
771-668	WASHER, FLAT, D SHAPED, 3/8	1
772-533	SCREW,ALLEN DRIVE,1/4-28X2 1/4	3
772-534	NUT, NYLOC JAM, 1/4-28	3
324-590	WASHER, FLAT,1/4 IN	3
771-670	BOLT, HEX HEAD, 3/8-16 X 2	1
771-671	BOLT, HEX HEAD, 3/8-16 X 2-1/4	1
051-587	WASHER, LOCK, 5/16 IN.	2
051-588	WASHER, FLAT, 5/16 IN., SAE	2
052-089	ADJUSTER BASE	1
052-090	ADJUSTER BLOCK	1
052-091	ADJUSTER LOCK BOLT	1
052-242	SCREW, SET, 7/16-20 X 1/2IN.	4
052-250	BOLT, HEX, 5/16-24 X 2.5	1
052-251	NUT, JAM, 5/16-24	1
052-268	ADHESIVE, FUTURE GLUE GEL	1
052-277	SHIM, MANIFOLD, 0.14 THICK	8
052-278	SHIM, MANIFOLD, 0.06 THICK	8
052-279	SHIM, MANIFOLD, 0.03 THICK	8
052-280	SHIM, MANIFOLD, 0.02 THICK	8
052-339	NUT, STANDARD, 5/16-24	2
052-341	PLATE, WATER CHOKE BLOCKOFF	1
220-136	REMOVABLE THREADLOCKER, BLUE	1
295-040	GASKET, WATER CHOKE OUTLET	1
460-112	CAP NUT, VALVE COVER	2
460-470	WASHER	1
770-055	CABLE TIE, 6 IN.	6
770-591	NUT, NYLOC, M8 X 1.25	1
772-086	SCREW, NO 8 X 1/2 SHEET METAL	2
331-491	BRACKET, CHOKE, S/C	1
051-583	WASHER, LOCK, 1/4IN	4
051-587	WASHER, LOCK, 5/16 IN.	4
052-098	PULLEY, WATER PUMP	1
771-642	BOLT, HEX, 5/16-24 X 1	2
771-643	BOLT, HEX, 5/16-24 X 1.25	1
771-644	BOLT, HEX, 5/16-24 X 1.75	1

Item No.	Description	Quantity
771-769	BOLT, HEX, 1/4-28 X 1.75	4
051-151	VACUUM CAP, 5/32	3
051-190	CLAMP, HOSE, SAE NO. 6	4
051-191	CLAMP, HOSE, MINI, SAE NO. 4	4
051-257	HOSE, HEATER, 1/2 IN., BULK	19
051-259	HOSE, VACUUM, 5/32 IN., BULK	36
051-261	HOSE, FUEL, HP, 1/4 IN., BULK	8
051-262	HOSE, FUEL, HP, 5/16 IN., BULK	30
051-513	CLAMP, HOSE, NO 8	2
051-551	HOSE, VACUUM, 7/32 IN., BULK	14
052-248	ADAPTER,HOSE BARB, 5/16 TO 1/2	1
052-254	CLAMP, HOSE, SAE NO. 20	4
052-256	HOSE, MOLDED, 1/2" HOSE	1
052-258	HOSE BARB,1/8NPT X 1/4 X 90DEG	1
052-259	BARB, 1/4 NPT TO 3/8 HOSE	1
052-260	CHECK VALVE, 3/8 HOSE	1
324-660	WASHER 1	
434-485	HOSE, 1 1/8 DIAMETER	5
470-040	BRANCH PIPE, WATER PUMP TO RAD	1
470-310	HOSE, RADIATOR, LOWER	1
470-350	HOSE, RADIATOR, LOWER	1
473-080	UNION, WATER BRANCH PIPE	1
052-095	PULLEY, ALTERNATOR, 4-RIB	1
052-097	PULLEY, CRANK, 4-RIB	1
520-515	SPEEDI-SLEEVE, TIMING COVER	1
052-234	BELT, K040595	1
331-490	CABLE, CHOKE, T-KNOB	1
052-504	SPARK PLUG, NGK 2023 BPR7ES	4
052-336	BOTTLE, FLUID, 2 OZ	1
052-337	OIL, SAE 90 WEIGHT	2
052-343	FUEL FILTER, UNIVERSAL	1
297-535	GASKET, MANIFOLD, PREMIUM	1
331-465	CABLE, THROTTLE	1
363-070	TUBE, HEATER	1
434-045	WATER PUMP	1
053-224	SUPERCHARGER BRACE, MGB MP45	1
053-321	ARM, THROTTLE RETURN SPRING	1
372-690	ADAPTER, BOWL TO THROTTLE BODY	1
371-060	NEEDLE AND SEAT KIT	1
053-295	SPRING, CARB	1
378-420	FLOAT LID ASS'Y HS	1