Part# 150-040 MGA Supercharger System

Installation Instructions

For 1955 to 1962 MGA

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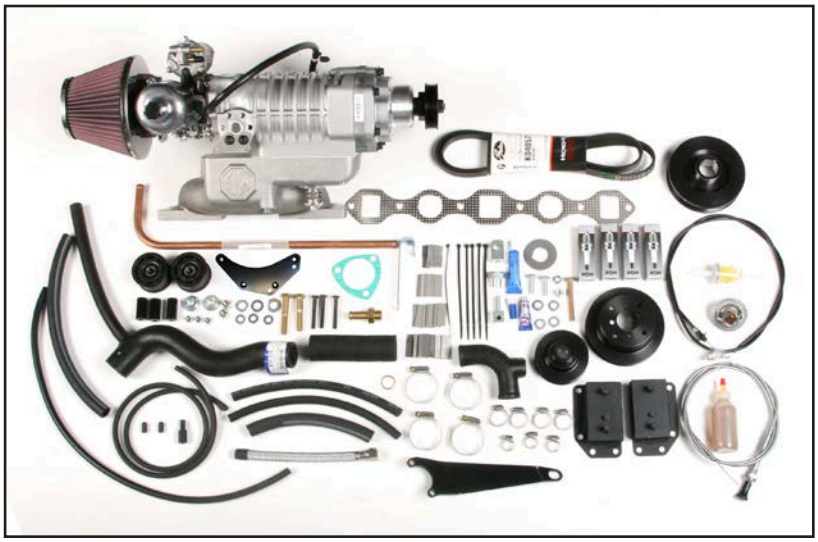
1-800-667-7872 • FAX 805-692-2525 • www.MossMotors.com



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

A few notes before you begin:

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

If you have installed vacuum boosted 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 a barbed fitting using teflon tape on the threads. Using 3/8 in 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.

Engine condition - Your car should have a fresh tune up, including new spark plug wires, points, and a new distributor cap and rotor. Spark plugs are included in the supercharger system.

How superchargers work

Superchargers compress the air/fuel mixture, filling cylinders with a greater charge than 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 good shape, you may expect 6 to 7lbs. of boost with the Moss supercharger system utilizing the pulley supplied.

Due to the phenomenon of "effective boost", raising your compression one point is equivalent to adding two psi of boost. Therefore a higher compression engine with a little less boost will make similar power to a low compression engine with a little 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 supercharging is trying to run too much boost.

Our car made the most power with 7 lbs of boost with the stock cylinder head and the, 2.75" pulley. We achieved the most boost at sea level, on a 50° morning. If you have a modified cylinder head, you may have good results with the high boost, 2.6" pulley, #052-221. Our dyno sheets were produced with the recommended distributor, the exact same carburetor tuning as supplied in the Moss system, and 15 degrees of initial timing, on a 1960 MGA with a stock engine and 8.9:1 compression, at sea level on a Mustang Chassis Dynamometer — your results will definitely vary.

You must run premium fuel in your supercharged MGA. Fuel pressure must remain at or under 3.5 P.S.I. If you the carburetor vent leaks gasoline with the key on, make sure to check your fuel pressure. The stock SU pumps should not exceed 3.5 P.S.I. If you have more pressure you can use an aftermarket fuel pressure regulator to get the pressure down.

Carburetor — The supplied SU HS6 carburetor has been pre tuned and jetted for a supercharged MGA 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, so as not to run into lean conditions. The carburetor has a BCG needle, a red spring, and 50 WT oil.

Available Moss Motors accessories:

- If your car has vacuum boosted brakes, you MUST use a check valve, #150-071.
- Distributor we tested with, and highly recommend is #143-114 - it has the proper advance curve and was used for all Moss Motors dyno testing and tuning. If you are not going to change your distributor, set the advance to 15° before disassembling anything. Again, for optimum performance, we recommend changing to the #143-114 vacuum advance distributor.
- Please use NGK BPR7ES replacement spark plugs, #052-504, gap 0.035". Be aware that the cross-referenced plugs may NOT be the same heat range, "hotter" plugs could lead to detonation and engine damage.
- K&N air filter cleaning kit, #001-130.
- High boost pulley, #052-221. When you change the pulley to anything other than the supplied 2.75" pulley, it voids your supercharger warranty.

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.

Tools required:

Sockets:

- US — 5/16", 7/16", 1/2", 9/16", 7/8" (or 22MM), 1-5/16
- 13/16 spark plug.
- 1/2 swivel socket

Metric — 10mm, 12mm, 22mm (or 7/8").

Drives:

- 1/4, and 3/8 ratchet
- 1/2 drive torque wrench and breaker bar.
- 1/2 impact wrench
- 3/8 air ratchet

Wrenches:

- 1/2", 7/16", 9/16", 7/8", 7 and 13mm combination.
- 1/2" ratcheting box wrench
- Small adjustable wrench.
- 6MM, 7/32" and 5/32" Allen wrenches

Other tools:

- A feeler gage or spark plug gap gage
- cold (flat) chisel
- large and small flat blade screw drivers
- a floor jack
- a gasket scraper
- a rubber mallet
- a dial caliper
- brake clean and rags
- coolant and a catch pan
- a bottle of anti-seize
- a timing light — we recommend a timing light with an adjuster wheel so that you can set your timing more accurately.

1) Disconnect the battery ground 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) Disconnect the valve cover vent hose from the back of the forward air cleaner and using a 1/2" combination wrench, remove the air cleaners. Figure 3.

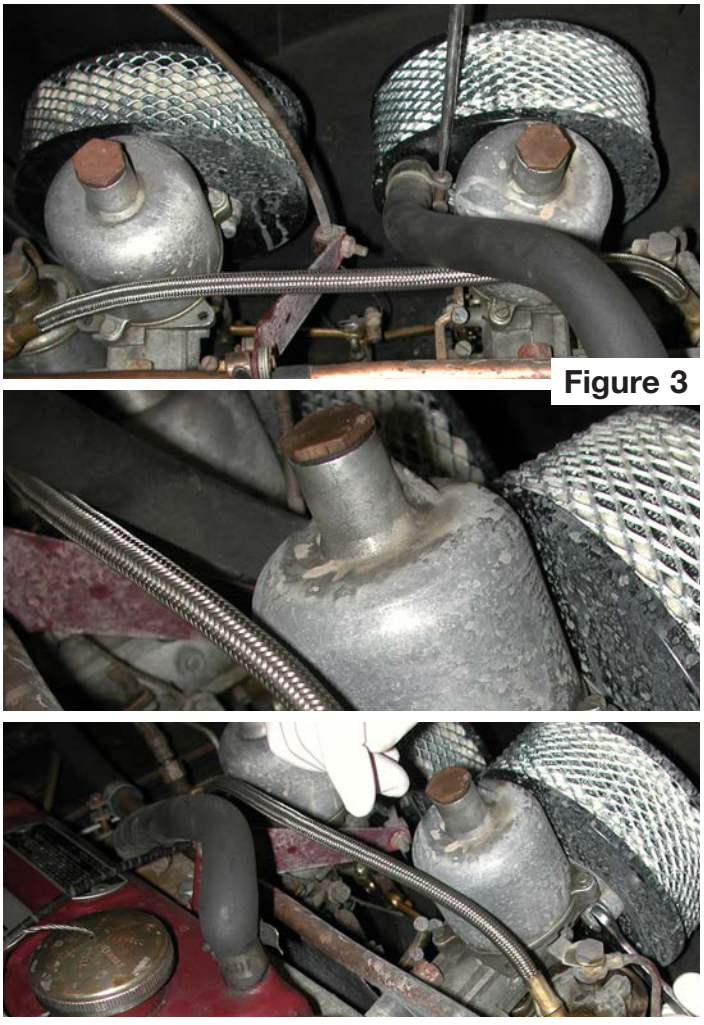


Figure 3

4) Once the air cleaners are removed, you can disconnect the choke and throttle cables. Also disconnect the throttle return springs. Remove the throttle cable bracket. Figure 4.

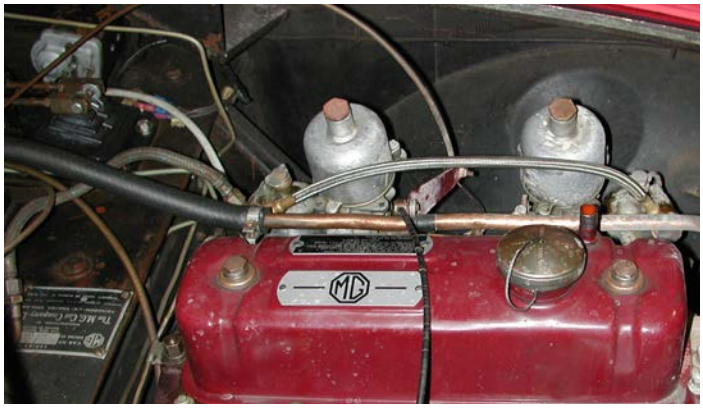


Figure 4

5) Disconnect the fuel line at the threaded junction, at the back of the engine, in front of the heater box. Disconnect and remove the metal heater tube that runs past the carburetors. Figure 5.

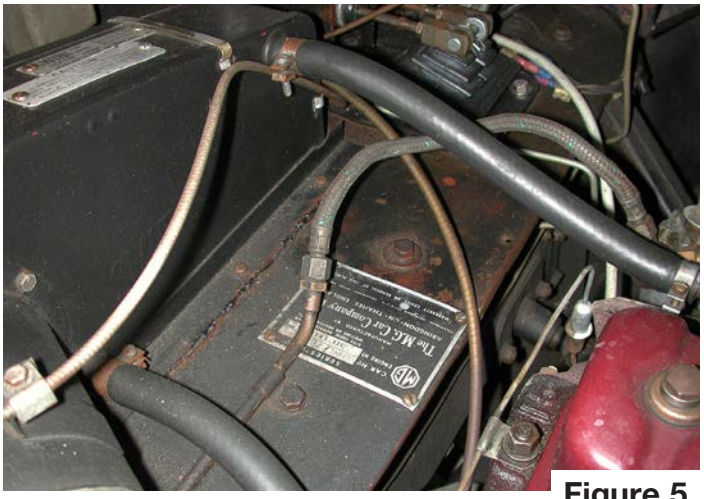
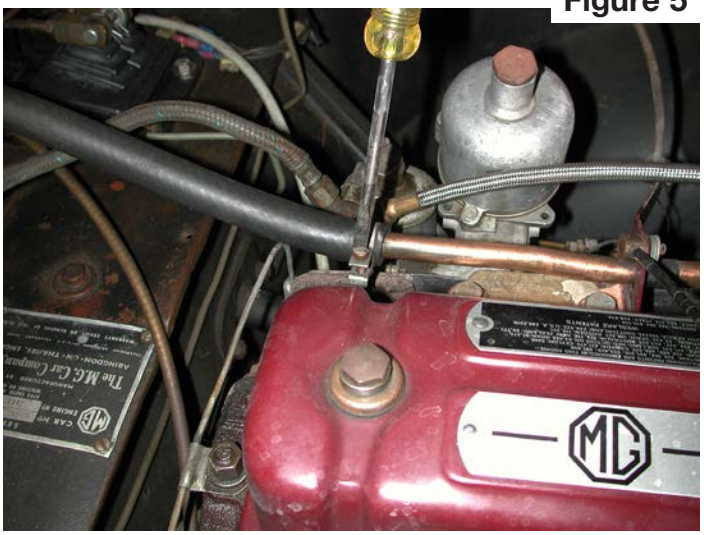


Figure 5



6) Disconnect vacuum advance line from the bottom of the rear 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 bottom of the carburetor. Remove the vacuum advance line from the car completely.

7) Using a 9/16" wrench, remove the nuts securing the carburetors. Then remove the carburetors. Figure 7.

Figure 7

8) Using a 1/2" socket, remove the nuts securing the intake manifold. Then remove the intake manifold. A new intake/exhaust manifold gasket is included in your supercharger system. It will be replaced later. You will reuse the manifold fastener washers, Moss #460-090. Also, this is a good time to replace your studs if they are corroded or worn. Figure 8.

Figure 8

9) Remove upper radiator hose. Now, using a 1/2" socket and wrench, remove the 6 bolts that secure the radiator, and remove the radiator from the car.

10) Completely remove the lower radiator hose assembly.

11) At this time, using a 7/16" socket, just loosen the four bolts, which hold the fan to the water pump. Figure 11.

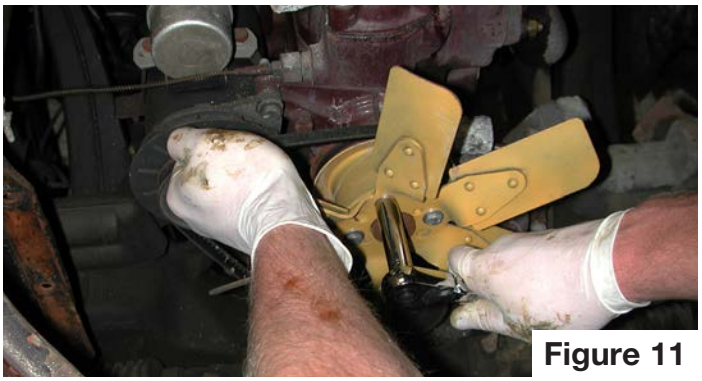


Figure 11

12) Using an 11/16" socket, (this could be different for your car, use the appropriate socket) loosen the nut in the center of the generator pulley. 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. Figure 12.

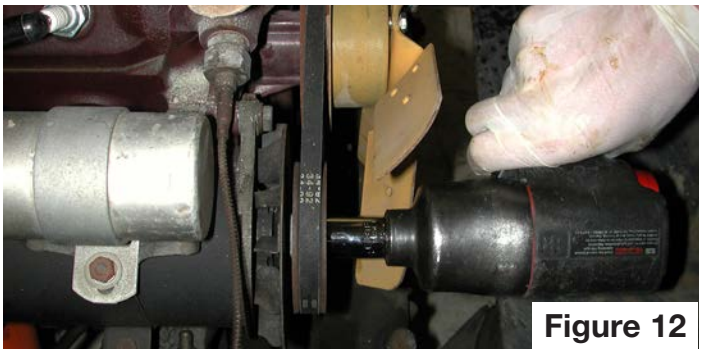


Figure 12

13) Loosen the generator bolts, and remove the belt. Figure 13.

Figure 13

14) Remove the four 7/16" headed bolts holding on the fan and water pump pulley, and remove them. If the water pump is old replace it with a new one, Moss part #460-950. Figure 14.

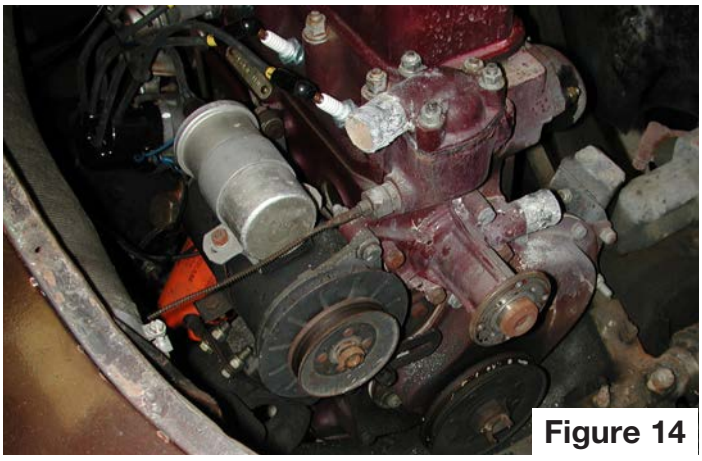


Figure 14

15) You must remove the crankshaft pulley to install the new serpentine pulley. To do so, you need to raise the engine slightly. At this point, you will be going after the engine mounts. First, set a jack, with a wood block on it (or something similar to protect the oil pan), underneath your car. Apply very slight pressure to the oil pan. Remove each of the 4 bolts that hold the engine mount to the chassis. A 1/2" ratcheting box end wrench is a very handy tool when disconnecting the engine mounts from the chassis. Figure 15.

Figure 15

16) Once all 8 fasteners are clear, jack up the engine enough to get to the crank pulley. A few inches should be enough, two inches was sufficient in our test car.

17) Remove the crank pulley. There is a tab-locking washer holding the crank pulley bolt in place. Using 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.

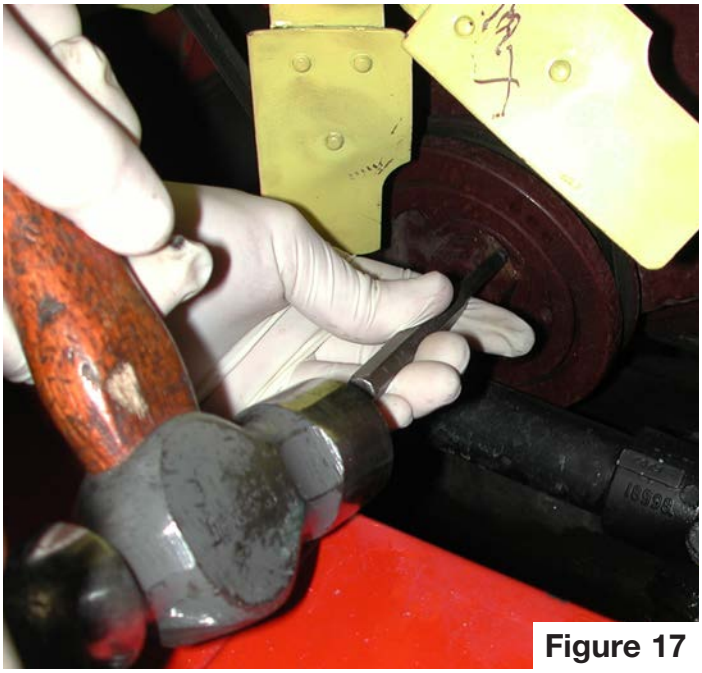


Figure 17

18) Now install your new serpentine pulley. A little anti-seize on the end of the crank may ease installation. You may also need a rubber mallet to install it. We've supplied a new tab washer that will need to be bent toward the crank pulley and fit into the slot on the 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 screw driver. Protect the pulley from the screw driver with a rag. Figure 18.

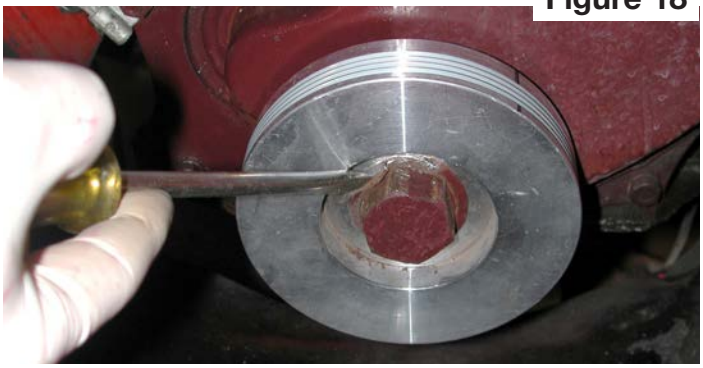


Figure 18

19) Using the original bolts and nuts, install the new engine mounts (Moss #413-010 R, #413-020 L). Lower the engine. You may want to keep the jack under the engine just in case you have to use it to aid in alignment.

20) Now to the timing cover. Remove the four bolts in a row from about 12 o'clock to about 5 o'clock in preparation for the idler pulley plate. You will need 7/16" and 1/2" sockets. Figure 20.

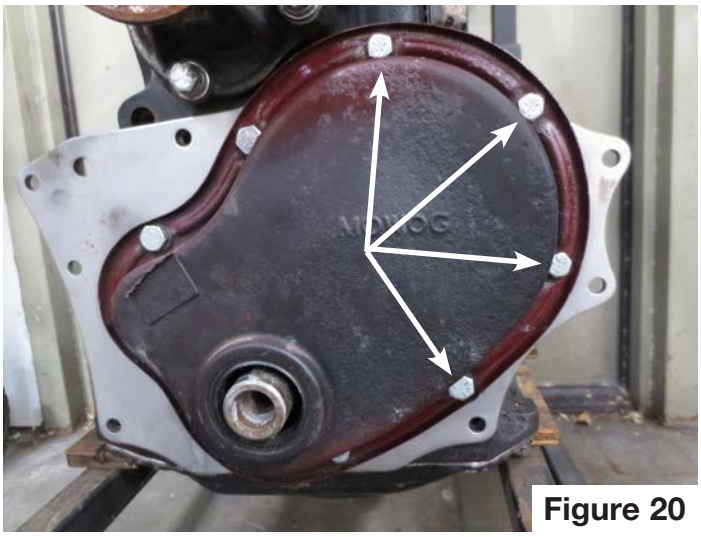


Figure 20

21) Install the idler plate with the four spacers behind it. Use the 1/4"-28 x 2-1/4" flat head screws and the 5/16"-24 x 2-1/4" hex bolt. Tighten these bolts as you normally would, bearing in mind the cork timing cover gasket. Use a 5/32" Allen wrench and a 1/2" socket. Now install a flat washer over the three 1/4" screws protruding from the rear of the engine bearer plate. Next, install a 1/4" self locking nut onto each of the screws. Hold the screw using a 5/32" Allen wrench and torque the nut to 7 ft. lbs. (84 in. lbs) using a 7/16" socket and wrench. Figure 21.

Figure 21

22) 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 (small end toward the idler). Install this assembly 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 supercharger is in place. Figure 22.

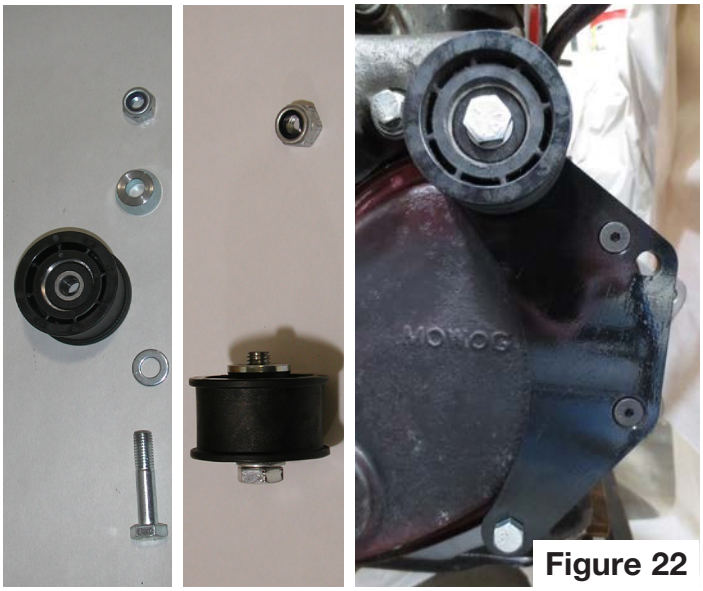
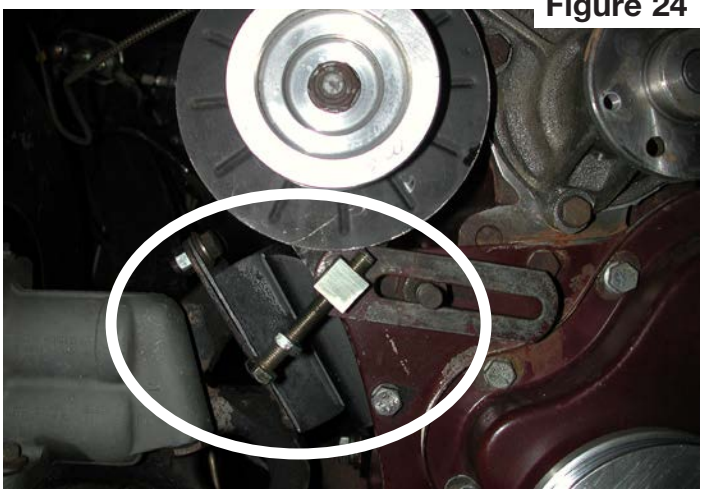


Figure 22

Figure 24

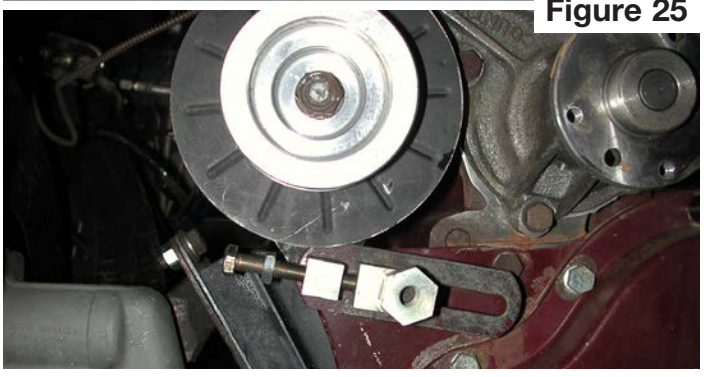


23) Remove the old generator pulley. Now is a good time to refinish your generator fan if you wish. Apply a light layer of anti-seize to the bore of the new pulley. Install the new generator pulley and start the nut. Tighten the nut to 45 ft-lb. We have had good luck holding the fan with a rag and using an impact to tighten the pulley.

24) Now install the slide and tensioner assembly. Remove the nut and bolt securing the generator slide to the generator. Place the square headed adjuster bolt through the hole in the tensioner slide, and thread it into your generator. Make sure the slot is over the adjuster stud mounted to the engine. Thread the supplied 5/16"-18 lock nut onto the square headed adjuster on the back side of the generator ear. (The generator may have to be pivoted up to install the nut.) The square headed adjuster should not be tightened all the way — the slide needs to be able to move a little. Now find the 2.5" long 5/16-24 bolt, and thread the jam nut all the way on. Thread this assembly through the square headed adjuster. The bolt will thread toward the stud. This bolt is used to adjust the generator to create proper belt tension. Figure 24.

25) Now slip the adjuster receiver block over the big, custom adjuster nut, and install on the stud on the engine. Run the nut over the slide stud but do not tighten — you will need to actuate the slide when you put the belt on. Snug the generator pivot bolts. Figure 25.

Figure 25



26) Using a straight edge, check the alignment of the generator pulley - if necessary, you can use 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 generator pulley. Figure 26.

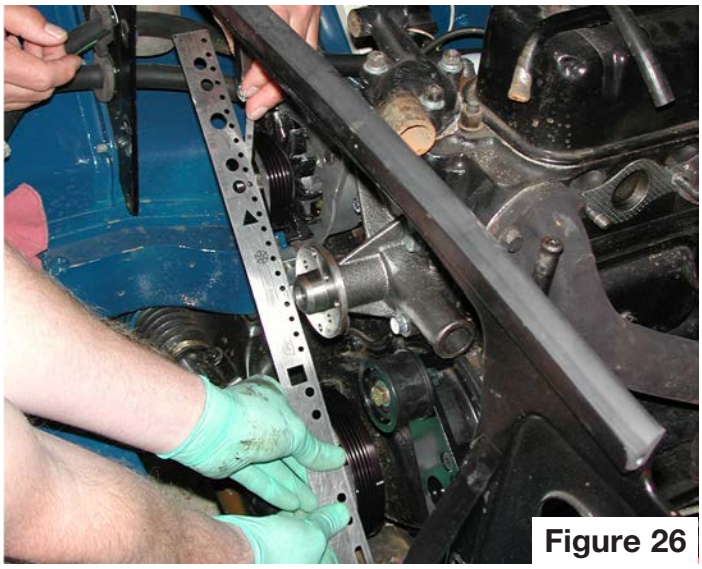


Figure 26

27) Now is the time to install the supercharger assembly. Your supercharger, manifold and carburetor come pre-assembled from Moss Motors. Figure 27.

Figure 27

28) The new carburetor is shipped dry. You will need to fill the dashpot with the included 50wt oil. To fill the dashpot with 50wt oil, 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's nozzle). Reinstall the damper and screw on the dashpot cap. Although oil weight can be changed for tuning, we highly recommend using the recommended 50wt oil unless you are very familiar with SU carburetors, and have a dynamometer and wide-band O2 sensor available for tuning. Figure 28.

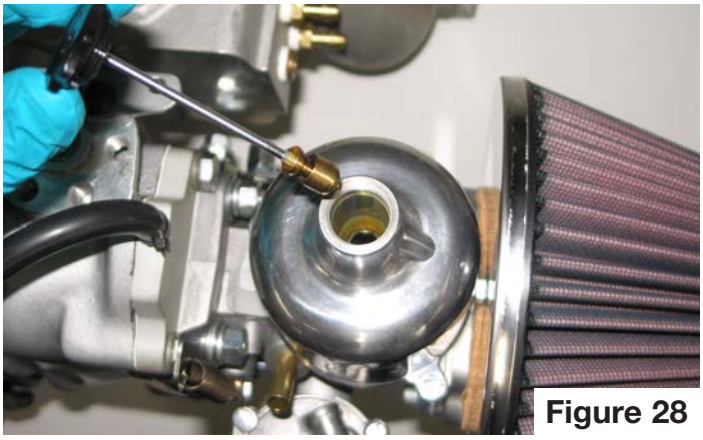
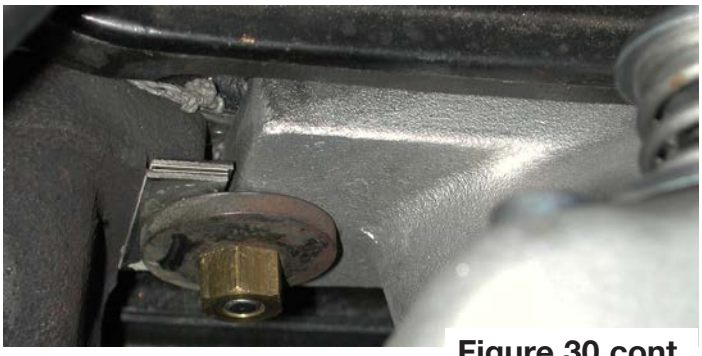


Figure 28

29) At this point replace your intake/exhaust gasket. Remove your exhaust manifold, clean the surface, and install the supplied intake gasket (with the metallic side facing away from engine). As previously stated, this is a good time to replace the studs. You will use your old, large manifold fastener washers. Using dial calipers, measure the exhaust manifold flange thickness and write it down for future use. Reinstall the exhaust manifold.

30) 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 assembly. If not, you will need to shim the washers. Use the supplied shims to achieve the proper thickness. Use the supplied adhesive 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). If you are having trouble reaching the center nuts, you may try removing the front tappet cover/vent pipe. Figure 30.

Figure 30



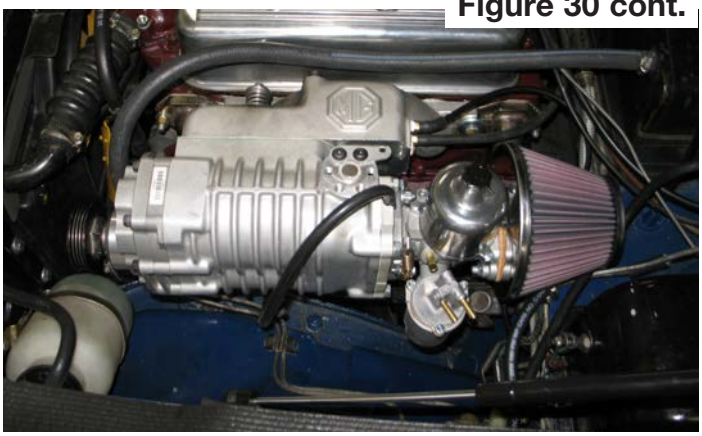


Figure 30 cont.

31) Installing the supercharger brace. Start by removing the two lower bolts on the front of the supercharger gear housing, using a 10mm socket. Next offer the brace up to the front of the charger aligning the holes in the brace and charger. The bottom end of the brace should end up behind the idle plate. Install the two M8- 1.25 x 55mm grade 10.9 bolts through brace and thread them into the charger. These bolts will be torqued in the next step. Figure 31.

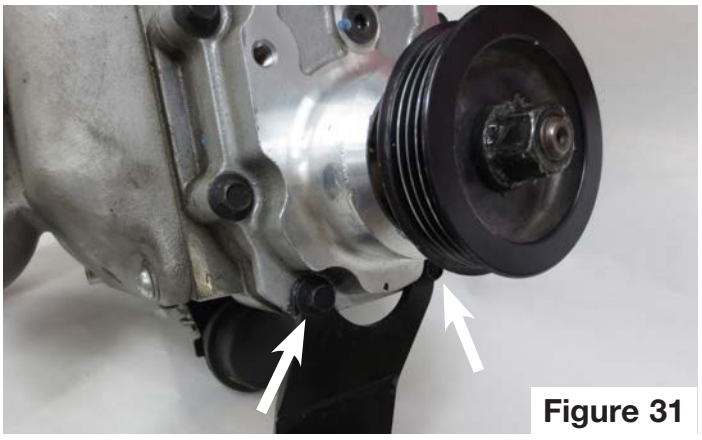


Figure 31

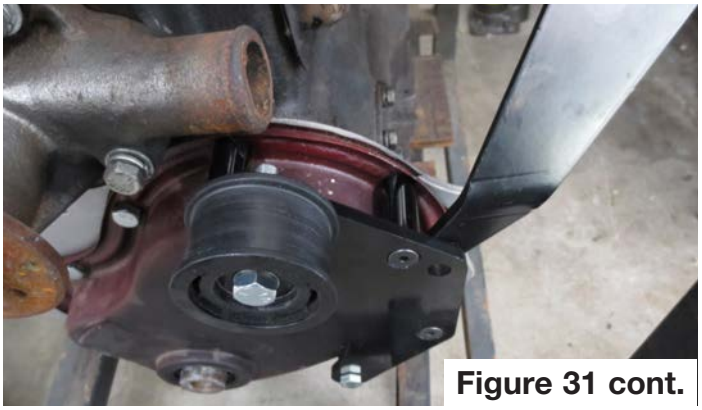


Figure 31 cont.

32) Now install the outer (lower) idler pulley, this one uses the longer of the two 3/8" bolts. Again, slip the flat washer over the bolt, then the idler, then the spacer (small end toward the idler). 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. Figure 32.

Figure 32

33) Install the fuel line. Included in the supercharger system are new flexible fuel lines, and a new fuel filter. Connect the new braided line to your existing hard line. Then connect it to the "IN" side of the fuel filter. Connect 1/4" fuel line from the "OUT" side of the filter to the carburetor. Make sure that there are no kinks in the hoses, and tighten all connections. The float lid is installed on the float bowl with the fuel and vent tubes pointing toward the front of the car. The lid can be installed with the tubes pointing left and slightly rearward (pictured) if desired. Figure 33.

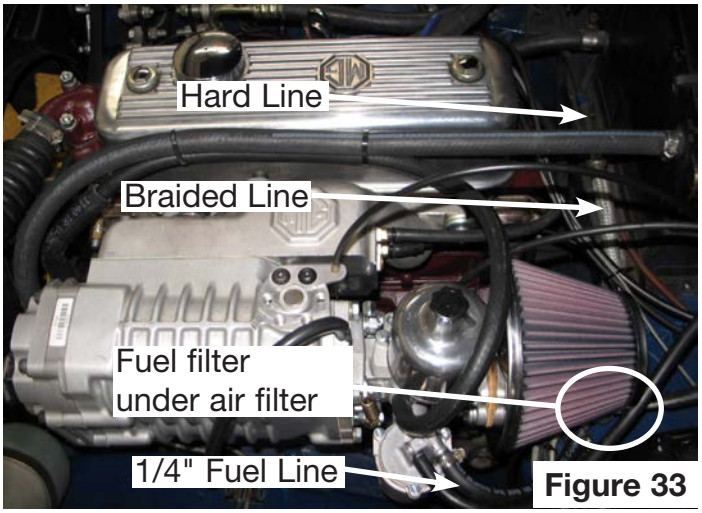


Figure 33

34) 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 2 1/4" from the end furthest from the small diameter off-shoot. Cut again 5 1/4" further up the hose. Cut it a little long, it can always be trimmed shorter. The center section will be used and the other two pieces discarded. Use silicone lubricant or WD-40 to ease the installation of the hose onto 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. Then install the 7" of 1/2" heater hose. Make sure to clamp all connections. Figure 34.



Figure 34



Figure 34 cont.

35) 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 heater line from the elbow to the metal tubing which passes the valve cover, and clamp. Connect the heater core to the tube passing the valve cover using 12" of 1/2" heater hose. Double check all clamps. Install the heater hose retaining hook over the rear valve cover bolt and hook the hose into it. Slip the lower radiator hose clamp over the hose and wedge it there for later. Figure 35.

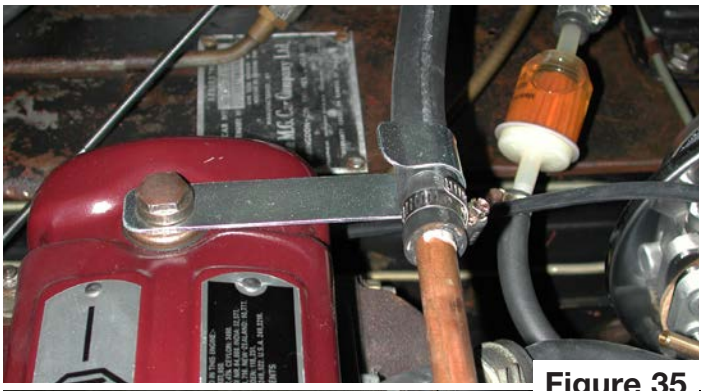


Figure 35

36) Install the new water pump pulley and your old fan with the bolts and lock washers previously removed. Use a 7/16" socket and tighten to 9 ft-lb. Snug in a cross pattern. Spin the fan to make sure everything is OK. Figure 36.

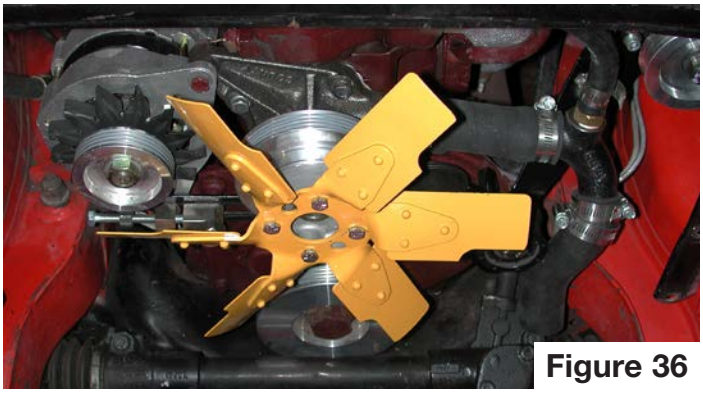


Figure 36

37) The next step is a bit difficult. Both the choke and throttle cables are in a tight spot on the carburetor. Take your time. If your choke cable is good, you can use it. If it is beat up, replace it. Route the cable to the carburetor, feed it through the bottom hole of the throttle cable bracket, and the trunion. Use a small adjustable wrench and a 7mm combination wrench to tighten the trunion bolt. Check travel - make sure you get full range of motion, both wide open choke and closed choke. (Your choke cable can be shortened if you would like to route it more directly.) Figure 37.

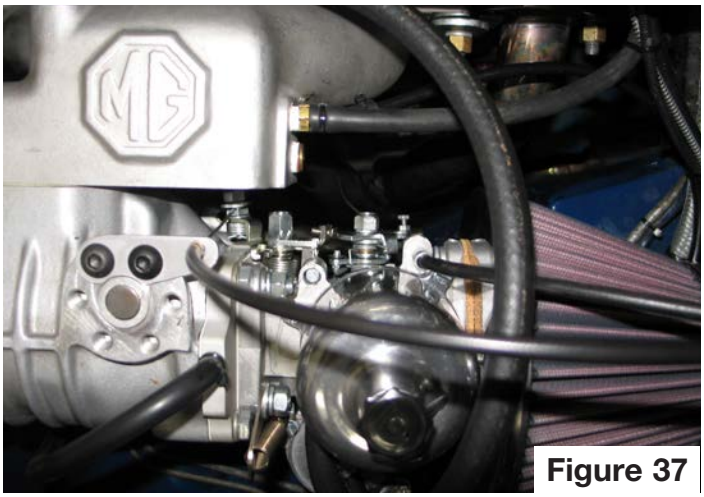


Figure 37

38) Install your new throttle cable. The new cable will have to be shortened. Cut the swaged lug off the end of the cable with the adjuster and remove the adjuster. Pull out the inner cable. Cut 4 1/4" off of the end of the cable jacket with the large plastic end. Lubricate the inner cable with automotive grade grease and slip back into the outer jacket starting with the uncut end. Install it in the car. It is very straight forward, just trace the old cable. The end with the swaged ball on it is the pedal end and the other end goes to the carburetor. Make sure it is not bent so much that the cable can not function properly. Figure 38.

Figure 38

39) 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. Cut off the excess cable, leaving 1 1/2" sticking through the trunion. Check travel - make sure you get full range of motion, both wide open throttle and closed throttle. (See Illustration 37)

40) Now, it's time to install the serpentine belt. Follow the belt path in the photo. Now tighten the generator with the adjuster system. Tighten so that when you press down on the belt between the upper idler and the supercharger there is approximately 1/2" of deflection. After 500 miles re-check the belt for tension, and periodically thereafter. Lock the jam nut on the adjuster and, using a 7/8" socket tighten the custom adjuster nut. Figure 40.

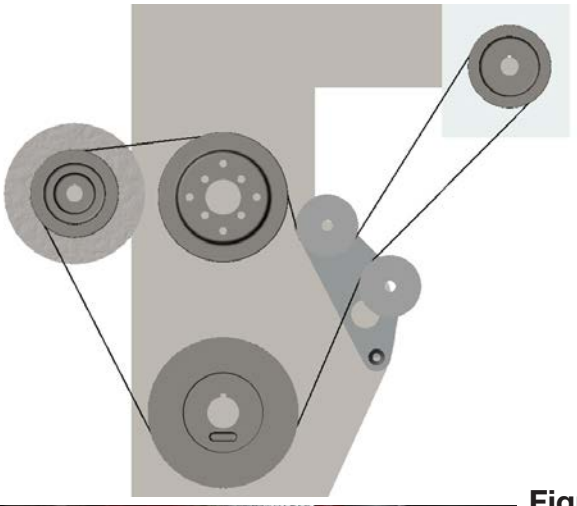
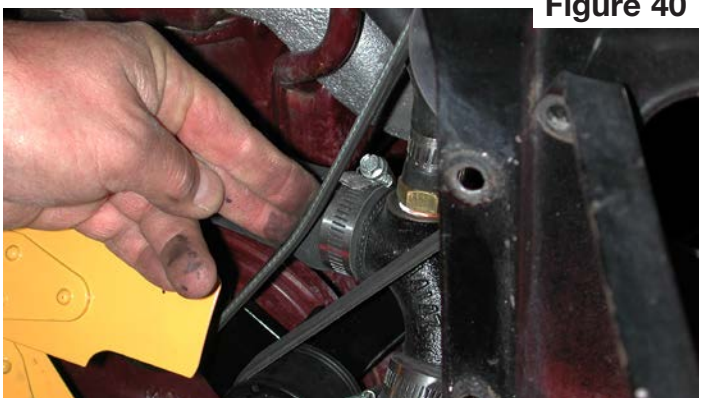


Figure 40

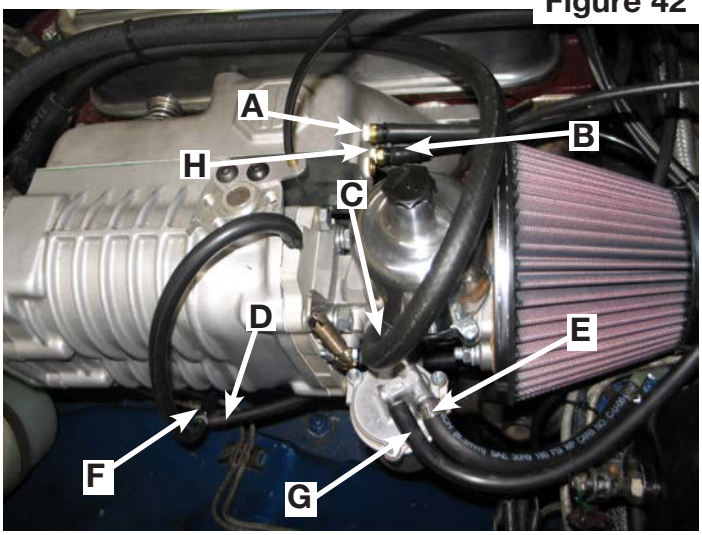


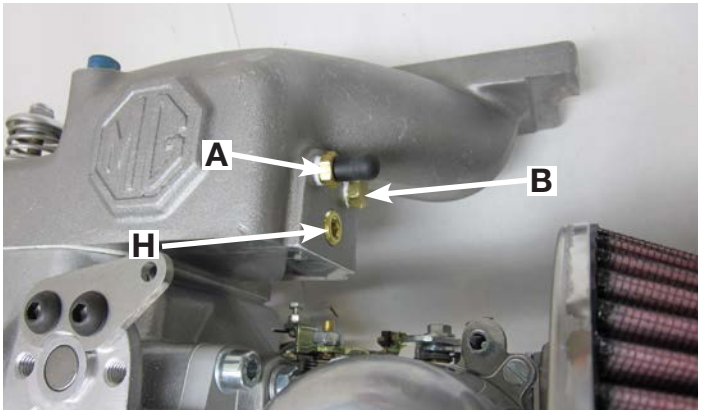
41) Now hook up the valve cover vent. Use your factory hose, the barb adapter, and the supplied 5/16" hose. Install the barb into the 5/16" hose, and connect it to the straight end of the factory hose. Now install the hose assembly. The large end fits over the valve cover vent tube and the hose routes rearward along the valve cover then turns toward the carburetor. It then connects to the barb on the engine side of the carburetor, closest to the supercharger.

Figure 41

42) Hook up the vacuum advance using the 5/32" 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 62. 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 7/32" 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.

Figure 42



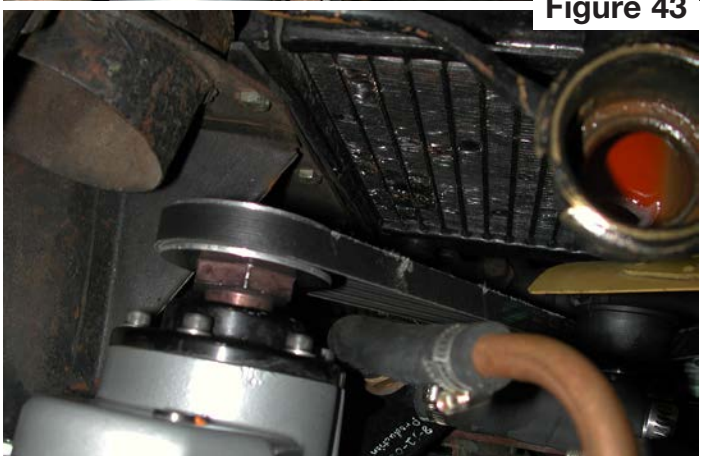


GLOSSARY:

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

43) Time to re-install the radiator. Make sure you already have a lower radiator hose clamp on the lower hose. Slip the radiator into place and install the lower radiator hose. WD-40 will help the hose slip on easily. Align and start all the bolts. Work at it gingerly. Tighten the radiator bolts. Make sure that there is clearance between the hose and 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" swivel socket, a long extension, and a 1/4" drive ratchet to tighten the hose clamp. Also make sure there are no kinks in the hoses.

Figure 43



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

Figure 44

45) 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.

46) 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 — all readily available from Moss Motors. You will use a 13/16" socket on the new plugs.

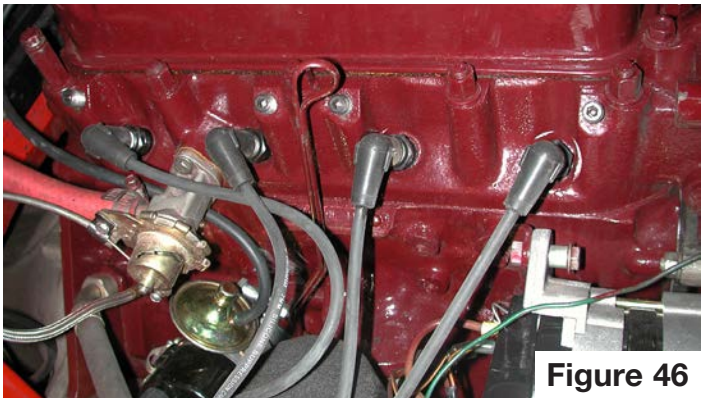


Figure 46

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

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

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

50) 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.**

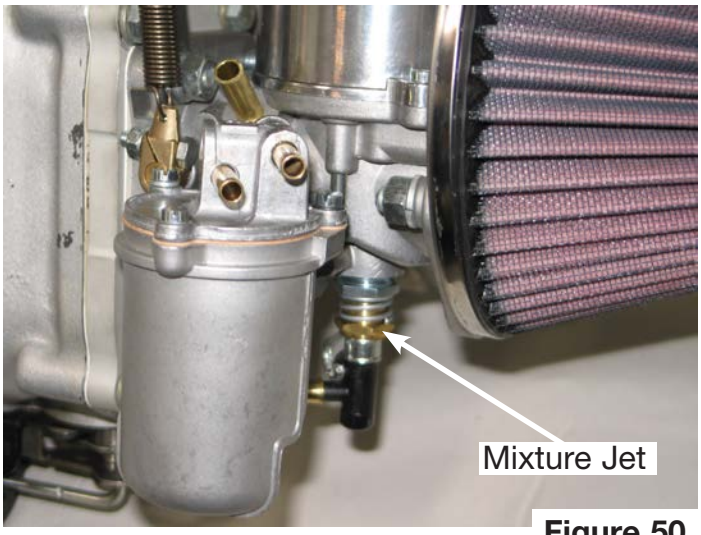
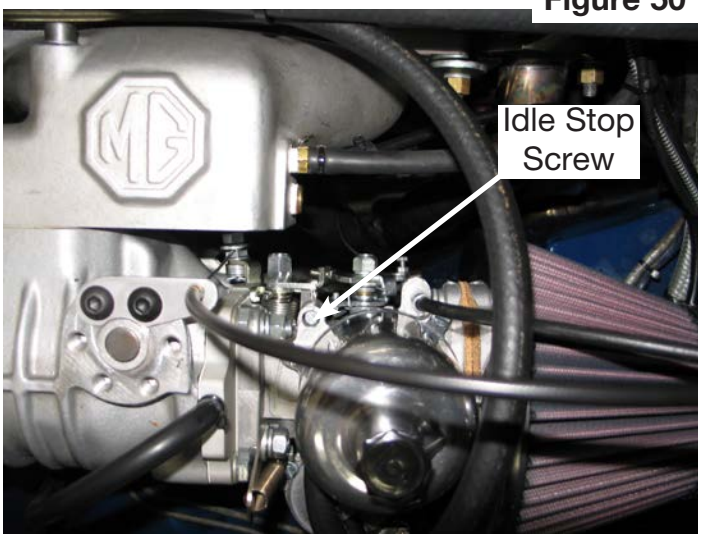


Figure 50



51) After running it up to operating temperature, turn off the car and double check everything. Once it cools, you will need to re-check the coolant level.

52) Run your engine, and set your idle at 900 to 950RPM. Remove the vacuum advance, plug it, and set 13 degrees of timing, this is a conservative number, we recommend 15 degrees and found that 17 degrees 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 degrees 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.

53) See MossMotors.com for all your MGA parts and performance needs! Enjoy!

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.

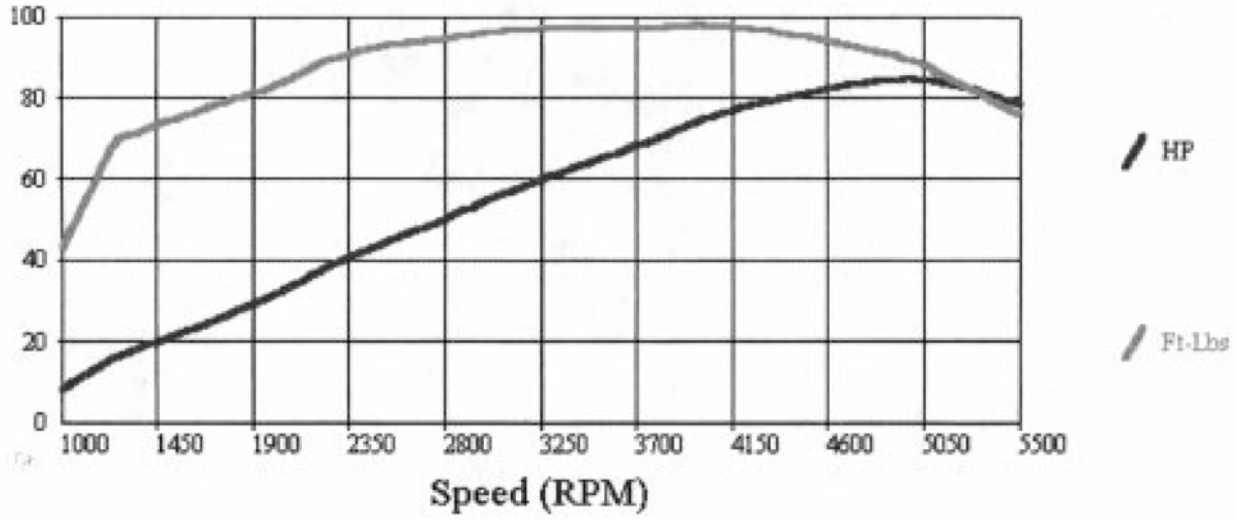
For warranty repairs, contact your selling dealer. Warranty for all components must be supported by the proper registration documentation including the original purchase invoice.

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

Customer	: Moss Motors, ,	Miles	: Lots
License	: Secret	Weight	: 0.0
VIN	:	HP @ 50 MPH	: 0.00
Yr/Mk/Mdl	: 1960 MG A	Cyl/Disp.	: 4/1600
Comments	:		

HorsePower Curve Test Results

Test Run	: 12/29/2003 12:00:05 PM
Max Power	: 85.1 @ 5000 RPM
Max Torque	: 98.2 @ 4000 RPM
Comments	:



Item No.	Description	Quantity	Unit of Measure
INTAKE & S/C ASSEMBLY, MGA,HS6			
051-207	SCREW, AHCS, M8 X 1.25 X 25	4	EACH
051-203	PLUG, PIPE, 1/8 NPT, HEX HEAD	1	EACH
051-438	SPRING, AFPR	1	EACH
051-446	NUT, STANDARD, 5/16-18	4	EACH
052-835	GASKET, OUTLET, M45 GEN4	1	EACH
052-834	GASKET, INLET, M45/MP62 GEN4	1	EACH
051-551	HOSE, VACUUM, 7/32", BULK	15	INCH
051-587	WASHER, LOCK, 5/16"	6	EACH
051-074	WASHER, FLAT, M8	4	EACH
051-719	O-RING, VITON, NO. 202	1	EACH
051-720	O-RING, VITON, NO. 218	1	EACH
053-150	MANIFOLD, SUPERCHARGER TO HEAD	1	EACH
052-512	PULLEY, MGA S/C, 2.75OD, 4-RIB	1	EACH
052-838	S/C GEN4 MP45CW,NO NOSE PULLEY	1	EACH
052-836	ADAPTER, SU HIF 44 TO M45 GEN4	1	EACH
051-142	HOSE BARB, 5/32 VACUUM	1	EACH
053-308	CARB, FIN, SU HS6, MGB S/C MOD	1	EACH
053-321	ARM, THROTTLE RETURN SPRING	1	EACH
324-590	WASHER, FLAT, 1/4 ID, ZINC	1	EACH
053-428	THROTTLE SPRING BRACKET, CARB	1	EACH
053-228	SCREW, AHCS, M8 X 1.25 X 90	1	EACH
051-736	SCREW, AHCS, M8 X 1.25 X 50	1	EACH
052-947	BOLT,BHCS,M8X1.25X25,ZINC	2	EACH
052-247	STUD, 5/16-18 X 1.25	4	EACH
052-257	PLUG, PIPE,1/4 NPT,SOCKET HEAD	1	EACH
052-840	GASKET, HIF44 TO MANIFOLD	1	EACH
770-572	VALVE BODY, POP-OFF	1	EACH
770-573	RETAINER, SPRING	1	EACH
770-576	STUD, POP-OFF VALVE	1	EACH
770-577	NUT, NYLOC, 1/4-28	1	EACH
053-314	BRACKET, THROTTLE CABLE, MGB	1	EACH
051-147	SCREW, BHCS, M8 X 1.25 X 16	2	EACH
053-282	THROTTLE SPRING, TR3-4 SC	1	EACH
053-251	RETURN SPRING BRACKET, TR3	1	EACH
375-128	CABLE STOP	2	EACH
051-917	HOSE BARB, 1/8NPT X 3/16	1	EACH
051-016	CABLE TIE, 4"	4	EACH
051-389	TEE, VACUUM, 3/16	1	EACH
051-151	CAP, VACUUM, RUBBER, 5/32	3	EACH

Item No.	Description	Quantity	Unit of Measure
051-242	CAP, VACUUM, RUBBER, 5/16	1	EACH
322-290	BOLT, 5/16 UNF X 1, G5	2	EACH
052-339	NUT, STANDARD, 5/16 UNF	2	EACH
053-290	AIR FILTER & PLATE, MGB SC HS6	1	EACH
052-656	RETURN SPRING	1	EACH
053-427	THROTTLE SPRING BRACKET, SC	1	EACH
051-081	WASHER, FLAT, M10	2	EACH
051-627	PULLEY, 2" IDLER, NYLON	2	EACH
052-092	PLATE, IDLER	1	EACH
052-093	SPACER, IDLER PLATE	3	EACH
053-433	BOLT, HEX,5/16-24 X 2-1/4,GRD8	1	EACH
052-240	SPACER, IDLER, .310	2	EACH
771-645	NUT, NYLOC, 3/8-16	2	EACH
771-668	WASHER, FLAT, D SHAPED, 3/8	1	EACH
772-533	SCREW,ALLEN DRIVE,1/4-28X2 1/4	3	EACH
772-534	NUT, NYLOC JAM, 1/4-28	3	EACH
324-590	WASHER, FLAT,1/4"	3	EACH
771-670	BOLT, HEX HEAD, 3/8-16 X 2	1	EACH
771-671	BOLT, HEX HEAD, 3/8-16 X 2-1/4	1	EACH
052-506	BRACKET, HOSE, MGA S/C	1	EACH
051-588	WASHER, FLAT, 5/16", SAE	4	EACH
052-089	ADJUSTER BASE	1	EACH
052-505	ADJUSTER BLOCK, MGA	1	EACH
052-091	ADJUSTER LOCK BOLT	1	EACH
052-250	BOLT, HEX, 5/16-24 X 2.5	1	EACH
052-251	NUT, JAM, 5/16-24	1	EACH
052-252	BOLT, HEX, 5/16-18 X 1.0	2	EACH
052-268	ADHESIVE, FUTURE GLUE GEL	1	EACH
052-277	SHIM, MANIFOLD, 0.14 THICK	8	EACH
052-278	SHIM, MANIFOLD, 0.06 THICK	8	EACH
052-279	SHIM, MANIFOLD, 0.03 THICK	8	EACH
052-280	SHIM, MANIFOLD, 0.02 THICK	8	EACH
220-136	REMOVABLE THREADLOCKER, BLUE	1	EACH
460-470	WASHER	1	EACH
770-055	CABLE TIE, 6"	6	EACH
771-530	NUT, NYLOC, 5/16-18 THREAD	1	EACH
052-501	PULLEY, WATER PUMP, MGA S/C	1	EACH
051-151	VACUUM CAP, 5/32	3	EACH
051-190	CLAMP, HOSE, SAE NO. 6	4	EACH
051-191	CLAMP, HOSE, MINI, SAE NO. 4	3	EACH
051-257	HOSE, HEATER, 1/2", BULK	19	INCH

Item No.	Description	Quantity	Unit of Measure
051-259	HOSE, VACUUM, 5/32", BULK	36	EACH
051-261	HOSE, FUEL, HP, 1/4", BULK	10	EACH
051-262	HOSE, FUEL, HP, 5/16", BULK	10	EACH
051-551	HOSE, VACUUM, 7/32", BULK	24	INCH
052-248	ADAPTER,HOSE BARB, 5/16 TO 1/2	1	EACH
052-254	CLAMP, HOSE, SAE NO. 20	4	EACH
324-660	WASHER	1	EACH
376-320	HOSE, FUEL PIPE TO CARB	1	EACH
434-485	HOSE, 1 1/8 DIAMETER	5	INCH
470-040	BRANCH PIPE, WATER PUMP TO RAD	1	EACH
470-310	HOSE, RADIATOR, LOWER	1	EACH
473-080	UNION, WATER BRANCH PIPE	1	EACH
053-007	BOLT,HEX FLANGE,M8 X 1.25 X 55	2	EACH
052-503	PULLEY, GENERATOR,MGA SC,4-RIB	1	EACH
052-502	PULLEY, CRANK, MGA S/C, 4-RIB	1	EACH
052-507	BELT, GATES, K040575	1	EACH
331-350	CABLE, CHOKE, KNOB W/ C	1	EACH
053-310	INSTRUCTIONS, MGA S/C, HS6	1	EACH
052-504	SPARK PLUG, NGK 2023 BPR7ES	4	EACH
052-509	OIL, SAE 50 WEIGHT	2	OZ-01
052-343	FUEL FILTER, UNIVERSAL	1	EACH
071-130	CABLE, THROTTLE	1	EACH
053-224	SUPERCHARGER BRACE, MGB MP45	1	EACH
297-535	GASKET, MANIFOLD, PREMIUM	1	EACH
413-010	MOUNT, ENGINE, R/H	1	EACH
413-020	MOUNT, ENGINE, L/H	1	EACH
473-040	PIPE, HEATER TO PUMP, COPPER	1	EACH
434-180	THERMOSTAT	1	EACH
296-381	GASKET, THERMOSTAT HOUSING	1	EACH

Although every effort has been made to ensure the accuracy and clarity of this information, any suggestions that you may have that will improve the information (especially detailed installation notes and photos) are welcome. These instructions were developed and written by Moss Technical Support. If you have any questions or difficulties with your installation of this product, telephone 800-667-7872 between 7:00 a.m. and 4:00 p.m., Pacific Time for assistance.

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