

## Results of BSMGAC Spring Tech Session

May 6, 2018 did not cooperate with the weather, but we still had a great turn out and had 3 MGAs present. John Gill came first with his MGA to help me set up. We got everything organized and members and guests started arriving around 10 am. We often do a few oil changes and other small technical jobs on various cars, but this time we had the major work of replacing a fuel tank on Ira Cohen's MGA. His tank had been leaking when full and he had purchased a replacement about 10 years ago but had never put it in. I had been pestering him for a number of years to do the job. Well, we started out by putting the car on the lift and raising it enough to drain the tank. The next thing was to remove the fuel filler neck and hose with trunk floor sealing gasket and bracket. We put the lift the rest of the way up and removed the right rear wheel to gain better access to the sending unit and fuel output connection. Then the process started with lubricating all the nuts and bolts and cleaning away road grime and undercoating from the connections. The fuel outlet took a 3/4" open end wrench and the fuel sending unit wire took a 7/32" socket (this is a Whitworth sized nut, but the SAE socket fits). We wanted to remove the tank with the straps still attached as we needed to clean and inspect them and it is easier to refit them on the new tank with the tank off the car. We removed the two 1/2" head bolts from the front of the tank while supporting the tank with a transmission jack and then the two 7/16" head bolts that allow the tank to pivot at the rear. The tank has to be pivoted down at the front and then the filler neck withdrawn toward the front and down to clear the tank from the car.

We removed the straps from the tank and Ira cleaned these and determined that one was badly deteriorated, so, I found a spare and we cleaned that one up. We sprayed some rust converting chassis paint from Eastwood on the straps and put the new rubbers between the straps and the new tank. I demonstrated how to determine if the sending unit is working correctly by measuring the resistance with a ohm meter with the float down (empty - about 20 ohms) and up (full - about 130 ohms). Each sending unit seems to be a bit different, so, your reading will probably vary and the fuel gauge may not read accurately. The gauge can be calibrated to match the sending unit, but this is best left to a shop that specializes in that adjustment. Ira had already put a new sending unit into the tank with the supplied screws and a new viton gasket. He had used the recommended hylomar sealer, but I found it to be too slick and the gasket was squeezing out, so, I removed the sending unit and cleaned off the sealer and reinstalled the gasket without any sealer. I have found that sealer is usually not necessary. We did use a blue thread locker to seal the threads as these can weep fuel when worn. Moss Motors recommends a small nylon washer under each screw head, but the thread locker seemed to work fine.

While all this was going on we had many onlookers and many conversations going on about cars and model ship building and engineering practices and MGAs and other cars. We started the grille and Paul Cantin did the honors of cooking the hot dogs and hamburgers. We had plenty of donuts earlier and chips and potato salad and beers, so, everyone had plenty to eat. As the afternoon wore on folks started departing and Ira and I were the only two left to complete the fuel tank installation.

After completing the installation (in reverse order of the removal) Ira decided to take it to the end of my street to fill the tank the rest of the way. About 20 minutes later he came walking back and said the engine had died just before the gas station. We took the truck and towed the car back to investigate. I removed the fuel line from the rear carburetor and turned on the key and heard the pump working but no fuel came out (and the pump was clattering like it had no fuel). So, We put the car on the lift again, removed the right rear wheel and disconnected the fuel outlet line again. I put compressed air into the fuel outlet with the fuel filler cap open and we could hear the air, but no bubbles! We determined that the fuel pick-up line was not attached to the fuel outlet fitting. The fuel tank was not made correctly! Ira will have to see if he can contact the person he bought it from 10 years ago and see what can be done. In the mean time, We cut a copper pipe to feed into the filler tube and into the tank and attached a flexible fuel line from that to the fuel feed pipe to the fuel pump and the car was able to remain running and get fuel. We put a plastic bag over the fuel filler and feed pipe in order to keep rain out on the ride home.

While the car was up on the lift we also replaced both the rebound straps on the rear axle. The old ones had steel sleeves and some of these has rusted to the mounting points and it took some heat from a MAP gas torch to free them up. The new straps do not have steel sleeves, but we did use plenty of anti-seize on the threads for a future time when the straps may need to come off.

I ordered a new tank from Moss Motors and when it arrived I determined that the quality looked very good. We will run our own test this time BEFORE installing to make sure it will work before going through all the other steps of removal and installation. Who would have thought that a brand new tank would be defective!? Ira left about 7:00 pm and made it home OK.

Overall it was a successful tech session and everyone had a good time (except the frustration that Ira and I had to go through! But it was a learning experience and it will benefit us in the future. Thank you to all who came and lent a hand as well as those who brought items to share.

Safety Fast,

Jack Horner  
President, Bay State MGA Club

Replacing a fuel tank begins with removing the rear bolts, with Bruce and Ira looking on.



Ira cleans the tank straps.



The temporary fuel feed fix

