

Tech Article

## **Fuel Supply Diagnosis**

By Steve Logan

It was time to work on my 1978 MGB that I bought about four years ago. I had worked on it many times in the past because, when I bought it as a “good driver” on EBay, very few things actually worked on the car, much less worked “good”. I had previously gotten it running a little by, among other things, replacing the aftermarket fuel pump with an SU one. I had finally given up on the existing engine and installed my spare out of a 1975. With the new engine installed, I had an irresistible urge to drive it around the block and had high hopes for success.

It had been quite a while since I had run the fuel pump and, as SUs are famous for doing after a long idle time, there was no reaction when I turned the key to “on” until I gave the pump body a sharp tap with a hammer handle. It started clicking away with diminishing frequency just like it is supposed to do, but never stopped clicking entirely. This indicated that a carburetor float was not sealing completely. Let’s give the starter a try. The running engine vibration should clear up that little problem. The engine turned over, but would not start. The transparent fuel filter on the firewall showed that there was more air than fuel getting that far and there was no fuel in the carburetors. A clogged fuel filter was suspected. The filter was removed. Air could blow through either end so it wasn’t clogged. The filter was reinstalled. The fuel line at the carburetor was disconnected and inserted into a jar. The next try of the key brought very little clicking of the fuel pump and no gas in the jar despite a few taps to the fuel pump.

The power and ground connections were checked with a test light and ground jumper respectively and the pump wouldn’t run. The pump was removed and surprisingly clicked away on the bench. Air came out the outlet and the pump would stop clicking with the outlet port stopped up. There was a little suction at the inlet port and stopping it up would almost stop the pump’s clicking. That is how it should work. However, to eliminate the pump as a problem source, a spare pump was installed. A long fuel hose was installed at the fuel filter to check how much fuel the replacement pump could pump into a gallon can. It pumped away nicely for about two quarts and then quit clicking altogether. Except for the two quarts that had been pumped, this is where I had been with the first pump. The power and ground connections were checked again and looked good. The replacement pump was removed and worked fine on the bench, just like the first one. This car didn’t have a tag for thirteen years. Both pumps worked fine on the bench, but wouldn’t pump on the car. Every time the power and ground connections were checked, they were all right. However, it could still have an intermittent connection that had not been found. A fuel line could be stopped up even though all of the flexible lines had been replaced. I could blow with a little difficulty from the pump outlet line to the fuel filter, but couldn’t blow back into the tank. Using a blow gun on my air compressor in both directions, both lines became clear. Probing the bottom of the gas tank didn’t yield any trash. The original pump was reinstalled. It pumped like a charm and the new engine fired up.

If the pump works on the bench, the power and ground connections are good, the filter is not clogged, the floats are not stuck closed and the pump won't pump, it must be the fuel lines. I will try to remember that next time. In the past, I have had so much trouble with the pumps themselves and with the connections, especially the ground connections, that I was focused on those as the probable trouble source. Another lesson learned. It won't take so long next time.