

Winter Speedometer Project

By Bill Reeves

This winter I planned a few projects for the MGB. The interior of the car needed a makeover. The carpeting and seats were looking a little old and tattered. This would allow me to install the heat reflective material on the floor to keep the driver side of the interior a little cooler, as the exhaust header is routed directly below the driver side of the car. After completing the installation I moved on to the smaller items.



My speedometer has been intermittent and stops working when it rolls over the thousand mile mark.

I remove it and spin over manually and it works again. I located an ad in the monthly newsletter and made contact with another member in Canada who had several spare units. Through several emails back and forth he picked up on the fact that my MGB has a V8 engine and a 5 speed transmission. He questioned if the standard speedometer would be accurate because of the engine switch. I thought it would not have an effect as we are measuring the rotation of the drive shaft and gearing of the rear axle. Even though there is an engine and transmission switch the remainder of the drive train is not altered. This car has a standard MG rear axle and standard wheel and tire size. I was asked to send the numbers off of my unit to compare to the unit for sale. They are not all alike and the numbers will tell a bit about what is used in this V8 conversion. I learned that the most important number on the unit is 1000. It indicates the number of turns per mile. The unit is calibrated to be accurate and measure speed and miles traveled at this rate. Other units have a rotation of 1280 per mile.

One mile is 5,280 feet and 52'-10" is a 100th of a mile. We can create a test to see if the standard 1000 speedometer will be accurate in this car. I moved the car out of the garage and set up a test course in the driveway. I measured out a distance of 52'-10" using several plastic bottles with water in them to mark the start and finish of the distance. I marked a black line on each bottle and found that filling them with water keeps the dog from moving them, he thought it was a new game. I placed a piece of tape on the top of the speedometer cable to act as a flag. The goal is to roll the car over the predetermined distance and count the number of revolutions the flag makes. In an ideal situation, the count should be ten turns over the distance of 100th of a mile. I made three push tests over the distance and found the result was 9.8 turns each time. Thanks to Rick Astley here is the math. That's 7.7833 turns with a 3.08 axle or $7.7833 \times 3.909 / 3.08 = 9.878$ with a standard 3.909 axle. Rick has the same engine and transmission combination I have but he changed the rear axle ratio and uses 15 inch tires.



I called this test close enough for government work and made the purchase of the used unit offered for sale. I was satisfied with the accuracy of the old unit and the new purchase works well also. The installation was quick and easy as I have removed this unit several times before. The interior is finished and ready for spring.