

## Fuel Tank Accuracy

One of the more common complaints we receive at the Tulare County Weights and Measures Division is related to the gasoline pump at the local gas station. It starts with the gas pump at the gas station is not working correctly.....the consumer states that the gas delivered to their tank was more than their gas tank holds or their fuel gauge shows  $\frac{1}{2}$  tank and they pumped in  $\frac{3}{4}$  of a tank. Our office responds to the complaint, usually finding that the gas pump they were using was accurate.

Our inspectors go to the station in question and pump 5 gallons of gasoline into a 5 gallon prover. This prover is referred to as a standard, and it's accuracy is traceable to the standards located at the National Institute of Standards and Technology in Maryland. In a few cases, the pumps are found to be out of tolerance and appropriate action is taken. In most cases the pumps are accurate, the complainant is notified and no further action is taken.

If there is usually not a problem with the gasoline pump, then why is there a discrepancy between what the pump reads and the capacity of the gas tank?

There are three components to a gas tank. They are the unusable volume (the gasoline that is not accessible by the fuel line), the usable volume and the vapor head space above the filler pipe. The vehicle manufacturers include only the usable volume in their calculations for the tank capacity for the vehicle manual. As a matter of fact some manufacturers have stated that their fuel tank capacities can vary by as much as 3%. If you fill your gas tank beyond the nozzle's automatic shut-off, then you could be filling your gasoline tank with more than the rated capacity. With this in mind, the rated capacity of the fuel tank is merely an estimate.

The gas gauge should also not be considered accurate. It is merely a tool to keep the consumer from running out of gas. The gas gauge can read differently depending on the environment in which it is working. If the vehicle is on a slope the gauge could read higher or lower than the actual volume. The gas gauge can also read differently when going across uneven terrain or when traveling quickly around a tight turn. Some manufacturers have installed computer software in their vehicles to help calculate the amount of fuel remaining in the vehicle.

These are all guidelines to help keep you from running out of gas and not to determine the exact amount of gasoline in your tank. In Tulare County we test an average of 5,000 gasoline pumps each year and when found within tolerance, they were sealed. Last year we sealed approximately 95% of those tested, the remaining 5% were either taken out of service or repaired and sealed.

Taking all of this into consideration, if you still feel that the gasoline pump you used is not accurate please give our office a call and we will investigate your complaint. Remember to provide us with the location of the gas station, the pump number, the grade of gasoline and the date. If you have a copy of the receipt, that would suffice. The sooner you report to us the better.