

Wheels: Beth of Miamisburg writes, “What is it about fuel gauges? It seems that with my previous and current vehicles that the gauge stays on full or above half for a long time, and then it drops rapidly to empty. Why is this happening? Is the fuel gauge really that inaccurate?”

Halderman: Great question. I too have noticed this with almost every vehicle. I recall a conversation I had with an engineer who worked for a domestic luxury brand manufacturer. His job was to calibrate the fuel gauge for a new display that showed gallons remaining instead of a needle. He told me that he spent many hours being sure that the fuel sender unit accurately measured the fuel remaining in the tank. When the tank was full, the display showed the number of gallons in the tank. If I recall, the number was 19 gallons. Then when one gallon was used (in about 15 miles), the display changed to 18 gallons. When the tank was empty, the display read zero.

As soon as the vehicle came out customer complaints started to flow in regarding two concerns:

1. Poor fuel economy
2. Customers running out of fuel

Apparently, the general public does not like to see a very accurate fuel gauge because they are used to the older, less accurate gauges and expect the same readings. As a result of the complaints, the engineer recalibrated the fuel gauge to be less accurate by doing the following:

1. Instead of displaying each gallon, the display showed full until over 3 gallons were used. This change stopped all of the poor fuel economy complaints.
2. Instead of running out of fuel when the fuel gauge read zero gallons, the display was “recalibrated” to show zero gallons when there was still 3 gallons remaining.

Therefore Beth, you are right – the fuel gauges are now designed to show what the customer expects to see rather than what is actually being measured.

