Headline: Study: Accuracy of fuel displays vary

Deckhead: AAA recommends drivers fill up at quarter tank

Rising gasoline prices have put fuel economy near the top of the list of importance for drivers. The cost per gallon is more than $4 in many states and getting the most miles from a full tank has rarely been more critical.

Technology has assisted in helping drivers learn their vehicles’ gas mileage, miles per tank and how many miles can be driven before the tanks empty. But how accurate are these gauges? AAA research delved in to learning more about their reliability.

In-dash fuel economy plays a leading role in assisting drivers. It displays the estimated number of miles a vehicle gets per gallon, including how many “miles to empty.” AAA tested the accuracy of these systems and found their estimates vary significantly over shorter trips or are dependent on the consistency of aspects that effect gas mileage like speed and acceleration.

Drivers could be taking unnecessary risks should they over rely on these displays. This is particularly true for 74% of drivers who use their “miles-to-empty” display when they are low on gas to decide when to refill the tank, according to a AAA consumer survey. AAA recommends drivers monitor their fuel gauges and fill up when it reaches a quarter tank.

AAA, in collaboration with ARC of the Automobile Club of Southern California, used a dynamometer – a treadmill for vehicle testing – to run selected cars through a series of simulated driving scenarios to determine the accuracy of the fuel-economy estimation and the range-value (“miles-to-empty”) systems.

On average, the fuel-economy display of the vehicles tested showed a low error of 2.3% as compared to the fuel economy measured by the dynamometer. But individual-vehicle error varied significantly, ranging from minus-6.4% to 2.8%. The negative number indicates that one test vehicle overestimated fuel economy by 6.4% to or 2.2 mpg, while another underestimated it by 2.8% or 0.9 mpg. The specific results suggest that each vehicle reacted to changes in driving differently, and the accuracy can be impacted by driving styles and conditions.

Testing the “miles-to-empty” display found similar results with accuracy fluctuating across driving scenarios. Even though each manufacturer likely uses a unique algorithm to estimate range, it can be assumed that some historical driving data also is used to determine the vehicle’s fuel efficiency for future driving, proving range estimation is affected by the vehicle’s most recent driving conditions.

To get the best fuel efficiency from your vehicle, AAA recommends:

* Run multiple errands in one trip, and whenever possible avoid times of day when traffic is heavier.
* If you own more than one car, use the most fuel-efficient model whenever possible.
* Avoid hard acceleration to maximize fuel economy, and always inflate your tires to the recommended pressure.
* Remove unnecessary and bulky items from your car. Minimize your use of roof racks and remove special carriers when not in use.
* Consider minimizing your use of air conditioning. Even at highway speeds, open windows have less effect on fuel economy than the engine power required to operate the air-conditioning compressor.
* In hot weather, park in the shade or use a windshield sunscreen to lessen heat buildup inside the car.

These are valuable tips meant to get the most from a tank and the least from your wallet.

Cutline: GOING THE DISTANCE – In-dash fuel gauges can be helpful, but drivers shouldn’t rely solely on them in deciding when to fill up. Image: AAA.