Headline: Speedometers aren’t always up to speed

Deckhead: Gauge could misrepresent how quickly vehicle is traveling

It puts a chill in our spines anytime we peek into our rearview mirror and see a police vehicle’s flashing lights directing us to pull off the road. Often, it’s for speeding. The excuses begin pouring from our mouths:

“I didn’t realize I was speeding Mr. Police Officer.”

“I don’t normally drive like this.”

“I must have missed the speed-limit sign.”

“Any chance you can give me a pass?”

The latter is a Hail Mary pass that rarely comes to fruition. Three-figure fines leave us talking to ourselves for at least a day. It’s enough to make us question the accuracy of our vehicles’ speedometers.

Let’s say it’s far from being an exact science. Drivers have been ticketed for speeding, even though their speedometers read they were traveling the speed limit.

Surprisingly, there are rules that govern how a vehicle’s speedometer should read. Legislation reads it can’t under-read. So, if you’re traveling at 52 mph, your speedometer can’t show 50 mph.

But speedometers can legally over-read, which isn’t a bad thing. Your speedometer could be reading 45 mph, when you actually are moving at 40 mph. It’s unlikely two cars will have speedometers that give an identical and perfectly accurate readout consistently.

Legislation also reads that a speedometer can’t over-read by more than 10% plus 6.25 mph, meaning that if you are driving 30 mph, your speedometer can’t read that you’re moving faster than 39.25 mph. It can’t read 61.25 mph if you’re driving 50 mph.

Drivers often have leeway upon which to rely, even though, technically, there is no tolerance for speeding. The National Police Chiefs Council recommends it. It’s 10% plus 2 mph, meaning you could travel 35 mph in a 30-mph zone. But it’s only a recommendation. Officers don’t have to follow it.

Drivers shouldn’t assume an officer will abide by the recommendation. Tickets can punch a hole in your budget.

So, how does a speedometer work?

Most modern vehicles are furnished with electronics. A majority have safety features like anti-lock braking (ABS) and Electronic Stability Control (ESP or ESC). Speed sensors on individual wheels allow these features to operate effectively.

The engine control unit (ECU) takes a reading from the four sensors. These can turn the amount the wheel is rotating into speed on the road. The ECU calculates an average that is displayed on the instrument panel.

That is why changing wheel diameters can have an impact on the speedometer that can require it to be recalibrated. If the sensors don’t know the wheel size has been changed, they’ll still be making their calculation by using a wheel that might be turning more or less frequently than they are programmed to do.

Speedometers in older vehicles used a rotating cable attached to the driveshaft. It had a magnet at one end that rotated inside the magnetic cup that was attached to the speedometer’s needle. The faster the vehicle moved, the higher speed the indicator needle read.

Satellite navigation is an ideal way to learn the accuracy of your vehicle’s speedometer. GPS will calculate how fast you are traveling. This continuously bounced a signal to and from the satellite and calculates the distance covered and the time it’s taking to calculate your speed.

We rely on speedometers to keep us out of hot water. It might be worthwhile to blame its accuracy the next time a police officer pulls you over.

Cutline: FAST AND FURIOUS – Vehicle speedometers aren’t always accurate. Take precaution when trying to follow the speed limit. Image: BillionPhotos.com. Adobe Stock.