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Why You're Driving Slower Than You Think—and How to Fix It: Mechanic's Diary

BY MIKE ALLEN

Last weekend I pushed my Triumph out of winter storage. It was clean, shiny and just as red as I remember when I pulled that cover off. That felt good, I tell you--my riding season here in New Jersey has officially begun. I rode the Triumph back to my shop for a little spring maintenance (all in preparation for my trip to the Honda Hoot in Tennessee come June). Man, it was great to get back on my own bike for an hour or so after riding around California on press bikes over the winter.

I was tooling up the parkway, maintaining speed with the traffic, which was really hauling--I mean a good 15 miles per hour over the speed limit. And motorcycles, especially bright red ones like mine, seem to have a very high profile with law enforcement. I was torn between the need to maintain pace with the traffic and driving slowly enough to maintain my ticketless driver's license. I spotted two state police cars with radar guns aimed in my direction and passed two more handing out wallpaper on the side of the road--all within a 20-mile trip. So I instinctively rolled back the throttle to slow down.

But how fast was I really going? Speedometers can be off, sometimes.

I reached down and flipped on on the Garmin GPS mounted on my handlebars. It's been a while--I hadn't realized just how far my speedometer was off calibration. While the Garmin had my ground speed at a cautious 68 mph, the speedo on the dash read a fineable 73 mph--a whopping 8 percent difference. And of course other cars and bikes in the two left-most lanes were overtaking me by a good 10 mph. Now I remember why I keep that Garmin turned on even when I know where I'm going.

Eight percent is a substantial error. And many of the other bikes I've ridden in the past have been nearly that bad, too. I'm not talking about bikes or cars that have been modified with different-size tires or changed sprockets or gearing. I'm talking about new bikes on the OEM tires.

And before the mail starts rolling in, yes, cars and trucks are usually far more accurate than motorcycles. But they aren't perfect. Most of the vehicles I've checked are within 2 percent of the correct speed, but that's with new tires. As the tires wear down, the more inaccurate the speedometers become. That's because, unlike the GPS, the speedo in a car, truck or motorcycle infers road speed by measuring the angular velocity of the tire (that's engineer speak for how fast the tire is rotating at any point in time). As the tire wears and gets smaller, it rotates faster for a given velocity over the road, and the speedo spins faster.

But the rubber on my bike is pretty new. Why on earth would they be so poorly calibrated? Trust me, going to the service department and complaining that the speedo is wrong falls on some seriously deaf ears.

One answer I've gotten, and this came from a motorcycle PR guy, is that speedo error is baked into bikes--deliberately. But not so bike manufacturers can claim higher top speeds or acceleration than the bikes would actually achieve. No, no, it's to keep motorcyclists going a little slower so we won't get as many tickets. Yeah, sure, I believe that. Dave Searle, editor-in-chief of *Motorcycle Consumer News*, measures the speedometer accuracy of every bike they test. "I've seen speedometers reading 65 mph at a true 58 mph," he told me this week. "The only company to give me an answer was BMW. They said the variance was to ensure an aftermarket tire that may have the same tire size but differ in true height would not cause the speedo to read pessimistically." And neither Dave nor I actually believe that one either.

I called Triumph to get some answers about my bike, but so far, no one has called me back. The buzz on a couple of Web sites may offer a partial explanation: European standards for speedometer error. These standards say that a motorcycle speedo may not show a speed lower than the actual over-the-road speed, which sounds like a good plan. But permissible error in the other direction is 10 percent plus 4 kph. And that sounds suspiciously close to the industry-wide 8 to 10 percent error I've been complaining about. Hey, if they can get it that close to the edge of the tolerance band on the high side, they ought to be able to get it pretty close--period.

So what can we do? I can do math in my head and just add 8 percent to the speed shown, but that's not the Popular Mechanics way, is it now? On my touring bike, I just leave the GPS on, which gives me a real-time speed readout, although the numbers are a little small. I've got a RAM mount for my Ducati that holds a handheld, backpacker-type GPS with an analog speed readout that covers most of the 2-in.-wide screen, which is very readable, at least during the day and until the batteries run down.

There's another alternative: Old-fashioned, mechanically driven speedos employed a pair of gears in the speedometer cable to slew the ratio up or down using gears with different tooth counts. This might be an option for your bike--or even for your older car. It's usually pretty simple to change the gears. If that's not an option, find a speedometer shop (which is getting more difficult as we transition from mechanical speedos to electronic ones) to remove the speedo head and have it recalibrated. The technician will need to know exactly how far off the thing is, of course.

For those of us with electronic speedo heads or digital speedometers, there may be a recalibration function buried in the software. There often is for cars, but good luck finding out how to do it. And changing that calibration with intent to defraud--like changing kilometers to miles to "adjust" the odo reading--is straight-up illegal.

One last solution is a yellow box or speedo healer, available for many bikes--it just intercepts the signals to the speedo head, and changes them to make the readout more accurate. It's not a trivial installation and calibration procedure, although the gadgets themselves can be had for a hundred bucks or so.

But somehow I feel like I shouldn't have to be going out of pocket to correct something that should have been done correctly out of the box.

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