

# Road Beat: Toyota's Prius Prime is plugged in



Prius Prime will have people rethinking a hybrid's performance – in a good way. Photo/Larry Weitzman

**By Larry Weitzman**

Prius Hybrid has been around the United States since 1999 and as complex a vehicle as it is, it is one of the most reliable and fail-safe vehicles ever sold in the United States.

Even the batteries are almost bullet-proof, with failures even after 10 years being an extremely rare occurrence. Part of that is due to the strict control of the battery software. In 2006, Toyota had tested the batteries for 150,000 cycles with no significant loss of efficiency. Amazing.

New for 2017 is a plug-in version of the Prius, called the Prius Prime. Instead of about a 1 kWh Nickel-Metal Hydride

battery, the new Prime gets an 8.8 kWh Lithium-ion battery that can give the Prime a real-world EV range of about 22 miles, according to some reports. While the combined power output from the 1.8L Atkinson cycle inline four and the Prius' two electric motors is limited to 121 hp, Toyota has not released the standard hp available from the battery that powers the electric motors. Subtracting the 95 hp of the gas engine from the total combined output, it leaves just 26 hp as an EV vehicle. But from its performance as a pure EV and its EV top speed of 84 mph, I suspect this number to be higher, but with a co-efficient of drag of 0.25, 84 mph on 26 hp is possible.

Because the EV portion of the car is fairly low hp, it is possible to get engine assistance even though the battery is in a high state of charge as in pure EV mode, performance is a bit lethargic. But with the gas engine available it performs like a conventional Prius hybrid, but pure EV mode is more readily available and for long periods of time.

In my prior Prius tests I longed for more battery. With this plug-in, that wish has been answered. With judicious modulation of the throttle in normal mode, you can EV the Plug-in Prius to your hearts content, knowing that you are still driving a Prius Hybrid that has an EPA rating of 133 MPGe (equivalent) in pure electric. MPGe/hybrid MPG is rated at 55/53/54 city/highway/combined. And with its relatively large 11.3-gallon fuel tank, 600 miles might be easy.

During my short 10-mile excursion starting a zero mpg, the Prius was up to 42 mpg on the trip computer and climbing and that included some use of the gas engine during some full throttle runs. I estimate a 0-60 mph time of about 10 seconds, both engines working. And there is little if any guilt when you stomp the throttle.

In my test drive around Roseville and without a full charge I was still able to EV quite handily accelerating to 45-50 mph

on pure electric. But this Prius is so smooth and quiet, about the only way you know if the engine is helping or running is to look at the systems operational depiction on the IP. Otherwise you just don't know. The starting and stopping of the engine is also imperceptible, it's that smooth of an integration.

Ride quality is obviously extremely quiet and it is almost cushy. It's certainly not a car for the track, but you could create a new kind of racing, one that requires both speed and fuel economy, sort of an endurance race. Now that could be interesting. We could call it "hypermiling with speed."

Even with its 265-pound battery, Prius Prime tips the scale at a modest 3,375 pounds. Prime is only 183 inches long, but it is classified as a mid-size car by the EPA. Prius Prime has a spacey look to it, futuristic, if you like. It will be polarizing. Starting at a shade below \$29,000 for a Prime Plus to about \$34,000 for a loaded Prime Advanced, the Prime is well priced considering that a loaded Prius hybrid stickers for about as much. But then again, a "conventional" Prius does have EPA mileage numbers in the 50 mpg range which the Road Beat easily averaged (54 mpg overall) in our recent test.

*Larry Weitzman has been into cars since he was 5 years old. At 8 he could recite from memory the hp of every car made in the U.S. He has put in thousands of laps on racetracks all over the Western United States.*