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AUTOFOCUS

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SECTION 9

AutoSunday

Chevrolet Silverado is one rare hybrid

BY ANN M. JOB
For The Associated Press

Maybe there should be a movie called "Honey, I Grew the Hybrid."

While other car companies have been dutifully putting gasoline-electric hybrid power into relatively modest-sized cars, General Motors had a different idea: Put the fuel-saving technology into some of the biggest passenger vehicles, including the company's best-seller, the Chevrolet Silverado pickup truck.

Not even GM's financial struggles and approaching bankruptcy could prevent the debut early this year of the new, 2009 Chevy Silverado Hybrid, the nation's first full hybrid full-size pickup truck.

It differs from earlier Silverado Hybrids because it can travel on electric power at up to 30 miles per hour. Earlier Silverado Hybrids did not have this so-called two-mode hybrid system.

This is no wimpy pickup. The 2009 Silverado Hybrid comes only as a four-door crew cab with 5 $\frac{3}{4}$ -foot-long bed, so it's 19.2-foot long from bumper to bumper.

It has a V-8, so it can tow up to 6,100 pounds, and its top payload rating is 1,459 pounds.

Yet, with a government fuel economy rating as high as 21 miles per gallon for city driving and 22 mpg on the highway for a two-wheel drive model, the 2009 Silverado Hybrid is tops in fuel mileage among all pickup trucks except for the much-smaller Ford Ranger and Mazda B2300 compact pickups with four-cylinder engines.

Indeed, the Silverado Hybrid, with city fuel mileage that's 40 percent better than a regular, gas-only Silverado, can travel some 500 miles on a tank of fuel, according to the government's fuel mileage estimate.

I drove the test all-wheel drive Silverado Hybrid as normally as possible, carrying furniture and people. My mileage rating was 16 mpg combined city/highway and compared with the government's 20/20 mpg rating for the test model.

It's just too bad that the Silverado Hybrid is so pricey, even after factoring in the federal government's \$2,200 tax credit. Starting manufacturer's suggested retail price, including destination charge, is \$39,015 for a two-wheel drive model and \$42,165 with all-wheel drive.

This compares with \$30,050 and \$33,200 for two- and four-wheel drive base versions of Silverado crew cab that don't have hybrid powerplants and run on gasoline only.

The government fuel mileage estimates for the gas-only Silverado are no better than 15/21 mpg. Even so, it would take years for a buyer to recoup the premium price of the hybrid, even considering the \$2,200 tax credit that comes with it.

Sure, surveys show that consumers are more attuned to the environment. But with the economic doldrums, it remains to be seen how this newest Silverado pencils out financially for most truck buyers.

At stoplights, the gasoline

At a glance

Price as tested: \$49,295

Engine: 6-liter, overhead valve V-8 with Atkinson cycle, Active Fuel Management and two, 80-horsepower electric motors

City/highway fuel economy: 20/20 miles per gallon

Length: 230 inches

Wheelbase: 143.5 inches

Curb weight: 5,882 pounds

Built: Oshawa, Ontario, Canada

engine turns itself off and stays in silent "Auto Stop" mode until the driver needs the vehicle to move again.

Then, the truck can propel forward in silence slowly up to about 30 mph, as electric power alone moves the 5,600-pound-plus vehicle if the driver works the throttle gently.

As speed picks up, the gas engine starts up and propels the truck.

The Silverado Hybrid uses the same 6-liter, overhead valve Vortec V-8 that's used in the Chevy Tahoe Hybrid sport utility vehicle.

In the Silverado, the engine generates 332 horsepower and a peak torque of 367 foot-pounds at 4,100 rpm. It also works to get everything it can from its fuel through an economical Atkinson cycle of operation and GM's Active Fuel Management system that deactivates some engine cylinders during coasting and other driving conditions.

Power is delivered to the wheels via an electrically variable transmission with four fixed gears and mostly smooth operation. I did notice, however, a brief stumble or hesitation when the engine switched from pure electric power to gas engine power.

It's similar to what a driver can experience if an engine is about to stall, and it's not uncommon in gas-electric hybrid powerplants where software controls the mixing and matching of power flows. Still, in the test truck it was a regular reminder that this wasn't a normal pickup.

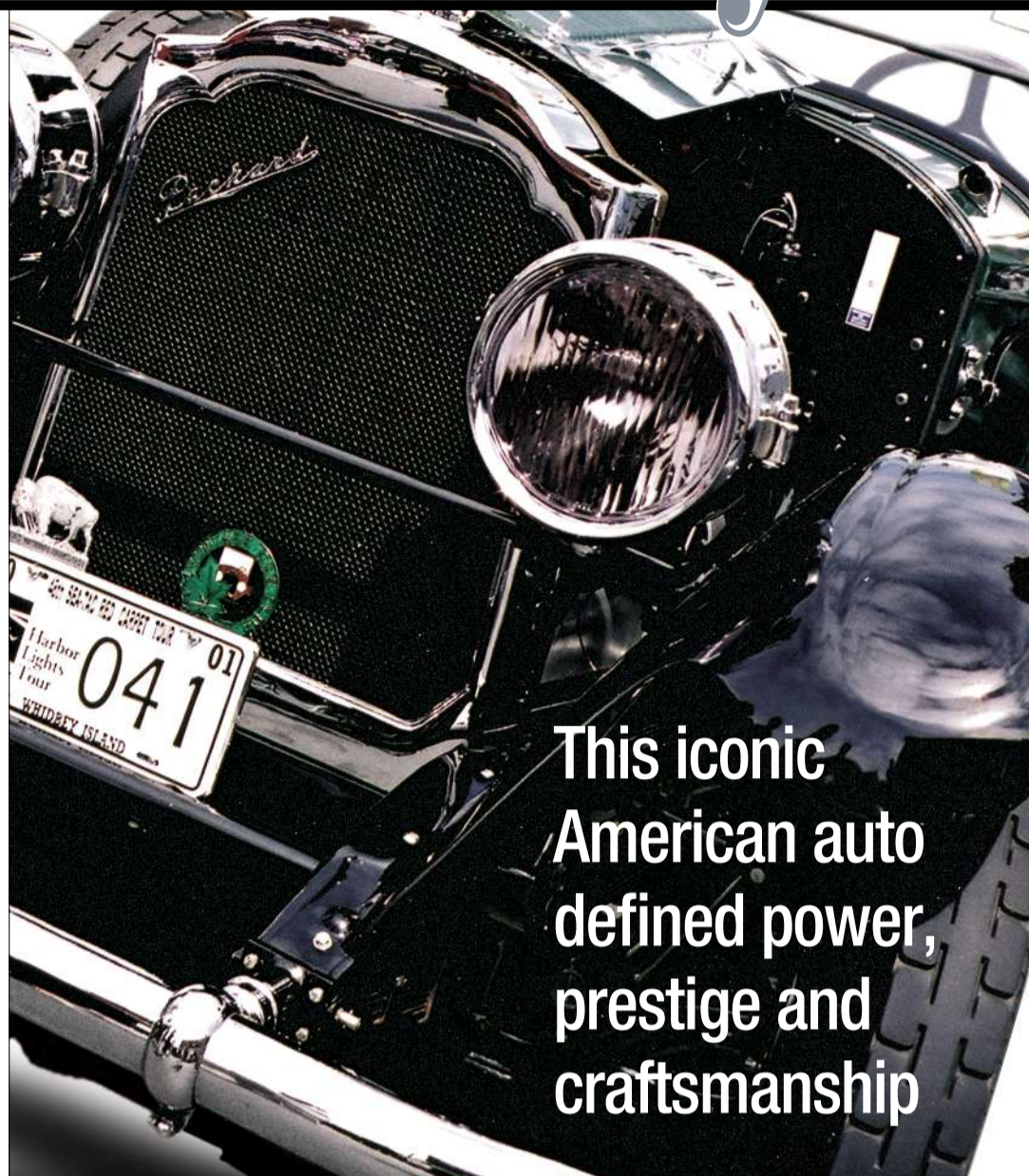
So were the dirty looks I got from people walking in parking lots at the grocery. They'd look behind, if they were aware at all, and find this big truck creeping behind them silently.

Braking was different, too. Brakes in the test truck had a distinctly artificial feel. Try as I might to stop smoothly, the brakes would grab right at the end of the stop, so even at slow speed, there was an abruptness to any stop.

Note the brakes here are regenerative, meaning they seek to capture energy as the vehicle slows and store it in the onboard 300-volt battery storage system for use later by the hybrid system's two electric motors.

Beyond the powerplant, the Silverado Hybrid tester felt and looked like a regular Silverado. There was a truckish bounce over severe road bumps and highway expansion cracks.

Steering was comfortable, and there was good space inside for all passengers.



This iconic American auto defined power, prestige and craftsmanship

PACKARD



BY MALCOLM GUNN

Wheelbase Communications

I'm not sure just how true the story is, but my father once told me his uncle, a well-to-do businessman during the time of the Great Depression, would order a new Packard automobile every three years or so.

Family legend has it that each of his specially tailored motor carriages would undergo a thorough shake-down at various speeds and road conditions. Following this, the engine would be completely disassembled to uncover any signs of undue stress or damage to its various internal pieces. After ensuring that all components were working as they should, the motor was buttoned up and the well-tested Packard shipped off to said uncle, who would be assured of trouble-free ownership until his next purchase.

Even if my uncle in actuality never laid eyes on a Packard, the story sounds plausible when you consider that these cars were once considered the cream of the automotive crop. Cars bearing the distinctive Motometer radiator cap (later to be replaced by a graceful cormorant mascot) became symbols of power and affluence. But they also represented much more.

Packards hold a number of important "firsts" in the history of the automobile, including the first "H-pattern" gearshift, steering wheel (replacing the tiller), hydraulic shocks, air conditioning and power windows. In addition, a Packard was the first car to break the mile-a-minute barrier (60 mph) in 1903.

The beginnings of Packard date back to 1899 when Warren, Ohio-based James Ward Packard, with the help of his brother, made his first single-cylinder horseless carriage.

Fine Lines

Packard

This led to the formation of the Ohio Automobile Co.

Packard's creation became an instant success with sales — and outside financial investment — quickly increasing. Following the relocation of the business to Detroit in 1903, Packards became even more popular, although the company was, for the most part, controlled by wealthy entrepreneur industrialists.

As the fortunes of Packard increased (the company made more than \$1 million in profit in 1907), so did the size of the car's powerplants, with four- and six-cylinder engines employed until 1915. But the car that solidified the company's position as a leading-edge automaker was the introduction of the Twin-Six that year.

This was the first V-12 engine used in a passenger car, vastly outpowering Cadillac's V-8. With 85 horsepower at 2,600 revs per minute, the nearly seven-liter engine became the preferred drivetrain upon which Packard's well-heeled customers would install their preferred custom coachwork.

From its inception until the final Twin-Six rolled off the production line in 1923, more than 35,000 vehicles had been manufactured. This was followed by the adoption of L-head eight-cylinder engine that was not only cheaper to produce, but actually had more horsepower than the V-12.

These Packards managed to carry the company through its uncertain Depression-era period in fine style. While many high-end auto manufacturers met their doom during the 1930s, Packard sales

remained relatively strong by comparison. Initially, the 320-cubic-inch, inline-eight generated 90 to 110 horsepower, depending on the year. This was followed by a significantly larger 385-cubic-inch engine that was rated at up to 145 horsepower.

During this time, Packard body styles, whether built by the company or an outside supplier, ran the gamut from sedans and coupes to roadsters and phaetons (four-door convertibles).

These cars didn't come cheap, with prices topping out at just over \$8,500. However, for the money, there was no quieter running or more reliable automobile to be found anywhere. The company's sideline business of developing powerplants for aviation and marine applications was obviously put to good use in the manufacture of these superior motors.

The classic Packards of the 1930s and early 1940s eventually gave way to more conventionally-styled, mass-produced products that followed the end of the World War II. These cars, including such names as the Clipper, Custom Eight, Super Eight, Caribbean and Patrician, would all retain the aging original straight-eight design.

The first conventional V-8 Packards appeared in 1955. By then, however, the company was in dire financial circumstances and was swallowed up in the merger with Studebaker a year later. The last Packard-branded car — in reality a Studebaker with slightly different trim — left the factory floor in June of 1958.

For true Packard followers, those classic handcrafted cars from the 1920s and 1930s represent the best of the marque.

The oft-used advertising tag line, "Ask the man who owns one," was not a pompous slogan, but a reflection of the company's dedication and pride that was poured into each and every vehicle.

• E-mail Malcolm Gunn at www.wheelbase.ws/mailbag.html.

Wheel-speed sensor can fail, causing unsafe drive

Q. I have a 2004 Chevy Impala with 42,000 miles on it. The vehicle is covered under the GM extended warranty I purchased with the vehicle.

About six months ago, the

traction control system began activating on dry pavement. It has happened numerous times after I have backed out of my garage, shifted to

drive, and began accelerating while having the wheel turned slightly to begin going down the road. It is activated only for a few seconds. I can hear the system engage and the indicator light on the dashboard lights up. I took the vehicle to the dealer for service but they could not find a problem with the system.

Last week, in addition to the system activating, three lights on the dashboard lit up: Trac Off, ABS, and Service Traction System. This is only the second time the Service Traction System light has gone on.

I have several questions regarding this problem. Is there a history of this problem with Chevy Impalas? What is typically the problem when the situation I have described occurs? Is this a dangerous condition? What action do you recommend I take?

A. Just from your description it sounds as if one of the Wheel Speed Sensors on your car is beginning to fail. The scenario you describe is the result of one of the sensors not sending a correct signal to the computer and the computer thinks that the wheel is skidding and turns on the anti-lock brakes. This could be a hazard because on dry pavement it really increases your stopping distance.

What we generally do is drive the car with a scanner hooked up so that we can monitor the wheel speed sensors and try to catch it when it glitches. Another way is to actually connect a scope and read the output from each sensor. Once you determine which wheel it is, the whole wheel bearing for that wheel needs to be replaced because the sensor is part of the bearing.

I believe any shop can accept the GM extended service contract. This is a fairly common point of failure on the Impala. I recommend taking your car to a shop that you have confidence in and a shop that understands the nature of your problem. Whatever you do, don't ignore this; that sensor may glitch at a very inopportune time!

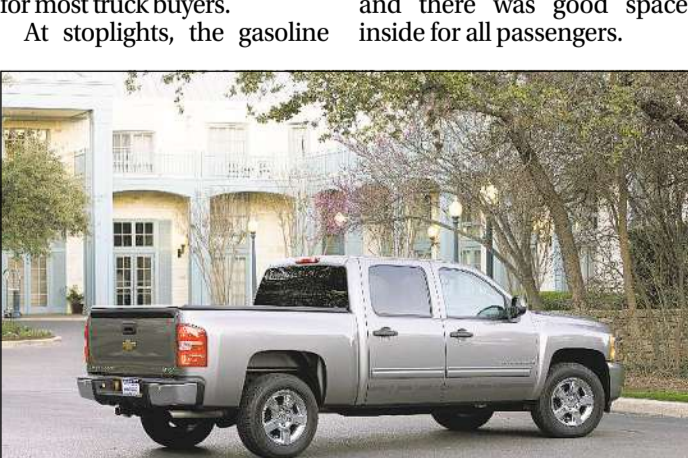
• For information, visit douglasautomotive.com. Send questions to underthehood@dailyherald.com.

U.S. auto sales may rise in 4th quarter

Bloomberg News

General Motors Co. and Toyota Motor Corp., the biggest automakers in the U.S., said fourth-quarter sales may rise after a letdown from the "cash-for-clunkers" rebates dragged the industry to its second-worst month of 2009.

September U.S. sales fell 23 percent as the incentive program left dealers' inventory depleted. With the government cash boosting demand in July and August, third-quarter sales ran at an annualized pace of 11.5 million cars and trucks, the strongest in a year.



COURTESY OF GENERAL MOTORS

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