Hybrid goes luxe: Lexus GS 450h roars

by Mark Maynard

The hybridization of a gasoline engine is a wonderful thing. Especially when it's pushing more than 300 horsepower in a sport sedan built to take it. Hybrids, combining an electric motor and battery pack with a gasoline engine, are heralded for their fuel economy and substantial reduction in tailpipe emissions. Lexus GS 450h Sedan But the system also brings a stunning boost in horsepower when applied to larger engines, such as that in the Lexus GS 450h sedan. It has a big V-6 engine that has the kick of a big V-8. It is the muscle car of the next generation. Lexus isn't trying to convert Green Peace followers with its GS 450h, which it calls "a top-flight luxury performance sedan designed to have class-leading acceleration and responsiveness." And that it does, for $55,595, with the topline model churning out 339 horsepower. It joins the GS 300, at $43,845, with its 245-hp, 3.0-liter V-6; an all-wheel-drive GS 300 for $45,795; and the GS 430 with a 300-hp, 4.3-liter V-8 for $52,070. The hybrid model's nomenclature - 450h - is a marketing chip. The car's electric-motor-enhanced 3.5-liter V-6 has the power of a 4.5-liter V-8, Lexus says. Power from the permanent magnet motor, combined with the 292-hp V-6, provides potent acceleration from leaving the traffic light to flooring the pedal at 70 mph. The power is a remarkable accomplishment without turbocharging or supercharging. Channeled through an electronic, continuously variable transmission, zero-to-60 mph acceleration is 5.2 seconds. That compares with 5.7 for the GS 430 and 6.8 for the GS 300. And the hybrid GS is 386 pounds heavier than the GS 430. The electric-motor assist to the rear wheels gives instant power-on and there is no lag from a transmission seeking a downshift or two. The engine just doesn't run out of breath. The hybridization allows 80 percent less smog-forming emissions than the average new car, Lexus claims, and it gets a Super Ultra-Low Emission Vehicle, or SULEV, emissions rating. Fuel economy is 25 mpg city and 28 highway, which compares to 22/30 for the GS 300 (21/27, AWD) and 18/25 for the GS 430. The hybridization is a two-mode system. It saves fuel and emissions by driving under battery power when starting and moving at slow speeds and by turning off the engine at stoplights. Regenerative braking captures energy for the battery pack, and the stealth operation of the electric motors also makes for a quieter cabin. I still envy the six-speed automatic in the GS 430, but since Lexus did away with the steering wheel shift controls, the car's just not the thriller it used to be. But the absolute acceleration of the hybrid brings back some of that fun-to-drive ingredient. Pop the hood and there's not much to see of the engine. It's shrouded in plastic covers and is as tidy as can be. Harnessing the gasoline-electric power is fairly seamless, but I did notice a sensitivity when going from cruising speed to hard acceleration, such as for passing or when powering up to merge with freeway traffic. There can be such a rush of acceleration that the flow of power seemed uneven, as if the gas pedal were controlling two competing engines - which it is. There's a lot of torque going to the rear wheels. Inside and out, the GS has all the signature Lexus obsession for detail, refinement and features. But not all is perfect. The rear center seat position is ridiculously cramped and compromised by the large transmission tunnel. The trunk is small enough to challenge large golf bags. And the rain-sensing wipers are maddening to rely on in drizzle, refusing to swipe when really needed. Standard equipment includes electrically powered air conditioning, power moonroof and power rear sunshade, heated-ventilated front seats that are 10-way adjustable, front and rear side-curtain air bags, Intuitive Park Assist (front end warning tones), rear backup camera and an eight-year, 100,000-mile battery and hybrid system warranty. A 14-speaker Mark Levinson Audio system adds $1,780; a navigation system is $1,900; and the precollision system with adaptive cruise control, which helps reduce the possibility of a collision or helps to reduce the severity of an impact, is $2,850. The precollision system uses a millimeter-wave radar sensor to help detect obstacles in front of the car, and a computer watches vehicle speed, steering angle and yaw rate inputs (possible unintended vehicle rotation) that help to determine in advance whether a collision is unavoidable. If not, the system pre-emptively retracts front seat belts and pre-initializes Brake Assist so that increased braking is applied the instant the brake pedal is depressed. Engineers have been trying to harness the added energy of an electric motor with a gasoline engine since the late 1800s, but the nobility of that mission was lost in generations of cheap fuel. Toyota and Lexus are here to polish that pairing and use hybrid power as a performance statement. The full-size LS luxury sedan will also be available as a hybrid. But at what cost to the consumer? The Lexus hybrid-drive engine is state of the art now and maybe for the next three years. But hybrid technology will have evolved exponentially by the time the eight-year warranty runs out. And what was revolutionary today will be as outdated as an

eight-year-old desktop computer. That's why leasing any hybrid is a good idea. If you are the type who buys a car to keep for 10 years, buy the traditional GS and enjoy the sound of the engine. SPECS 2007 Lexus GS 450hBody style: Large, 5-passenger, rear-wheel-drive sports sedanEngine: Aluminum, DOHC, 24-valve 3.5 liter V-6 with continuously variable valve timing; SULEV, Tier 2, Bin 3 emissions ratingEngine horsepower: 292 at 6,400 rpmTorque: 267 foot-pounds at 4,800 rpmHybrid power: Permanent magnet motor, with regenerative brakingTotal horsepower with electric motor: 339 hpBattery pack: Sealed nickel metal hydride (240 cells)Transmission: Electronic continuously variable, with power and snow modesAcceleration: 0 to 60 mph, 5.2 secondsEPA fuel economy estimates: 25 mpg city, 28 highway; 91 octane required DIMENSIONS Trunk space: 7.5 cubic feetFront head/leg/shoulder room: 37.8 with moonroof/43.5/56.3 inchesRear head/leg/shoulder room: 37 with moonroof/36.4/55.1 inchesLength/wheelbase: 190/112.2 inchesCurb weight: 4,134 pounds FEATURES Standard equipment: SmartAccess keyless entry and push-button start, electronic power steering with variable gear ratio steering, electrically powered air conditioner, power moonroof and power rear sunshade, heated-ventilated front seats (10-way power-adjustable), power tilt-and-telescopic steering wheel with automatic tilt-away, 10-speaker 6-disc CD audio system, rain-sensing wipers, Intuitive Park Assist, rear backup camera, power trunk closer, 18-inch alloy wheels and Z-rated tires (or optional run-flats) and eight-year, 100,000-mile battery and hybrid system warrantySafety: Dual-stage front air bags, front knee bags, rear side air bags, front and rear side-curtain air bags, electronically controlled 4-wheel disc brakes with ABS, electronic brake force distribution, Brake Assist, traction control and vehicle dynamics stability control system, tire pressure monitor system, adaptive front lighting system with headlamp washers PRICING Base: $55,595, including $695 destination chargeOptions on test car: NoneWhere assembled: Japan PLUSES Gratuitous acceleration with some thrift and economy. Immaculate styling and craftsmanship. Tight 36.7-foot turning circle. MINUSES Small trunk, cramped rear center seat position, maddening rain-sense wipers

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