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**ELECTROLUX:** At \$54,900, the Lexus GS450h costs more than the V-8 GS430, but it's faster, comes with some smart options, and the gas-electric power mix gets 20% better mileage.

## *The well-bred hybrid*

**The Lexus GS450h adds a green machine to the sports luxury class. Doubters — it's time to put away those slide rules and jump aboard.**



By Dan Neil  
Staff Writer

**I**N physics, the Greek letter "delta" indicates a change in value, a term that allows you to utter massively cool NASA-speak such as, "What is the delta in vector?" Or velocity. Or viscosity. After a long night at the Delta frat house, you may well wonder, what is the Jagermeister delta?

Auto showrooms have deltas too — the difference in price between one model and its upgraded version. For instance, the Porsche 911 retails for \$71,300. The 911S — the sportier model with slightly richer amenities — costs \$81,400, for a delta of \$10,100. What do you get for your hard-earned delta? A bump in horsepower, from 325 to 355; a paltry decrease in 0-60 time, from 4.8 seconds to 4.6; a slight — and almost entirely theoretical — higher top speed of 182 mph versus 177 mph. How deep under the jail would you like them to bury you?

And yet, in the face of this less-than-compelling arithmetic, more North American buyers last year preferred a 911S over a straight 911 (2,443 versus 2,108).

The point is, buyers spend thousands of dollars upgrading to vehicles with negligible or even nonexistent

performance advantages, but when it comes to hybrids, well, out come the long knives, or rather, the long slide rules. Doubters demand to know if they buy a Honda Civic hybrid, an Accord hybrid or a Ford Escape hybrid, will they save in gas what they spent on the hybrid delta?

I've run the math several times in these pages and demonstrated that, yes, hybrids can pay for themselves; it's only a question of when — unanswerable given the variables of time of ownership, applicable tax breaks, style of driving and price of gasoline.

But whether you do or don't recoup the hybrid delta, the money you spend is purely an expression of your personal values and delight at such machinery, exactly as it is when you step up from the thoroughly fast base-model Corvette to that crazy venti latte of adrenaline, the Z06 Corvette.

Now comes the Lexus GS450h, the first hybrid in the stratocruiser sedan segment, the fastest Lexus ever, and the first hybrid to drive the rear wheels with a front-mounted engine. The base price comes in at \$54,900 — \$2,830 more than the V8-powered GS430. For that, you get a car half a second quicker to 60 mph (5.2 seconds) and better furnished as well (Lexus' suite of traction,



**LITTLE ROOM TO SPARE:** The hybrid system and roll stabilization eat up the cargo space.

stability and smart braking technologies, the VDIM system, is standard in the hybrid).

Such description impoverishes the actual experience of the car. How to put this: The GS450h is the neon-skinned, freeway-ventilating electric eel of midrange torque. Put the Wellie to this car at 80 mph and, before you can say, “Galvani, Volta, Faraday and Tesla,” the Electro-Lex is humming along at 100 mph, shoved into crass illegality by its 197-horsepower monster-magnet motor.

I didn’t have access to a track and, not wishing to microwave my license, I didn’t verify my hunch, but I’m guessing the GS450h is about a second quicker in the quarter-mile than the standard GS430. Considering the wads of cash that luxury and performance buyers blow for much smaller increases in performance, the GS’ hybrid delta is charmingly nominal.

Oh, and by the way, the car gets 20% better fuel economy than its conventional cousin: 25 mpg city, 28 mpg highway, compared with 18/25 mpg. According to Lexus, that’s good for a savings of about 200 gallons per year, or \$560 at current California prices for premium fuel. In other words, even without tax credits and accounting for increases at the pumps, the hybrid delta is covered in five years.

Also, the car is rated as a super-low emission vehicle (or SULEV). Not bad for a “performance” upgrade.

Except when it’s silent, the GS450h soundtrack is what might be called a charged polyphonic hum, and at full throttle, an indignant Norelco shaver. Some hybrids, such as the Lexus RX400h, answer urgent calls to the engine room with a spiraling whine from the continuously variable transmission and not much change in velocity. The GS450h has a direct linkage between the go pedal and the rear wheels. Nail the throttle and the car surges forward on electron-greased rails while the needle on the cool-metallic “kilowatt” gauge swings to over 250kW (max output of gas and electric power is 339 horsepower). Next stop, Dusseldorf.

At low speeds, the gas engine cuts off — it’s quite hard to detect the on-off cycling of the V6 — and the car moves like a very large and ethereally comfortable golf cart.

How’s it work? Under the hood is a direct-injection, 292-horsepower version of Lexus’ 3.5-liter V6 mounted in a north-south (longitudinal) position. Behind that is a greatly beefed-up and reengineered version of the Toyota Hybrid Synergy Drive motor/generator/transmission found in its Prius. As per usual, the first motor/generator manages energy flow between the engine, the driveline and the batteries. The second motor is the electric Clydesdale, putting out 197 horsepower and 203 pound-feet of torque as an overlay for the V6. Because peak torque and horsepower arrive at different rpms for the gas engine and the electric motor, the combined system values are a still-considerable 339 horsepower and 362 pound-feet of torque.

The car has one last trick, a two-stage variable gearset that basically — although nothing is basic in this car — acts like a two-speed transfer case between the big electric motor and the driveline, multiplying torque at low speeds (equivalent to a 3.9:1 rear-gear ratio) and reducing engine rpm at high speeds (1.9:1). This is a wonderful bit of hardware.

Along the way, there have been some compromises. Although the GS450h’s hybrid system is tightly packaged, the battery pack, controllers and various ancillary gear still consume a fair amount of space. The trunk is down to around 8 cubic feet and there’s no ski pass-thru. Cars equipped with the active roll-stabilization hardware also surrender their spare wheel wells for the equipment and are shod with run-flat tires. Eighteen-inch, 40-series Dunlops are standard; on our test car, these were wrapped around beautiful buff- and polished-alloy rims.

Also, the car is 386 pounds heavier than its V8 twin, and it feels heavy in the tiller. The steering, electronically dialed in, is heavy but accurate, and the big Lexus helms better than it actually feels. The optional active roll-stabilization system gives it an oddly synthetic horizontal stance while cornering, and I think I might forgo this option in the interests of a spare tire and a little more compliant tires. BMW’s anti-roll system system feels much more integral to the car.

The ride is nevertheless gorgeous. The optional Mark Levinson sound system is

transporting. The high-def navigation and rear-camera display is brighter than Veuve Clicquot at 40-degrees Fahrenheit. All things considered, a wonderful car.

How will hybrid haters attempt to dismantle the GS450h? By accusing its owners of green grandstanding? Perhaps, but the car’s hybrid badging is quite discreet — just a lovely sword of chrome along the lower panels. By accusing them of insincerity? Fuel-efficient powertrains must be made available across the vehicle market; to insist otherwise is to insist that everyone drive the same kind of car, essentially repealing capitalism — which, as nice as that might sometimes sound, isn’t going to happen. Yes, rich people can be more responsible too.

In any event, buyers will be pleased and minds will be changed. The GS450h has the power to delta hearts.

## 2007 Lexus GS450h



**WHERE AM I?** The GS450h comes with high-def display and optional navigation.

**Base price:** \$54,900

**Price, as tested:** \$60,480

**Powertrain:** Hybrid gas-electric direct-injection DOHC 24-valve 3.5-liter V6; AC permanent-magnet electric motor; continuously variable automatic transmission; rear-wheel drive

**Maximum horsepower:** 339

**Maximum torque:** 362 pound-feet

**Curb weight:** 4,150 pounds

**0-60 mph:** 5.2 seconds

**Wheelbase:** 112.2 inches

**Overall length:** 190.0 inches

**EPA fuel economy:** 25 miles per gallon city, 28 mpg highway

**Final thoughts:** Hybrids: Not just for orchids anymore.

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