

Lexus GS Sedans Offer Customers Four Performance Model Choices for 2009

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The 2009 Lexus GS luxury sport sedan model line includes the V6-powered GS 350 and the GS 350 all-wheel drive (AWD), the V8-powered GS 460, and the only gasoline electric hybrid model in the segment, the GS 450h.

Engine/Transmission/Drivetrain/Performance

Optimized for low internal friction, the GS 350's 3.5-liter V6 engine produces 303 horsepower at 6,200 rpm and 274 lb.-ft. of peak torque at 3,600 rpm. A direct fuel-injection system provides much finer fuel-mixture control to improve both power and fuel efficiency. Dual Variable Valve Timing with intelligence (VVT-i) acts on both intake and exhaust valves to further enhance performance through a wide rpm range. A smooth-shifting six-speed transmission allows manual shifting when desired.

The GS 460's V8 produces 342 horsepower at 6,400 rpm and 339 lb.-ft. of peak torque at 4,100 rpm. The GS 460, like the GS 350, meets the EPA's Ultra Low Emission Vehicle (ULEV-II) certification. Lexus has been setting standards for powertrain smoothness since its inception, and the GS 460's V8 and eight-speed automatic transmission continue that tradition. The transmission, as the six-speed automatic in the GS 350 models, allows manual shifting for a more engaging driving experience, and to maximize performance in certain driving situations. The GS 460 can accelerate from zero to 60 mph in 5.4 seconds, the GS 350 in 5.7 (5.8 for AWD).

Chassis/Body/Suspension/Tires/Brakes

The Lexus GS combines proven chassis systems with advanced dynamic handling technology to provide both agile handling and the Lexus trademark smooth ride. The double-wishbone front suspension and multilink rear suspension virtually eliminate unwanted wheel-angle changes during suspension movement. The result is a natural, confident feel that's also spirited. A 34.1-ft. turning circle (35.4 ft. for GS 350 AWD) is comparable to that of smaller cars and helps make the GS highly maneuverable.

In all GS models, Brake Assist (BA), Electronic Brake-force Distribution (EBD) and the Anti-lock Braking System (ABS) help form a powerful safety front. EBD optimizes brake pressure at each wheel to help minimize body dive or sway during hard braking and cornering. Brake Assist is designed to determine if the driver is attempting emergency braking, and, if the driver has not stepped firmly enough on the brake pedal to activate the ABS, it will apply maximum braking force until pedal pressure is released.

Aluminum-alloy 18-inch wheels are standard on the GS 460 and available for the rear-wheel-drive GS 350, which features standard 17-inch wheels. For maximum handling capability, the GS 350 comes standard with 225/50R17 W-rated summer tires. The all-season 17-inch run-flat tires that are standard on the GS 350 AWD model are available on the GS 350 RWD. The GS 460 is equipped with 245/40R18 Z-rated summer tires or available all-season run-flats.

The GS 350's available all-wheel-drive system helps to enhance handling in diverse driving conditions. A planetary-gear center differential and a wet-type multi-disc clutch control front-to-rear power distribution. The system normally sends 70 percent of available power to the rear wheels to provide the traditional performance advantages of a rear-drive car and will vary the torque-split ratio from 30:70 to 50:50 in response to driving conditions and driver input. The AWD system's electronic-control strategy takes inputs such as steering and throttle angle from driver activity combined with vehicle signals from wheel speed and yaw rate sensors.

An Adaptive Variable Suspension (AVS) system, standard on the GS 460 and available on the GS 350, provides four settings, including "sport" for tighter, more precise control. AVS can automatically select appropriate suspension damping for driving conditions. The GS 460 also offers the advanced Active Power Stabilizer system that reduces body sway and enhances vehicle control during cornering. An Electronic Control Unit (ECU) calculates the force needed to counter excess body sway, which is then applied to the stabilizer bars by the front and rear actuators. The GS 350 models are equipped with Vehicle Stability Control (VSC) with traction control. The system can be disengaged with the "Trac Off" switch when the situation warrants doing so.

In the GS 460, the Lexus Vehicle Dynamics Integrated Management (VDIM) system integrates and manages a host of handling technologies, including VSC. Combining input from a variety of sensors, VDIM is designed to anticipate the onset of a vehicle skid or slide and then help correct the situation with a combination of braking, throttle, and steering control. VDIM integration helps to provide precise management for the Electronically Controlled Brakes (ECB), Variable Gear Ratio Steering (VGRS), Electric Power Steering (EPS), Vehicle Stability Control (VSC), Anti-lock Braking System (ABS), Brake Assist (BA), Electronic Brake-force Distribution (EBD), and engine torque via the electronically controlled throttle.

Electric Power Steering (EPS) in the GS 460 provides precise electric power assist using a DC motor built into the steering gear housing. Also in the GS 460, Variable Gear Ratio Steering (VGRS) can vary the steering from 2.7 turns lock-to-lock for low-speed maneuverability to a slower 3.2 turns lock-to-lock for highway-speed stability. VGRS also provides differential steering control, which helps correct for a delay in steering response -- something that occurs in all vehicles -- to help enhance driving feel during lane changes and other transitional maneuvers.

The GS 460's Electronically Controlled Brakes (ECB) is a brake-by-wire system. ECB translates brake pedal pressure into electric signals that, via computer control, help provide precise and optimized braking. Electronic control provides quick brake response when needed,

helping the GS 460's VDIM system to anticipate and help correct skids before they occur. The ECB system is backed by conventional hydraulic brake control in the unlikely event of electronic failure.

Safety/Security Features

The Adaptive Front lighting System (AFS), standard on the GS 460 and optional for the GS 350, helps illuminate a curve as the driver steers into it. A Tire Pressure Monitoring system can detect a critical loss in pressure in one or more tires and alert the driver. The available Intuitive Park Assist (IPA) system uses ultrasonic sensors to detect objects close to the car's front and rear bumpers and alerts the driver accordingly. A steering-input sensor helps to better judge changes in distance to objects.

The Supplemental Restraint System (SRS) in the GS sedans includes variable-force front airbags for both the driver and front passenger. The GS features standard seat-mounted side airbags for the front seats, knee airbags for the driver and front passenger, and front and rear side-curtain airbags.

The rear back-up camera, available in conjunction with the optional navigation system, automatically projects an image of what its lens can detect behind the vehicle onto the navigation screen when the vehicle is in reverse gear.

The optional Pre-Collision System (PCS) in the GS models can help the driver avoid an accident. A millimeter-wave radar sensor helps detect obstacles in front of the car, while vehicle speed, steering angle and yaw-rate inputs help to determine whether a collision is unavoidable. In such a situation, PCS switches the Adaptive Variable-air Suspension to sport mode for optimal chassis response, preemptively retracts front seat belts, and pre-initializes Brake Assist so that increased braking will be applied the instant the driver depresses the pedal. The active-braking feature will automatically apply the brakes up to a deceleration rate of 0.3 g if the driver fails to react to system warnings.

Luxury/Comfort/Convenience

The standard Regency leather-trimmed, heated, 10-way power front seats (perforated leather trim on GS 460) are comfortably contoured for support on long trips. Ventilated front seats are standard for the GS 460 and available for the GS 350. A power-tilt and telescopic steering wheel helps ensure a comfortable driving position. The standard dual-zone climate-control system filters the air, and a standard rear power sunshade adds to passenger comfort on warm days.

All four windows offer one-touch up-and-down operation with jam protection. Both electrochromic auto-dimming side mirrors are power-retractable and feature automatic tilt-down to aid in parking when reverse gear is selected. A power trunk closer provides an added convenience on this extremely well equipped car.

The standard Lexus audio system features an AM/FM/cassette stereo and a 6-disc, in-dash CD changer. The system plays through 10 premium speakers while an Automatic Sound Levelizer (ASL) maintains consistent sound levels at varying vehicle speeds.

Luxury Options

Within the ultra-quiet Lexus GS interior, all styles of music come to life with the optional Mark Levinson® Premium Sound system. Featuring 11 channels of amplification with a total of 330 watts playing through 14 speakers, the system allows users to play both CDs and DVDs. DVD movies can be viewed on the color seven-inch touch screen when the parking brake is engaged.

The optional Lexus DVD Navigation System allows the driver to enter a destination by voice command. Visual support is greatly enhanced with a central screen featuring a high-resolution 800 x 480 pixel display in 32,000 colors. On-screen details are crisp and clean, and maps and roads are highlighted by 3-D shadow effects. Text display options include English, Spanish and French.

The DVD map database contains more than five million Points of Interest (POI). The database for Chicago, Detroit, Los Angeles, and New York includes a building footprint-display feature that can show graphic representations of buildings and structures to help the driver identify surroundings. System functions include multiple route calculations, route preview, simplified highway junction graphics, and a dual-map screen mode. Bluetooth® wireless technology integrates with the navigation system to allow the driver to make hands-free phone calls via its touch-screen control panel. Personal phone books can be transferred via Bluetooth, as well.

Exterior Design

The current generation GS sedans introduced the brand's L-finesse design language. A 112.2-inch wheelbase, long hood, pulled-back cabin and short rear deck create a confident, powerful stance for the GS. A sloped, vertical grille surrounded by four independent headlamps visually connects the current GS sedans with the previous-generation models while signaling the brand's design progression. The lower valance features integrated fog lamps, and a low 0.27 coefficient of drag (Cd) helps to minimize wind noise and maximize highway fuel efficiency.

Interior Design

Ultra-premium wood, polished-metal accents and leather trim endow the GS interior with a lavish yet high-precision feel. Touch points convey quality and controls that respond fluidly. The customer can choose from among three interior leather color combinations: Light Gray leather with Dark Gray Bird's-eye maple wood trim, Cashmere leather with Golden Bird's-eye Maple wood trim, or Black leather with Red Walnut wood trim. Each combination includes a matching wood and leather-trim steering wheel and shift knob.

Lexus designers strive to keep controls simple and intuitive, avoiding needless complexity. The SmartAccess keyless entry and push-to-start ignition allow the driver to keep the access fob in a pocket or purse. Audio and climate-control systems are easy to understand and operate. The unique instrument panel lighting system relies on variable-transparency glass to minimize reflections from the gauge faces and to help optimize visibility in all lighting conditions.

Warranty

All new Lexus vehicles come with a 48-month/50,000-mile basic limited warranty with roadside assistance for 48-months/unlimited miles. Powertrain and restraint system coverage is provided for 72 months/70,000 miles. Corrosion perforation protection is covered for 72 months, regardless of mileage.

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