

Lexus to introduce the new GS F SPORT package at SEMA Auto Show

- A bolder, more aggressive and sporty design
- 19” staggered-width wheels for additional traction
- Sports-tuned suspension with a more dynamic Adaptive Variable Suspension (AVS) system
- Lexus Dynamic Handling system integrating DRS, VGRS and EPS for even more agile, sharp and confident driving behaviour
- World’s first hybrid vehicle to feature an integrated four-wheel steering system
- Sports brakes with larger, 356 x 30mm ventilated front discs and an aluminium rotor hat section for weight reduction and heat deformation prevention

Lexus will reveal the new GS F SPORT package at its press conference on Tuesday, November 1 at 13:30 (Pacific Time) at the SEMA Show in Las Vegas.

## Design

Available in Europe across the GS range, the F SPORT package features an exclusive front bumper design incorporating enlarged side grilles. Combined with an exclusive upper and lower grille mesh design, this reinforces the new GS’s more aggressive appearance, wider track and sporting stance.

To the rear, the GS F SPORT features a grey metallic paint finish to the bumper diffuser which for the GS 450h F SPORT is a combination of grey metallic paint with a chrome plated moulding to the lower section of the bumper. This further enhances the vehicle’s road presence.

All F SPORT models benefit from a rear spoiler and exclusive, dark premium metallic 19” staggered-width alloy wheels paired with 235/40/19 front and 265/35/19 rear tyres. The wider width wheels allow not only for a sportier look, but will also help provide added traction.

The interior design features include matching door and seat upholstery (also available in Garnet, a grade-exclusive colour) combined with Aluminium ornamentation, 16-way electrically adjustable F SPORT front seats, a black headliner and pillar finish, a dimple perforated leather steering wheel and gear knob, aluminium pedals and dashboard trim, exclusive black logo scuff plates and F SPORT badging to the steering wheel.

## Suspension

The F SPORT package features retuned front and rear suspension systems, supported by Adaptive Variable Suspension (AVS) to maximise body control and steering response for improved vehicle agility.

Both front and rear shock absorber characteristics have been modified to optimise AVS damping control, and the adoption of low-viscosity oil reduces friction for improved shock absorber efficiency.

In addition, the rear suspension shock absorber has been inclined further to the rear, and the lower bushing enlarged and stiffened.

In combination, these modifications maximise the AVS system's control of body roll and, hence, improve the vehicle's response to steering inputs for increased agility and a more engaging driving experience.

The AVS system allows the driver to fine tune the GS's ride characteristics with a choice of two damper settings; 'Normal' damper mode, for everyday driving comfort, and 'Sport S+' damper mode, for improved body control and precise responses to steering input whilst cornering.

In response to driver inputs, vehicle body motion and road surface conditions, AVS activates the adjustable damping force shock absorbers, automatically adapting the performance of the suspension at all four wheels independently to fulfil a wide range of specific control functions.

Selecting the AVS system's 'Sport S+' mode automatically increases the difference between inner and outer shock absorber damping through corners to further reduce vehicle roll. Simultaneously, VGRS automatically reduces the steering gear ratio by approximately 10% whilst the Electric Power Steering (EPS) increases steering assist torque by some 4%. These measures combine to minimise body roll, sharpen vehicle handling and optimise steering feel for the ultimate in sports sedan driving.

### **Drive Mode Select System**

The next generation GS features a Drive Mode Select function that allows the driver to choose between ECO, NORMAL, SPORT S and SPORT S+ driving modes, maximising either the vehicle's environmental efficiency or its dynamic abilities.

In ECO driving mode, engine output, throttle opening and gear selection are automatically modulated to optimise fuel efficiency under all driving conditions. The air conditioning system temperature, airflow volume and seat heater activation are also cooperatively controlled, further reducing fuel consumption.

In SPORT S driving mode, engine speed and throttle responses are optimised to allow customers to enjoy a more engaging driving experience which exploits the full capabilities of both petrol and full hybrid powertrains.

SPORT S+ driving mode combines the SPORT S mode's enhanced powertrain output with coordinated control of the VDIM system (including AVS and Electric Power Steering (EPS) and, when equipped with LDH, also VGRS and DRS) to reward drivers with the ultimate in sporting driving dynamics

### **Lexus Dynamic Handling system (LDH)**

In addition to the standard suspension enhancements of the F SPORT package, the GS 450h F SPORT is equipped with the Lexus Dynamic Handling system (LDH), making it the world's first hybrid vehicle to feature an integrated four-wheel steering system.

The leading edge platform technology of the Lexus Dynamic Handling system offers an integration of Dynamic Rear Steering (DRS), Variable Gear Ratio Steering (VGRS) and Electric Power Steering (EPS), to coordinate every aspect of front and rear wheel control and provide agile, sharp and confident driving behaviour with a more direct response to the driver's actions.

Monitoring vehicle speed, steering direction and driver inputs, LDH calculates the optimum angle for all four wheels. Using VGRS to the front and DRS to the rear, the system can independently control

both front and rear wheel steering angles to greatly improve turn-in response, rear grip, vehicle stability and overall agility when cornering.

The DRS system monitors vehicle speed and yaw rate, steering angle and speed, and lateral G to calculate the required rear wheel steering input, to a maximum of 2 degrees. At most speeds below 80km/h the front and rear wheels turn in opposite directions. In certain conditions at speeds over 80km/h, front and rear wheels turn in the same direction.

Further coordinating DRS with VGRS and EPS, LDH will automatically customise the adaptive suspension tuning and active safety systems to suit road conditions, vehicle speed and driving style, giving customers the confidence to fully exploit the new GS's exceptional driving performance.

All GS models fitted with the F SPORT package are equipped with larger, 356 x 30mm ventilated front discs. A world-first, the hat section of the two piece rotor has been fabricated in aluminium to both reduce weight and suppress heat deformation.