

LEXUS GS F



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INTRODUCTION

The GS F is the fourth model of the Lexus performance 'F' line-up. True to the nature of all F models, the GS F reinforces the dynamic and emotional character of the Lexus brand.

F stands for Fuji Speedway... the spiritual home of the F products where each model is developed and tested. The F brand debuted its first model, the IS F sedan, in 2008 followed by the LFA in 2010 and the RC F in 2014.

The new performance sedan, GS F, is armed with a potent 477PS 5.0-litre naturally-aspirated V8 and excellent handling that was developed on the most demanding circuits, including the legendary Nürburgring.

Its elegant-yet-aggressive styling direction effectively characterizes the essence of Lexus' performance-oriented F brand. It is highlighted by an aggressive-looking front fascia with race-inspired functional air inlets, low-slung wide stance, large brake calipers, carbon-fibre rear spoiler and quad exhaust rear diffuser. While it's more than capable of taking on a twisty mountain road, the GS F is still a sedan that's ideal for everyday use. It seats five comfortably in a luxuriously-appointed cabin filled with high-tech amenities and advanced safety technologies, including the innovative Lexus Safety System +.

The GS F offers enthusiasts the best of all worlds: It's a car that will provide thrills and excitement on challenging switchbacks, while being able to take you there and back in unprecedented style and comfort.

"As Lexus' F brand vehicles continue to evolve and grow in number, it is important that these models offer differentiated and unique driving characteristics in their segments. The GS F is a very capable performance sedan that offers excitement behind the wheel in all facets of performance driving. It's something that's fun to drive no matter who is driving or where it's being driven. The sedan embraces the virtues of sound, response and limitless power feel to support Lexus' F brand identity of a performance car," said Yukihiro Yaguchi, the Emeritus Chief Engineer of GS F.

POWERTRAIN

- Powerful yet highly refined race-bred normally-aspirated 5.0-litre V8 engine
- Smooth-operating 8-speed Sport Direct Shift (SPDS) transmission for maximum sporty performance
- Inclusion of the new Active Sound Control (ASC) which synthesizes the original sound through acoustic design, creating a more dynamic and three-dimensional sound inside the cabin. Renewed air intake sound as well as the mechanical sounds from the engine.

High-output V8 Engine:

The heart of the exciting new GS F is undoubtedly its naturally-aspirated 5.0litre V8, which has been finely tuned to deliver excellent power and responsiveness.

The V8 engine adopts Atkinson cycle to achieve higher fuel efficiency at cruising speeds and Otto cycle for higher performance levels when accelerating.

To achieve its lofty performance, the V8 has been engineered to include numerous technologies. For example, the engine's reciprocating assembly targets lower mass with the help of lightweight forged connecting rods and titanium intake and exhaust valves, allowing this powerplant to reach a 7300-rpm red-line. Free-breathing 32-valve cylinder heads take full advantage of this engine's reduced internal friction, and aggressive valvetrain. The working angle and lift of the camshaft have been designed to achieve ample torque production for continuous acceleration throughout the rev range. Add to the mix optimized intake and exhaust manifolds, and the seamless operation of a high-performance-tuned Variable Valve Timing - intelligent Electric motor (VVT-iE) that

delivers optimal power in all situations, and you have an engine that delivers 351 kW at 7,100 rpm and 530 Nm of torque at 4800-5600 rpm.

In addition to producing plenty of power, the GS F's V-8 is also remarkably efficient, thanks in part to the tuning of its high-pressure D-4S direct injection system (Direct injection 4-stroke petrol engine Superior version), which allows the engine to operate with a very high compression ratio of 12.3:1. Another important factor in maximizing power and efficiency in a high-performance engine is to include a precision engineered exhaust system. The cross section area of the exhaust gas passage of the GS F has been increased, while joint sections of the exhaust system have been enlarged to help reduce backflow pressure. Additionally, to help enhance the sound quality of the exhaust note, a high-function baffle has been placed near the exhaust tips that utilize stainless steel wool as well as glass wool to help achieve a more baritone exhaust note. Also, the exhaust tip design is aesthetically pleasing thanks to the implementation of a stylish baffle end cap structure integrated into the low-slung bumper section that envelops it, giving the set up a very tidy yet aggressive appearance at the rear of the vehicle.

Speaking of thrilling sounds, Lexus engineers have taken the auditory experience of the GS F to a new level with the inclusion of Active Sound Control (ASC). The sophisticated Active Sound Control (ASC) electronically synthesizes and assists the sound to the engine and the exhaust note in response to accelerator and shift lever operations, then disperses a pleasing sonic note via the speakers installed at the front and the rear of the cabin. When in operation, the sound output from the front speaker rises along with the engine speed to emphasize the high tone of the air intake as well as the mechanical sounds from the engine itself. Simultaneously, the rear speaker delivers a strong low-frequency sound that emphasizes the powerful exhaust note coming from the rear of the vehicle. Furthermore, when there is a sudden change in engine rpm—such as when the instant an up or down gear shift takes place—the ASC system will instantaneously respond in kind to further elevate the dynamic driving experience.

The front and rear speakers operate during SPORT S+ mode, while only the rear speakers function when driving in SPORT S mode. ASC is automatically turned off when driving in NORMAL or ECO mode. The driver can manually switch the ASC system on or off with a switch located on the driver's side of the instrument panel.

"The GS F's V8 delivers the high level of performance worthy of the "F" model. Painstaking tuning to the VVT-iE, the adoption of a high static compression ratio and the Atkinson cycle have resulted in fuel economy that is beyond the usual range of a large capacity 5-litre engine, particularly during high-speed cruising. Furthermore, with control that includes idling speed in response to air conditioner load, the GS F boasts practical fuel economy comparable with vehicles equipped with idling stop systems during urban driving," Yaguchi said.

8-speed Sport Direct Shift Automatic Transmission

The GS F's V8 comes mated to an equally efficient gearbox: the 8-speed Sport Direct Shift (SPDS) automatic transmission that offers smooth shift feel, excellent drivability and linear acceleration under all driving conditions. Remarkably lightweight and compact, thanks to a die-cast aluminum case and internal components including the clutch hub and drum sun gear, the transmission's operation and fuel efficiency are enhanced due to the inclusion of a high-efficiency oil pump and an ultra-compact high-pressure large flow volume solenoid that have been designed to reduce frictional and mechanical losses.

In configuring gear ratios, the first gear has been tuned to provide excellent response from a standstill. Conversely, the middle close-gear ratios have been selected for their combination of fuel efficiency as well as the ability to briskly accelerate at intermediate speeds. At the far end of the transmission spectrum, the eighth and final top gear is an optimal ratio for better fuel economy at high speed.

Transmission performance is further enhanced with the adoption of the Lexus G force Artificial Intelligence Shift control (G AI-SHIFT). When driving in the SPORT S mode, the system selects the suitable gear ratio for sporty driving by monitoring the vehicle's G sensor while simultaneously tracking the degree of throttle opening; if the driver invokes a higher degree of throttle (i.e. wants to accelerate more briskly), a quicker upshift will take place due to high-response shifting. Furthermore, the G AI-SHIFT control further elevates spirited driving by intuitively and succinctly blipping the throttle on downshifts. When driving in the top-flight SPORT S+ mode, performance driving is further aided by the system allowing the engine to maintain a higher rpm level, which comes in handy when driving under high-load conditions such as on a winding mountain road.

DRIVING DYNAMICS

- Drive Mode Select control offering NORMAL, ECO, SPORT S, SPORT S+ modes
- Torque Vectoring Differential (TVD) enhances traction control for extraordinary levels of handling and performance in all conditions

The all-new Lexus GS F has been designed to be enjoyed by all driving enthusiasts, from daily commuters to more experienced drivers. While this 4-door doesn't forget its sedan utility, its main mission is to provide an exhilarating driving experience in a wide range of conditions.

Drive Mode Select

The Drive Mode Select system allows for enhanced driving performance and enjoyment by allowing the driver to choose the most appropriate drive mode to match their preferred driving style and/or situation. Selections include NORMAL, ECO, SPORT S and SPORT S+; the driver can easily cancel a given drive mode at any time.

- **NORMAL:** Provides the smoothest, most balanced ride quality and drive-train performance. Engine output and throttle opening operate in a manner that perform equally well in traditional city and highway driving. However, as accelerator input from the driver increases, the amount of G-force felt by the driver climbs in relation to the increase in speed.

- **ECO:** Helps to enhance fuel efficiency by optimizing throttle opening, engine output and the air conditioning /heating (HVAC) system. Excessive throttle input by the driver at low speeds is automatically adjusted and suppressed to improve fuel economy. The heating/cooling capacity and airflow of the climate control system are adjusted lower for engine speed and compressor operation; if the outside temperature is 20°C or higher, the air conditioner will automatically switch to the recirculation mode for a certain period of time.
- **SPORT S:** Exhibits more powerful acceleration characteristics for performance-oriented driving with controlling engine output and throttle opening from the powertrain. Simultaneously, the engine, transmission and other key components become more powerful and responsive in terms of power output and vehicle acceleration.
- **SPORT S+:** Makes available maximum sports performance potential of the vehicle by providing an aggressive driving experience by not only ex-

tracting the most from the powertrain as with the SPORT S drive mode but also provides additional performance capability through further modulation of the Electric Power Steering (EPS) for the greatest degree of communicative feel to the driver.

Torque Vectoring Differential (TVD)

The Torque Vectoring Differential (TVD) improves dynamic performance by precisely controlling rear wheel torque, helping to control the vehicle's orientation when cornering. What's more, the TVD system has been tuned to provide a very natural feel; its operation is virtually imperceptible to the driver. The TVD transfers torque between the right and left tyres with the ideal amount based upon data including throttle input, braking, yaw rate, longitudinal and lateral G-force and other pertinent parameters. The amount of torque transferred between each rear wheel (right/left) is virtually instantaneous and optimally controlled regardless of whether the accelerator pedal is depressed or not. Allowing the driver to navigate with more confidence than ever before, the Torque Vectoring Differential (TVD) on the GS F accentuates driving enjoyment well beyond that of what a traditional rear-wheel-drive vehicle can offer.

The TVD allows the driver to choose among three distinct settings via a switch on the centre console that best suits his/her style of driving or driving conditions:

- **Standard:** delivers a high level of stability and agility for ideal vehicle behavior.
- **Slalom:** places additional emphasis on steering response, giving the vehicle a more agile character akin to one with a smaller wheelbase.
- **Track:** provides additional stability when driving at higher speed, allowing the driver to accelerate with confidence.

A unique attribute of the TVD is Drive Power Control. By using high-response compact motors as the ECU computes the ideal amount of torque transfer, a speed multiplying planetary gear instantaneously changes left/right torque distribution through the engagement of a multi-plate clutch. This highly advanced system is able to finely tune torque distribution in only 1/1000th of a second.

Evolved VDIM SPORT mode

Lexus VDIM integrates the usually separate ABS, VSC and TRC functions, to provide proactive seamless control of basic 'drive-turn-stop' vehicle performance. It anticipates any loss of traction and provides smooth control for the normal driving range right up to the limits of performance.

Similar to the RC F, the GS F has new SPORT and EXPERT modes for its Vehicle Dynamic Integrated Management (VDIM) system. VDIM with SPORT and EXPERT modes is exclusive to F models.

- **VDIM SPORT mode** gives priority to driver control. This mode offers greater safety and enjoyment for circuit use, applying optimum VSC/TRC mapping,
- **EXPERT mode** is a control mode for drivers who want proactive slide control of the vehicle. For this mode, the system turns off TRC, switches VSC controls and controls the engine and brakes to assist the driver in spin avoidance maneuvers. This mode not only contributes to the enjoyment of aggressive sporty driving with safety on the circuit, but also helps drivers hone their driving skills. When SPORT S+ is selected with Drive Mode Select, the Expert mode is activated by operating the VSC off switch,
- **NORMAL mode** is for smooth driving and a high degree of active safety under normal driving conditions.

Special features of GS F's vehicle control systems include a newly adopted vertical G sensor in the ABS control, to ensure optimum brake force even after the vehicle has been airborne.

In addition, Lexus has extended the VDIM co-operative control function, allowing the VDIM to delegate two brake control functions to the Torque Vectoring Differential (TVD) control - drive-force distribution and yaw moment control. VDIM controls the torque transfer co-operatively with the TVD, for more seamless control of driving and turning.

PRECISION-TUNED CHASSIS

- High structural rigidity body/chassis to maximize handling and ride comfort
- Performance-tuned double wishbone front/multi-link rear suspension systems
- Performance from Brembo braking system with front brake duct cooling
- Refined Electric Power Steering (EPS) for enhanced responsiveness and driver feedback

Elevated Driving Pleasure

The GS F drives efficiently through corners with the same stability as at straight lines, thanks in part to its newly developed chassis that features a rigid structure, responsive yet compliant suspension system and excellent brakes.

New parts have been developed to help maintain excellent handling stability and performance of the GS F. These include placing high-rigidity front and rear body braces at key positions (the front brace is closed-section for an even higher degree of stiffness), increasing the number of attachment points for the front brace and newly developed mounts for the rear suspension.

The double wishbone front suspension includes lightweight high-rigidity forged upper and lower aluminum control arms with exclusive coil springs,

stabilizer, and bushings. The rear multi-link unit features forged aluminum control arms with increased torsional rigidity along with optimized suspension arm bushings.

To enable faster vehicle speeds when cornering—especially noticeable in high-speed sweeping turns—suspension performance is further enhanced thanks to the fitment of large diameter and wide tyres that are capable of handling the high lateral G loads generated by the vehicle as well as ZF Sachs shock absorbers with their proven responsiveness.

The GS F's stopping power is provided by Brembo brakes that feature lightweight and high rigid opposed 6-piston aluminum mono block calipers with 380-mm diameter brake discs at the front and opposed 4-piston aluminum mono block calipers and 345-mm diameter discs at the rear. The ventilated

brake discs are equipped with slots on braking surface for high fade resistance and stable effectiveness and with spiral fins for excellent cooling performance. A large diameter master cylinder and booster combination helps to achieve highly responsive brake feel along with a short, performance-oriented brake pedal stroke.

To cool engine and transmission oil, a stylish pair of fully-functional brake duct openings has been placed in the front fascia just below the headlights and forward of the wheels at the front corners of the vehicle. GS F's electronic power-assisted rack and pinion steering has been designed to achieve excellent dynamic performance and steering feel. Intensive testing and calibration of the power-assist curve ensures the steering feel matches vehicle characteristics. A damper-less intermediate shaft has been added to the steering column to increase steering rigidity upstream and ensure high responsiveness to steering input.

DESIGN

- Bold and emotional exterior styling
- Aggressive front-end design with functioning air inlets for maximal brake cooling
- Carbon-fibre rear spoiler for improved downforce and high-speed stability
- Driver-focused interior design with GS F-unique combination meter , steering wheel, seats, pedals and trim
- Advanced on-board technologies and premium features including S-Flow air conditioning, available navigation systems and Mark Levinson premium surround sound audio system

Sleek Performance-Oriented Aerodynamics

The GS F was designed with high performance in mind; therefore, aerodynamics played a key role in determining the car's exterior shape. One of the most challenging areas of reducing aerodynamic drag was at the front tyres as they created a great deal of turbulent air that increased drag as it passed the rest of the vehicle. Furthermore, special groove-shaped front fender liners have also been fitted that allow air to flow more freely near the front section of the car.

The vehicle's overall aerodynamic efficiency has been enhanced with specially-designed undertrays (beneath the engine compartment) and lateral trays (beneath the midsection of the vehicle near the rocker panels) that optimize cooling air to flow toward the rear differential. There's a special undertray at the

rear section of the vehicle that rises at an angle to function like a rear diffuser. Also, aerodynamic stabilizing fins have been added to various sections of these panels to help further suppress airflow turbulence and reduce drag.

The front fascia is defined by an aggressive representation of Lexus' trademark spindle grille, featuring special F series mesh and a pair of dramatically wide and tall air inlets beneath the headlights. These openings funnel massive amounts of air into specially-designed ducting inside the grille to maximize brake cooling. The grille also features a new lower molding, made from Carbon Fibre Reinforced Plastic (CFRP) that provides downforce to the front of the car. Wide front fender flares with large air outlets allow excess airflow to escape down the sides of the vehicle, while broad fenders and sculpted rocker panels provide visual muscle, hinting at the car's sporty nature.

When viewed in profile, the GS F's flowing silhouette is further enhanced by aerodynamically-shaped side mirrors and B-pillar trim sections covered in glossy dark-coloured metallic paint to contrast with the vehicle's exterior paint colour. Also adding distinction are bright orange-coloured front and rear brake calipers (optional) emblazoned with the Lexus "F" logo, and a choice of a pair of 19" multi-spoke forged aluminum wheels manufactured using weight-reduction technology shod with low-profile 255/35ZR19 tyres for the front with 275/35ZR19 tyres at the rear.

The rear of the vehicle follows the same aggressive design theme as the front, highlighted by the F brand's trademark quad exhaust tips. Other highlights here include a downforce-generating CFRP rear spoiler mounted on the trunk lid (matching the carbon-fibre used on the grille lower molding), a rear diffuser beneath the rear bumper section, fin-shaped aerodynamic enhancements adopted at the bottom edge of the rear bumper's lower garnish to improve airflow and reduce drag, and organically-shaped rear taillights with jet black plated moldings within the lamp unit and on the trunk garnish.

Although based upon the existing Lexus GS platform, the GS F possesses different exterior dimensions than those of its counterpart. It measures longer and wider, the result of extended front and rear overhangs, while standing lower to the ground. There has been no sacrifice made in interior or luggage space, which can accommodate up to four golf bags; for additional space/cargo requirements, a trunk pass-through is available on certain models.

Welcome available exterior features include a headlamp upgrade with Adaptive High-beam System (AHS). Exterior paint colours include Solar Flare, Sapphire Blue, F White, Sonic Silver, Sonic Titanium, Mercury Gray, Graphite Black and Morello Red.

Driver-centric Interior Design

The interior of the GS F tastefully melds superior craftsmanship and affluence with world-class ergonomics and functionality. But as a performance premium sedan, designers made sure to place special emphasis upon creating a driver-centric cockpit.

This pilot-focused design theme is characterized by the information display/gauges positioned directly in front of the driver. Close attention has been paid to important details such as the size and thickness of fonts and indicators for easy recognition by the driver. The centre analogue TFT tachometer has a large diameter with silver ornamentation. Of particular note, the look and information displayed within the centre meter changes in accordance with each Drive Mode selected (see "Driving Dynamics" section for more info). An available Head-Up Display (HUD) allows the driver to see pertinent info such as speed, tachometer/read indicator and gear shift display conveniently without taking his/her eyes off the road ahead.

In pursuit of outstanding comfort and ergonomics as well as instilling the proper "F" atmosphere, the GS F adopts F-exclusive sport seats for the front and the rear, with high-backs in the front seats. The bucket-type front seats provide optimum support and comfort, thanks to pronounced bolstering for the thighs, hips and lumbar sections, as well as an ergonomically-enhanced design for the shoulder section. What's more, the sewing pattern and stitching on the front seats have been placed so that it closely mimics the skeletal and musculature of the human body for the highest degree of comfort and stability while greatly reducing fatigue on long drives. The rear seats utilize the same ergonomically-enhanced sewing/stitching pattern while also including exclusively designed headrests that mimic the seatback design of the front buckets. Available seating surface materials include Semi-aniline leather or Alcantara.

Along with the seating, the performance theme is carried over to the exclusive F-badged multifunction three-spoke steering wheel with short-stroke gearshift paddle shifters, shift knob and foot pedals.

Only the highest quality materials and trim have been used throughout the cabin, notably in the ornamentation. The door trim, the centre register and the base of the Remote Touch Interface feature a lustrous Metallic Dark Silver paint. High-grade Alcantara envelops the top of the instrument panel, door trim, centre console and palm rest; in addition to its excellent slip resistance, the Alcantara-clad section above the instrument cluster is an ideal material for reducing glare and reflection. In a further nod to the exquisite attention to detail of the GS F interior, specially-crafted decorative rivets featuring the Lexus logo have been used to secure the Alcantara to the instrument panel. Other available interior-trim features include Carbon Fibre and Naguri-style Aluminum (a uniquely patterned metal-like texture).

A new white LED interior illumination concept has been implemented that combines warmth with superior illumination qualities. Specially selected LEDs have been adapted to the system to help maintain uniformity throughout the cabin. Interior colour schemes available on the GS F include Flare Red, Moon Stone (light gray) and Black.

PREMIUM AND ADVANCED ON-BOARD TECHNOLOGIES

In addition to its exceptional handling and power, the all-new GS F benefits from the comprehensive array of advanced on-board technologies that have become a Lexus trademark.

Audio System

In developing the audio systems for the GS F, the engineering team targeted a speaker system that replicates the sensation of sound experienced in a concert hall or movie theater. To achieve this powerful and realistic sound quality, the door panels that house the high-quality sound system components have been redesigned to achieve maximum acoustic performance.

Two audio systems are available:

- a fully-digital 12-speaker system with a high-efficiency 299-watt amplifier, microSD card slot and a Coherent Source Transducer (CST) that smoothly blends high and mid ranges while suppressing phase deviation to help support the perception of sound localization,
- a 17-speaker Mark Levinson surround sound system with an amplifier capable of outputting the equivalent of 750 -watts that includes GreenEdge speaker technology that enables more than double the sound output with the same amount of power.

Navigation System

An available Remote Touch Interface (RTI) offers intuitive functionality like that of a computer mouse. Also, a pair of Electro Multi Vision (EMV) displays are

available: an 8" display and an ultra-wide 12.3" version. The high-resolution, high-colour definition EMV screens allow for convenient operation and setting adjustments of a number of systems including audio, climate, telephone, navigation, etc. The Lexus Navigation System allows access to five frequently used functions—map, audio, ECO mode, telephone and air conditioner— as well as hands-free phone operation.

Air Conditioning System

Optimum cabin comfort is maintained at all times, thanks to the GS F's climate control system that includes S-FLOW, an energy-saving airflow control mode that only operates the climate control for the front seat occupants when the system detects that there are only two people on board, allowing for improved cooling/heating efficiency as well as reduced fuel consumption. An available Lexus Climate Concierge system automatically controls heating devices, seat heaters and airflow volume of the seat ventilation which directly comes into contact with the vehicle's occupants and includes a deodorizing filter that, in addition to removing pollen and dust, also removes exhaust gas from the ambient air.

SAFETY & DRIVER ASSIST

- Available advanced safety technologies include Lexus Safety System +, Back guide monitor with parking sensors, Blind Spot Monitor and Rear Cross Traffic Alert.
- A full complement of safety features such as Supplemental Restraint System (SRS) airbags, Drive Start Control, security alarm system with ultrasonic break-in sensor and tyre pressure warning system are included on every vehicle.

ACTIVE SAFETY

Lexus Safety System +

Lexus Safety System + helps avoid or mitigate collisions across a wide range of vehicle speeds and conditions. Available as standard equipment, Lexus Safety System + integrates several of Lexus' existing active safety technologies. These include the Pre-Crash safety System (PCS) which uses sensors to detect other vehicles and pedestrians in front of the vehicle, warning drivers of potential contact with obstacles ahead; Lane Keep Assist (LKA) steering the car back to the middle lane once deviation detected. Adaptive High-beam System (AHS) that helps provide optimal forward visibility during nighttime driving; and Adaptive Cruise Control (ACC), which in addition to maintaining a set cruising speed, also has a vehicle-to-vehicle distance

control mode. Road Sign Assist (RSA) recognises traffic signs using the windscreen mounted camera, and provides information to the driver in the multi-information display.

- **Pre-Crash safety System (PCS):** Utilizing both camera and a millimeter wave radar sensor, the Pre-Crash safety System uses sensors to detect other vehicles and pedestrians in front of the vehicle. If the system judges that there is a possibility of a collision, a warning is activated so that the driver may perform evasive maneuvers. After the warning, the amount of additional hydraulic brake pressure provided when the driver depresses the brake pedal is increased in stages according to the level of possibility of a collision. An additional layer of protection is provided within the system through Pre-Crash Brake. If the system detects there is a possibility of a

collision, an advance warning is issued to a potential vehicle following the GS F by illuminating the vehicle's brake lights before the driver begins to actually apply the brakes to notify the following vehicle that the GS F will decelerate. This helps to reduce or eliminate altogether the likelihood that the GS F may be rear ended. In addition, if the system judges that there is a high probability of a collision it automatically activates the brakes, helping to avoid the collision or mitigate the impact force to occupants and the vehicle.

- **Adaptive Cruise Control (ACC):** In addition to maintaining a set cruising speed, the ACC also has a vehicle-to-vehicle distance control mode
- **Lane Keep Assist (LKA):** is designed to convey audio-visual alerts and vibrate the steering wheel if the systems determine that the driver unintentionally deviated from the lane. It also assists the driver steering the car back to the middle of the lane.
- **Adaptive High-beam System (AHS):** combines technology, safety and driving courtesy. It automatically shades part of the light beam to avoid blinding drivers ahead.
- **Road Sign Assist (RSA):** recognizes traffic signs using the windscreen mounted camera, and provides information to the driver in the multi-information display. RSA can detect signs that are compliant with the Vienna Convention (including electroluminescent and flashing signs).

Lexus Safety System + is one of the most advanced and comprehensive of its kind available on any luxury vehicle within its segment. The ultimate goal of the Lexus Safety System + is to gradually progress towards eliminating casualties from automobile accidents.

Other Advanced Safety Systems available on the all-new GS F include:

• **Drive Start Control**

If the driver operates the shift lever while depressing the accelerator pedal, Drive Start Control suppresses power output of the engine to keep vehicle speed and acceleration below a predetermined level, and at the same time warns the driver via an in-meter display thus reducing damage in case of a collision.

• **Auto Location Tyre Pressure Warning System (AL-TPWS)**

The AL-TPWS monitors tyre pressure at each individual wheel and alerts the driver if a tyre has low air pressure. Based on data from a sensor installed in the tyre, the tyre pressure values for all four tyres are displayed in the instrument cluster. When low tyre pressure is detected, the air pressure value of the affected tyre is shown in amber, and the figure is highlighted. The AL-TPWS clearly indicates which of the four tyres has low-pressure status. The TPWS reset operation can be done by the steering wheel switch and on the Multi-information Display.

• **Blind Spot Monitor**

Employing a millimetre wave radar installed on the back of the vehicle, the Blind Spot Monitor (BSM) can detect a vehicle present in adjacent lanes as well as the vehicle traveling at a high speed approaching into the driver's blind spot.

- **Rear Cross Traffic Alert (RCTA)**

Working in concert with the Blind Spot Monitor (BSM), the Rear Cross Traffic Alert (RCTA) alerts the driver to objects approaching at the rear-side of the vehicle with an audible alert as well as flashing indicators on the vehicle's external side mirrors.

- **Back guide monitor with parking sensors**

The Rear View Monitor System helps the driver to back into and out of parking spaces by displaying lines indicating vehicle orientation and vehicle width by a camera mounted at the back of the vehicle. The intuitive parking assist/ Lexus parking assist-sensor notifies the driver of the approximate distance between the vehicle and an obstacle using a display and buzzer.

Passive Safety

Every Lexus GS F model features a comprehensive Supplemental Restraint System (SRS) that includes dual-stage driver's and front passenger's dual-stage airbags, driver's and front passenger's knee airbags, front side airbags, front and rear seat side curtain airbags and rear side airbags. An advanced security system that includes security alarm control with an ultrasonic break-in sensor and tilt sensor incorporated within the yaw rate G-sensors available for some regions.

TECHNICAL SPECIFICATIONS

ENGINE				
Engine Type				2UR-GSE
No. of Cyls. & Arrangement				8 cylinders, V type
Valve Mechanism				32-valve DOHC with Dual VVT-i
Bore x Stroke			mm (in.)	94.0 x 89.5 (3.70 x 3.52)
Displacement			cm ³	4969
Compression Ratio				12.3:1
Fuel Injection System				EFI, D-4S
Emission Certification				Euro 6 with OBD
Fuel Type				Petrol
Recommended Octane Rating	RON			98
Max. Output	EEC		kW/rpm (hp/rpm_ps/rpm)	351 / 7100 (470.7 / 7100_477.0 / 7100)
Max. Torque	EEC		Nm/rpm (kg-m/rpm)	530 / 4800 - 5600 (54.0 / 4800 - 5600)
Fuel Consumption	Urban		L/100km	16.6; 16.8*6
	Extra Urban		L/100km	8.1
	Combined		L/100km	11.2; 11.3*6
CO ₂ Emissions	Urban		g/km	385; 388*6
	Extra Urban		g/km	187; 189*6
	Combined		g/km	260; 262*6

**MAJOR DIMENSIONS &
VEHICLE WEIGHTS**

Overall (Kerb Weight)	Length		mm	4915
	Width	Without Mirror	mm	1845
		With Mirror	mm	2085
	Height*1		mm	1440
Wheelbase (Kerb Weight)			mm	2850
Tread (Kerb Weight)	Front		mm	1555
	Rear		mm	1560
Effective Head Room	Front		mm	988, 966 *3
	Rear		mm	959
Interior	Length		mm	2025
	Width		mm	1540
	Height		mm	1190, 1120
Couple Distance			mm	945
Seating Capacity			person	5
Overhang (Kerb Weight)	Front		mm	930
	Rear		mm	1135
Min. Running Ground Clearance			mm	130
Location of Min. Running Ground Clearance				Centre Floor Cover
Kerb Weight	Front	Min. - Max. (EC / ECE)	kg	970 - 980
	Rear	Min. - Max. (EC / ECE)	kg	820 - 885
	Total		kg	1790 - 1865
Gross Vehicle Weight			kg	2320
EPA Passenger Volume			m ³	2.571
Trunk Space*2			L	520
Fuel Tank Capacity	Capacity		L	66

CHASSIS

Transmission	TMC Code Name			AA80E
	Type			Automatic
Layout				FR
Transmission Gear Ratio	1st 2nd 3rd 4th 5th 6th 7th 8th Reverse			4,596 2,724 1,863 1,464 1,231 1,000 0,824 0,685 2,176
Differential Gear Ratio (Front / Rear)				- / 2,937
Brake Type	Front			Ventilated Disc
	Rear			Ventilated Disc
Brake Size	Front	Diameter / Thickness	mm	380 / 34
	Rear	Diameter / Thickness	mm	345 / 28
Swept Area	Front		sq inches	Inside 31 / Outside 31
	Rear		sq inches	Inside 14 / Outside 13
	Total		sq inches	Inside 45 / Outside 44
Parking Brake Type of Control and Location				Electric
Suspension Type	Front			Double Wishbone
	Rear			Multi-link
Lock to Lock				2.84
Min. Turning Radius	Tyre		m	5.6
	Body		m	6.0
Power Steering Type				Electric
Tyres & Wheels				FR: 255/35 R19 RR: 275/35 R19

PERFORMANCE

Max. Speed* ⁵			km/h	270
Max. Cruising Speed			km/h	240
Acceleration	0 to 60 mph		sec.	4.5
	0 to 100 km/h		sec.	4.6
	80 to 120 km/h		sec.	3.8

*1: Unladen vehicles

*2: TMC design value

*3: Models with moon roof

*4: Models with spare tyre

*5: Toyota in-house measured figures

*6: Russia, Ukraine

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USB STICK CONTENTS:

GS F presskit, GS F images, GS F movies.







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