Updated: March 2019

THE LEXUS IS

Lexus's third generation IS sports saloon is the first IS to be equipped with Lexus Hybrid Drive. It remains a rear-wheel drive model and the range includes an F Sport version equipped with a dedicated sports styling and handling package.

The model underwent significant revisions for the 2017 model year, with changes that are not simply cosmetic; they demonstrate a commitment to achieving the best possible dynamic performance, matched by refined styling and a cabin that exemplifies craftsmanship quality, superb comfort and functionality rooted in finely judged HMI design.

The development team led by Chief Engineer Naoki Kobayashi invested an unprecedented level of attention for a mid-lifecycle programme, including putting the car through extensive road and test-track driving, demonstrating the even higher standards Lexus is applying to its vehicle development. New lightweight suspension components and adjustments to the coil springs, shock absorbers and anti-roll bar all contribute to a more rewarding drive, without diminishing ride comfort.

The new model also introduces IS customers to the benefits of Lexus Safety System+, equipping the car with a raft of advanced technology features that can help prevent accidents happening and reduce the consequences should the worst happen. Features such a Blind Spot Monitor and Rear Cross Traffic Alert provide the driver with improved warnings of potentially unseen hazards and the LED headlights provide a deeper and wider field of illumination in night-time driving.

The attention to detail can be witnessed in the cabin, with small but telling adjustments to the shape, location and appearance of controls, reflecting both higher sensory quality and a focus on superior HMI performance. Key changes include a larger, 10.3-inch high-resolution monitor for the Lexus Premium Navigation multimedia system and the availability of precision laser-etched dark wood trim inserts.

New alloy wheel designs, new colour choices for the exterior and the cabin and a more powerful 10-speaker Pioneer Premium Sound audio package further add to the car's increased customer appeal.

In 2019, the IS range was simplified to offer customers three core grades – IS, F Sport and Takumi – to which a series of different option packs can be added, focusing on comfort, sports styling and luxury and advanced technology equipment features.

Development concept

The third generation IS has been engineered for sporting performance, agile handling, accurate responses and excellent feedback to the driver. Its driving dynamics have been engineered to help deliver the best possible driving enjoyment – a principal goal in the car's original development programme.

Laser screw welding and adhesive body bonding techniques and extra spot welding have increased overall body rigidity, while the double wishbone front suspension has brought about a 20 per cent increase in roll rigidity.

A Drive Mode Select system lets the driver choose between up to five modes – Eco, Snow, Normal, Sport/Sport S and Sport S+ (the latter on the F Sport model with optional Adaptive Variable Suspension) – to achieve their preferred balance of economy, comfort, performance and handling characteristics. As a self-charging full hybrid, the IS 300h also provides an all-electric EV mode.

The IS F Sport not only comes with exclusive styling elements, inside and out, it also gains genuine dynamic enhancements thanks to retuned front and rear suspension and optional Adaptive Variable Suspension.

The IS 300h's drivetrain combines a powerful electric motor with a 2.5-litre four-cylinder Atkinson cycle petrol engine with D-4S fuel injection, Dual VVT-i intelligent variable valve timing and a high-efficiency exhaust gas recirculation system.

All IS models are equipped with a pop-up hood design that creates space for better absorption of pedestrian impact forces while also maintaining the lowest possible front profile for the vehicle.

DESIGN AND PACKAGING

- Evolution of IS design with a stronger frontal treatment
- New interpretation of Lexus's signature spindle grille
- New alloy wheel designs
- Improved cabin quality with Takumi craftsmanship detailing
- Larger Lexus Premium Navigation display
- 10-speaker Pioneer Premium Sound audio

Exterior design

Because the styling of the current generation IS has proved so popular, Lexus has kept the essence of the car's exterior appearance intact. However, the front end has undergone a transformation, with new headlamps, large air intakes in the bumper and a further evolution of the signature Lexus spindle grille design.

The reshaped headlamps – now full LED units – have a more pronounced look than before and extend inwards, creating an eye-catching shape that accentuates the "L" configuration of the daytime running lights. The bumper, with its smoothly integrated air intakes, flows from the front wings to generate a more powerful road presence.

The new spindle grille angles back at a higher point than before, changing the proportions of its upper and lower sections, producing a sportier appearance and giving the impression of a lower centre of gravity in the car, while blending smoothly into the reshaped bonnet.

The IS's profile has been rendered sleeker by a stronger character line that runs along the length of the car, and by a choice of 17 and 18-inch wheel designs.

The changes to the rear are highlighted by new triple-layered LED light guides, further accentuating the IS's sporting nature.

Enhanced interior design and HMI

Many carefully considered improvements have been made to the IS's cabin that raise the levels of visual and tactile quality and improve the HMI (human-machine interface) qualities of displays and controls.

Multimedia systems, Remote Touch Interface and connectivity

The centrally mounted screen for the Lexus Premium Navigation multimedia system has been significantly increased in size, from seven to 10.3 inches. This new, high-resolution monitor presents larger and clearer images and has a split-screen function so that different information displays can be presented simultaneously, making it easier for the driver to read at a glance and select functions, with least distraction from the job of driving.

All IS models are fitted with a multimedia system with USB, Aux-in and Bluetooth connectivity. The Lexus Premium Navigation package also includes a Remote Touch Interface control and in-car WiFi as an option. It can also be operated using voice commands. The Remote Touch Interface on the centre console benefits from improved HMI design with the addition of an 'Enter' button on its side to make operation easier.

The standard Lexus Media Display has a seven-inch screen, with content controlled by means of a rotary dial in the centre console.

Revised cabin features with *takumi* craftsmanship

In the centre of the dashboard, the audio and ventilation control panel has been adjusted so that it sits neatly between the knee bolsters.

Representative of the *takumi* craftsmanship that distinguishes every Lexus model, new stitching is featured around the instrument binnacle hood, adding to the sporting feel of the cockpit, as do refinements made to the speedometer and tachometer.

Thanks to a reduction in the width of the audio and ventilation control panels, the driver and front passenger knee pads now run the full length of the centre console. They have also been made thicker to provide extra cushioning, with new stitching additionally featured on F Sport and Takumi models. There are also new cupholders (divided by a useful slot to stow a mobile phone), a satin-metallic finish for the gear lever, a larger, leather-wrapped and stitched palm rest for the Remote Touch Interface control, and new dial markings on the analogue clock.

New laser-etched dark wood trim inserts

The IS is available for the first time with laser-etched dark wood trim inserts, fitted as standard to Takumi grade models. Produced for Lexus by skilled craftspeople at Yamaha Fine Technologies, they are made using a technique applied in the manufacture of some of the world's finest musical instruments.

The process uses precise laser-etching to cut through the wood veneer to expose a sublayer of aluminium, creating a striking design that draws on the contrast between the rich qualities of the wood and the cool appearance of the metal. The effect is heightened by a clear, protective top coat, polished to a high shine.

Interior colour options

Interior upholstery and colour choices include combination fabric and Tahara seat coverings in black with Garnet Red detailing and black trim inlays for the IS 300h Sport. Black. Noble Brown and Sandstone leather finishes are available for the IS Takumi and in the optional Premium Pack.

ON-BOARD TECHNOLOGY

- Dual-zone air conditioning with touch-sensitive electrostatic switches
- Lexus Media Display and Lexus Premium Navigation systems with Remote Touch Interface
- Lexus-first steering wheel co-ordination of multimedia system with displays in both the centre console and driver's instrument displays
- Mark Levinson Premium Surround System with new loudspeaker technology

Dual-zone air conditioning with electrostatic switches

The IS's dual-zone air conditioning system incorporates a compact, high cooling performance expansion valve. Power usage has been greatly reduced, which contributes to better fuel economy.

It is controlled using Lexus's first electrostatic switches: sliding a fingertip up or down the bar-shaped switch will adjust temperature in half-degree Centigrade or one-degree Fahrenheit increments. Alternatively, adjustments can be made by pressing the arrow markings on the top and bottom half of the switch.

The air conditioning also has a customised blower function, so a default fast, medium or slow airflow can be set when the system is on auto. A new full-screen display has been added to confirm the operating status.

Advanced multimedia systems

Two multimedia systems are available, both working in conjunction with high-resolution full colour displays.

The seven-inch Lexus Media Display with Lexus Navigation (standard on IS and F Sport grades) is operated using an eight-way joystick control.

The Lexus Premium Navigation, standard on Takumi grade and an option in the Premium and Takumi packs) provides USB (x2), Aux-in and Bluetooth. Steering wheel controls can be used to co-ordinate control of the system with both the new 10.3-inch centre console display and the multi-information read-out in the driver's instrument binnacle.

Enabling the system to be linked to the display in the driver's instrument binnacle gives the driver a direct view of audio data, mobile phone reception and incoming call information, as well as navigation directions. A cross switch on the steering wheel can be used to select music tracks and place outgoing calls.

The integral navigation system's CPU has about four times the processing power of the previous unit. It provides automatic screen zoom at intersections and a number of advanced functions including a true 3D view with city model and landmark graphics; accurate replication of motorway signage; speed limit information; and a new Doppler Weather Radar display.

Access can be gained to an on-line Points of Interest search from Google Local Search, with smartphone connection via Bluetooth. This also allows addresses from Google Maps to be downloaded as navigation destinations.

Lexus Connected services provide two additional Google link functions: Google Street View and Panoramio, a photo-sharing service that allows images to be uploaded for viewing on the centre console display.

Second generation Remote Touch Interface

The Lexus Premium Navigation is operated using the second generation of Lexus's Remote Touch Interface multi-function control, revised for easier, more intuitive operation.

It uses the world's first slide haptic joystick mechanism – a slide-type controller that is much like a computer mouse, helping users scroll quickly and easily across the display screen. Enter commands are made simply by pushing the controller. Adding ambient lighting and minimising the height difference between the controller and the armrest have helped make it more comfortable to use.

Improved Pioneer Premium Sound System

The Pioneer Premium Sound System featured with the Lexus Premium Navigation package has been improved with by adding two 9cm speakers with a Coherent Source Transducer, positioned on each side of the instrument panel, integrating a tweeter and mid-range speaker. This takes the system's full array to 10 speakers, ensuring even higher sound reproduction quality.

The system includes a fully digital, Class-D, eight-channel amplifier capable of creating virtually distortion-free sound with minimal voltage losses. The natural sound dynamics and rich harmonies generated by the high definition amplification are faithfully reproduced by the 10-speaker layout, which includes a 55mm wide-range tweeter.

The system's functions include AM/FM/DAB radio tuner, DVD/CD player and Bluetooth.

15-speaker Mark Levinson® Premium Surround System

Takumi grade models are equipped with a 15-speaker Mark Levinson® Premium Surround System. Designed specifically for the IS's interior, the package produces 5.1-channel digital surround sound, delivered through a speaker array that uses GreenEdge™ technology to produce twice the sound for the same level of energy consumption as a conventional system. An Auto Volume System automatically adjusts performance between different artists and recordings to ensure the best sound delivery.

POWERTRAIN

- IS 300h, the first IS to feature Lexus Hybrid Drive, incorporating a 2.5-litre Atkinson cycle petrol engine
- CO_2 emissions from 104g/km (NEDC correlated data) and combined cycle fuel consumption from 44.37 to 50.0mpg (WLTP data)
- Sequential Shiftmatic with paddle shift controls, giving a manual transmission shift feel for a more engaging driving experience

IS 300h

The IS 300h reinforces Lexus's commitment to the future of self-charging hybrid technology. It is powered by Lexus Hybrid Drive, which achieves significant reductions in fuel consumption CO_2, NOx and particulate emissions, with no loss of performance.

The system combines a compact yet powerful electric motor with a 2.5-litre, 178bhp/133kW four-cylinder Atkinson cycle petrol engine, equipped with D-4S fuel injection, Dual VVT-i intelligent variable valve timing and high-efficiency exhaust gas recirculation.

The powertrain drives the rear wheels via an electronically controlled continuously variable transmission. Total system output is 220bhp/164kW, enabling nought to 62mph acceleration in 8.4 seconds and a 125mph top speed. Combined cycle fuel consumption is from 44.37 to 53.55mpg (WLTP data) with CO_2 emissions from 104g/km (NEC correlated data).

Lexus Hybrid Drive system architecture

As with all Lexus self-charging hybrids, the IS 300h is a full hybrid that can be driven in petrol-electric or purely electric modes. Its powertrain features a 178bhp/133kW. 2.5-litre, four-cylinder petrol engine mated to a compact, high-output water-cooled permanent magnet electric motor.

The system also comprises a generator, a high-performance nickel-metal hydride battery, a power split device which combines and reallocates power from the engine, electric motor and generator as required, and a compact power control unit that governs the high-speed interaction of the different components.

2.5-litre Atkinson cycle petrol engine

The 2,494cc four-cylinder petrol engine has been developed specifically for the IS 300h's hybrid powertrain. It benefits from several advanced technologies and uses the Atkinson cycle to optimise fuel efficiency.

In an Atkinson cycle engine, compression and expansion are not symmetrical; the valves close late, delaying compression. This creates a high expansion ratio for less compression, reducing intake and exhaust energy losses and converting combustion energy to engine power more effectively.

An exhaust gas recirculation system, with a high efficiency, large capacity cooler and high response valve, reintroduces precisely measured exhaust gas, cooled from around 700 to 130°C into the intake system, via a stainless steel exhaust manifold. This further reduces engine operating temperatures while also reducing engine pumping losses by bringing down intake vacuum pressure.

One of the main benefits of these technologies is that there are fewer occasions when fuel enrichment is needed to protect the catalytic converter from overheating damage, thereby improving fuel economy and emissions.

Further reductions in fuel consumption have been achieved by using a high, 13.0:1 compression ratio; optimising the shape of the intake port and combustion chamber; using low-friction piston rings, roller arm type valve gear and a variable discharge volume oil pump; and adopting next generation D-4S direct injection technology.

D-4S is the latest evolution of Lexus's stoichiometric, four-stroke direct injection technology. With one injector in the combustion chamber and a second in the intake port, it combines the strengths of both direct and port injection, realising optimum engine efficiency across the power band and improving torque at all revs, while minimising fuel consumption and emissions.

The D-4S system uses new slit-type injector nozzles with an optimised injector hole shape; a higher, 18MP injection pressure for more efficient combustion; and idle port injection that improves NVH performance.

Using Dual VVT-i intelligent variable valve timing on both intake and exhaust camshafts also significantly improves engine performance. Being able to control the camshafts through angles up to 40 (intake) and 35 (exhaust) degrees, the system permits a greater overlap of the intake and exhaust valves. This benefits low and top-end torque as well as contributing to a reduction in exhaust emissions and better cold-start performance.

Engine noise, vibration and friction have also been lowered by using a low friction timing chain, a highly elastic stretch belt, optimisation of the crankshaft shape and balance shaft, and the use of plastic gears.

Hybrid transmission

The electric motor-generator and power split and motor speed reduction devices are housed in a single, lightweight and very compact transmission casing that is comparable in size to a conventional gear box. This unit is the heart of Lexus Hybrid Drive.

The seamless electronically controlled continuously variable transmission can be switched to a sequential shiftmatic mode, operated using paddle shifts on the steering wheel, giving a manual shift feel for a more engaging driving experience.

Electric motor

The 105kW high performance electric motor (permanent magnet, synchronous type) works in tandem with the petrol engine to boost acceleration, and powers the driven (rear) wheels on its own when the vehicle is running in EV mode. During regenerative braking, the motor also operates as a high-output generator, recovering kinetic energy as electricity to charge the hybrid system battery.

The motor generates a maximum 300Nm of torque, boosted through a reduction gear in the transmission. This significantly enhances acceleration from standstill.

Generator

Like the electric motor, the generator is AC synchronous. It performs a number of different functions within the Lexus Hybrid Drive system.

As the system doesn’t have a starter motor, the generator is used to start the petrol engine. In normal driving conditions, engine output is divided according to system requirements, both to drive the wheels and power the generator, which, via the power control unit, drives the electric motors and simultaneously charges the high-voltage battery. Moreover, the generator is also used to control engine speed for maximum fuel efficiency.

When there is no call on the engine from the hybrid system, the generator is used to stop it. But if the IS 300h runs on its electric motor long enough to require battery charging, the generator will automatically start the engine, which itself provides the power for the generator to charge the battery.

High-output battery

The Lexus Hybrid Drive's 230V battery uses proven and reliable nickel-metal hydride technology and allows the IS 300h to be driven in EV mode, using electric motor power alone.

For the first time in a Lexus, the hybrid battery has been installed in a reinforced compartment beneath the loadspace floor, without compromising the space available for luggage.

Power control unit

The power control unit is little larger than a 12V battery. Modifications to its structure and materials have reduced its weight and size; the PCU in the IS 300h is 20 per cent lighter than before.

The unit consists of a voltage boost converter, which boosts the electric motor, generator and battery voltage to increase hybrid system power output; a highly compact inverter for the motor-generator, which converts DC power from the battery into 650V AC power for driving the electric motor and, occasionally, the generator; and a DC/DC converter, which reduces the high voltage of the hybrid system battery to 12V, supplying power to the accessory systems and charging the auxiliary battery.

Lexus Hybrid Drive in operation

Over the course of any journey, Lexus Hybrid Drive operates in different modes to maximise efficiency. At rest the engine automatically stops to conserve fuel. When efficiency is at its lowest, such as at start-up and at low to mid-range engine speeds, the IS 300h will run on its electric motor alone, eliminating CO_2, NOx and particulate emissions.

In normal driving conditions, the allocation of power is constantly adjusted between the engine and electric motor to achieve the best balance of performance and fuel efficiency. The electric motor acts as a high-output generator during deceleration and under braking to effect regenerative braking; this optimises energy management by recovering kinetic energy (that would usually be lost as heat) as electric power for storage in the hybrid system's battery.

At all speeds Lexus Hybrid Drive monitors itself to ensure the best combination of performance and fuel efficiency with least emissions, either running the electric motor or engine alone, or together. The level of battery power is constantly managed by using the engine-driven generator. This means the system doesn't have to be recharged using an external power supply.

As fully described in the Driving Dynamics section below, the IS 300h has a Drive Mode Select system, increasing the vehicle's capabilities beyond the Normal driving mode. An EV mode permits near-silent running for short distances on electric motor power alone, with zero fuel consumption and tailpipe emissions. An Eco mode maximises efficiency and fuel economy; Sport/Sport+ mode boosts full hybrid system performance, while a Snow mode modulates throttle response to give better traction and stability when pulling away on slippery surfaces.

Sequential Shiftmatic

The E-CVT can be switched to a sequential shiftmatic mode using paddle shifts on the steering wheel. The system has been tuned so there is a closer match between the increases in engine and vehicle speeds, and to deliver engine braking force in six steps under deceleration, with a shift feel like that of a manual transmission.

Active Sound Control

The driving experience is further enhanced by another Lexus-first, Active Sound Control. This complements the sound of the engine with an audio feed through a dedicated loudspeaker. Active Sound Control delivers the sound of acceleration and deceleration, even when the engine in the hybrid system is switched off and the car is being powered only by the electric motor. It is automatically deactivated when Eco or EV mode is selected.

DRIVING DYNAMICS

- IS aerodynamics fine-tuned in hundreds of hours of wind tunnel testing
- Lightweight and high-rigidity alloy suspension components
- Revised coil springs and shock absorbers and new rear anti-roll bar

Lexus has spared no effort in ensuring the IS achieves the best possible performance. For example, the car's aerodynamics have been scrutinised in hundreds of hours of testing a 260- metre long wind tunnel, capable of generating hurricane-force winds. This enabled many detailed adjustments to be made, even down to adding an area of aluminium tape behind the rear bumper to achieve a smooth airflow.

Chief Engineer Naoki Kobayashi explained: “At 100km/h a car’s performance is affected largely by wind resistance. Even driving around the city, aerodynamics affects both fuel efficiency and handling. It might not be the easy way, but this approach has resulted in one of the most refined saloons ever built.”

Revised suspension and steering for improved dynamic performance

Dynamic performance has been improved through precisely calculated revisions to the front and rear suspension and steering.

The front double wishbone suspension has a new forged aluminium lower arm assembly which delivers a 49 per cent increase in rigidity compared to the steel member it replaced. It also benefits from a more rigid No1 bush and a stiffer anti-roll bar. By using alloy material in this way, Lexus has been able to increase rigidity without incurring any weight penalty.

Together these elements offer a marked improvement in steering response at cruising speeds. The front system also has a new upper support bush, a revised coil spring rate for better roll control, new shock absorber components and revised damper settings, helping achieve improved yaw response.

The rear multi-link suspension has also gained new upper arm bushing, a stiffer anti-roll bar, new shock absorber components and revised damper settings.

Changes to the shock absorbers ensure that damping force can be generated from very low vehicle speeds, helping maintain stability and ride comfort.

The electric power steering’s ECU settings have been reassessed and revised in order to achieve better steering control.

As a result of these comprehensive measures, all IS models demonstrate better ride quality, body control, rear wheel traction and straight-line stability, as well as better steering response and feedback.

Before these dynamic changes were sanctioned for production, they underwent stringent assessment with extensive testing on-road and on test tracks to pinpoint where final tuning could be made to gain the ideal results from the package of dynamic improvements.

Steering

The quality of steering feel and feedback is fundamental to an enjoyable driving experience. To this end, the IS’s electric power steering benefits from a tuned steering rack.

With particular attention paid to achieving a clear sense of the neutral steering position, the structure and rigidity of each component have been revised to achieve a lighter, smoother and more accurate steering feel, with better response to inputs and feedback to the driver.

The power steering gear's stroke ratio has increased by about eight per cent, changing the rack stroke per pinion turn to 55.6mm. The rack bushing rigidity has been increased by four times over the precious model and rack end bushing wear has been reduced. Using floating end bushings gives better response to minor steering adjustments. Within the steering gearbox, the rigidity of the pinion gear support has been increased and the ball screw structure has been modified for smoother motor torque transfer.

Together with these comprehensive improvements, the steering's assist characteristics have been optimised to enhance the vehicle's dynamic performance and steering feel.

Brakes

The braking system is designed for the quick response, linear effectiveness and controllability. It features 296 x 28mm ventilated front discs and 290 x 18mm ventilated rear discs, with aluminium alloy callipers.

Experience gained engineering the Lexus LFA was used in the design of the compact, lightweight master cylinder and stroke simulator. Brake booster power has been optimised to enhance brake effectiveness and controllability, and the pedal shape, angle and ratio have been changed so an instant response can be given to changes in pedal force.

Better brake cooling performance has been gained by adopting straighter brake ducts that give a larger cooling airflow volume, minimising brake fade, even under protracted use.

Bodyshell

Overall bodyshell rigidity has been increased thanks to laser screw and adhesive body bonding techniques, along with additional spot welding. This improves stability and body control while also allowing for a more comfortable ride without detracting from handling agility.

Comprehensive use of body adhesives plays a major part in the IS's handling. Rather than joining panels at specific points, as with spot welding, the body adhesive technique forms a bond along the entire surface of joined panels. The IS uses more than 25 metres of body adhesive, which has a significant effect on body rigidity and the bodyshell's vibration damping performance.

Laser screw welding is applied to the door apertures and upper back panel. This technique achieves a fine pitch that isn't possible with spot welding, joining a larger panel area and achieving better suppression of cross-sectional deformation.

Handling stability and steering response are further improved by the use of a rear subframe, cowl side braces to connect the front pillar and apron member, and underbody rigidity measures including a radiator support and optimised bracing to the front and rear of the transmission tunnel.

Weight reduction was another important goal. Using hot stamped and high tensile steel sheets for reinforcements and other critical components combines strength and structural simplicity with weight-saving. Allied to the use of aluminium in other areas, including the bonnet, this has helped make the third generation IS's bodyshell 10kg lighter than its predecessor.

Drive Mode Select

The Drive Mode Select system features up to four switchable driving modes: Eco, Normal, Sport/Sport S and (on the IS 300h F Sport with optional AVS) Sport S+, allowing the driver to adapt the vehicle for their preferred balance of economy, comfort, performance and handling characteristics.

The IS extends the system's functionality with a new "customised" option that lets the driver adjust the control of chassis settings, throttle response and air conditioning operation to suit their personal preference. A drive mode controller is used for selecting Eco, Normal Sport/Sport S and Sport S+, while adjacent switches are used for engaging EV and Snow driving modes.

In Eco mode, engine output, throttle opening and gear selection are automatically modulated to optimise fuel efficiency in all driving conditions. The air conditioning system temperature and airflow volume are also co-operatively controlled, further reducing fuel consumption.

In Sport mode, engine speed and throttle responses are sharpened for a more engaging driving experience and full exploitation of the IS's capabilities.

Where Adaptive Variable Suspension is specified, Sport S+ mode combines the enhanced powertrain output of Sport/Sport S with co-ordinated control of the AVS and electric power steering to minimise body roll, sharpen handling and optimise steering feel.

The IS 300h additionally offers EV mode, for ultra-quiet running on electric motor power alone, giving zero fuel consumption and emissions over short distances when battery charge

and driving conditions permit. However, the car will automatically run in EV mode when possible, indicated by the green EV light illuminating in the instrument panel.

Snow mode adapts throttle response to gain the best traction and stability when pulling away from start-up on slippery surfaces.

The ambient lighting of the driver's instruments changes to blue in Eco mode, and to red in Sport/Sport S and Sport S+. And when selecting Sport/Sport S or Sport S+ modes, the IS 300h F Sport's system power indicator is automatically replaced by a tachometer.

Adaptive Variable Suspension

Adaptive Variable Suspension is available as part of the Takumi Pack option for the IS 300h F Sport. The system lets the driver tune the car's handling characteristics with a choice of two damper settings: Normal, for everyday driving comfort; and Sport S+, for improved body control and precise steering responses when cornering.

The system automatically adjusts suspension performance at all four wheels independently, in response to driving operation, vehicle body motion and road surface conditions, activating the adjustable damping force shock absorbers to fulfil a range of specific control functions.

When Sport S+ mode is selected, the system automatically increases the difference between inner and out shock absorber damping through corners to further reduce vehicle roll.

Vehicle Dynamics Integrated Management

Lexus's unique Vehicle Integrated Dynamics Management (VDIM) is featured on all IS models, improving the car's performance, traction control and stability. It uses comprehensive status data from sensors throughout the vehicle to co-ordinate operation of the ABS, Electronic Brakeforce Distribution (EBD), Traction Control (TRC) and Vehicle Stability Control (VSC) with the electric power steering (EPS).

Through this integration of the all the elements related to vehicle movement, including motor torque, braking and steering, VDIM not only optimises the activation of the braking, stability and traction control systems, it can also further improve the vehicle's kinetic performance.

Control systems are usually activated immediately after a vehicle reaches the limits of its dynamic envelope; VDIM operates before that limit is reached. This means the IS's dynamic limits are expanded, while vehicle behaviour becomes smoother at the limit, thanks to less obtrusive intervention by the active safety systems, securing a more enjoyable driving experience.

When braking in a corner, for example, a loss of rear tyre grip can provoke understeer. Through the car's EBD function, the use of linear brake actuators makes it possible to initiate control before the car's limit has been reached. VDIM apportions the appropriate braking force to each wheel, ensuring the vehicle remains stable by pre-emptively restraining the spinning tendency and, at the same time, delivering superior braking performance.

Even stronger braking in a corner can result in front-wheel lock-up and a loss of grip that causes the car to understeer, Once again, by independently controlling the braking force to all four wheels via the EBD, VDIM helps to prevent front-wheel lock-up and regain vehicle balance, offering seamless control until the ABS and VSC functions take over.

Furthermore, VDIM can augment operation of the VSC, via the electric power steering actuator, providing steering assistance to reduce torque steer when braking on surfaces with varying levels of grip. It can also introduce steering torque assistance in understeer and oversteer conditions, helping the driver optimise the front wheel steering angle and keep the car stable with the least input.

F SPORT

- Exclusive exterior design elements, including dedicated spindle grille mesh pattern and 18-inch wheels
- Interior features sports seats, perforated leather steering wheel and gear lever finish and exclusive trim and colour schemes
- Driving dynamics enhanced with specific tuning of the suspension and electric power steering

Exterior features

In design terms, the F Sport model makes an even stronger visual statement, with its spindle grille having a dark chrome finish and an exclusive three-dimensional "F" mesh pattern. The lower grille section also incorporates functioning cooling ducts for the brakes; these share a continuity of style with the car's side garnishes and contribute to the car's improved aerodynamics. Larger, 18-inch multi-spoke alloy wheels are provided as standard.

Interior features

In the cabin the details include a three-spoke F Sport steering wheel, supportive sports front seats, LFA-style instrumentation, aluminium-effect trim inlays and an aluminium pedal set. Adaptive Variable Suspension (optional) and specially tuned steering ensure the car's handling lives up to the promise of its emphatic looks.

Driving Dynamics

The F Sport model benefits from adjustments to the front and rear suspension and the electric power steering to enhance handling without compromising ride quality. As described in the Driving Dynamics section above, Adaptive Variable Suspension is offered as an option.

SAFETY AND DRIVER SUPPORT

- IS benefits from the advanced protection provided by Lexus Safety System+
- Package of features includes Pre-Collision System, Adaptive Cruise Control, Lane Departure Alert and Automatic High Beam
- IS accorded top five-star safety rating in Euro NCAP testing
- Comprehensive passive safety provisions and pedestrian protection, including a popup hood
- Full LED headlights deliver improved field of illumination

LEXUS SAFETY SYSTEM+

In line with Lexus's commitment to offering state-of-the-art technology to a wider audience, at an attractive price, all versions of the IS adopt Lexus Safety System+, a set of active safety features designed to help prevent or mitigate collisions in a wide range of traffic situations.

Pre-Collision System

The IS is equipped with a Pre-Collision System (PCS) that can help the driver avoid an accident, or lessen the consequences of an impact, even at high speed.

PCS features a front-mounted millimetre-wave radar and camera which scan the road ahead to detect obstacles, not just when driving straight ahead, but also when cornering. It computes data from sensors on factors such as vehicle speed, steering angle and yaw rate inputs to help determine the risk of a rear-end collision with a vehicle ahead. If it recognises a high risk, it will trigger a warning buzzer and illuminate a "BRAKE" command in the multi-information display to alert the driver to take action.

The moment the brake pedal is pressed the system initiates Pre-Collision Brake Assist to provide optimum braking force. This can achieve deceleration of up to 60 km/h (37mph), slowing the vehicle to reduce the severity of any impact, or potentially bringing the vehicle to a stop before an impact occurs.

If the driver does not respond to the alerts and does not apply the brakes, the Pre-Collision Brake will automatically operate to reduce the vehicle's speed.

The Pre-Collision System also features pedestrian protection. If a pedestrian is detected in front of the IS, automatic braking will be activated when the car is travelling between about 30 and 80 km/h (19 and 50mph).

Adaptive Cruise Control

The PCS radar and camera are also used to provide Adaptive Cruise Control, which helps the driver maintain a safe distance from the vehicle in front. Once the way ahead is clear, the IS will automatically accelerate smoothly back to its pre-set cruising speed; if the car has been brought to a halt, the driver only has to press the accelerator briefly to reactivate the system.

The system can be operated in two modes – constant speed control (like a conventional cruise control system), or vehicle-to-vehicle distance control. The driver can set long, medium or short vehicle-to-vehicle distances according to preference; the control settings are shown on the multi-function display.

Lane Departure Alert and Sway Warning

The Lexus Safety System+ package includes Lane Departure Alert (LDA), which uses a camera mounted behind the rear-view mirror to track the vehicle's course between lane markings painted on the road surface. If it detects that the vehicle is moving out of its lane without the turn indicators being used, it will light up a warning on the multi-information display and sound a buzzer alert, prompting the driver to steer the IS back to its correct path.

The system also includes a Sway Warning function. This monitors the car's position in its lane and the driver's steering inputs. If it detects degrees of vehicle swaying, caused by driver distraction or drowsiness, it will sound an alert and display a warning on the multi-information display, recommending the driver takes a break.

Automatic High Beam

The IS's Automatic High Beam (AHB) headlight system maximises night-time visibility by automatically switching to low beam when it detects the lights of oncoming traffic or vehicles ahead. This has the benefit of maximum, safe operation of high beam lighting, improving the driver's field of vision without the risk of dazzling other road users.

Traffic Sign Recognition

The Traffic Sign Recognition (TSR) system on the IS recognises traffic signs and commands on major routes using the windscreen mounted camera, and presents the information to the driver in the multi-information display. TSR can detect signs that comply with international standards (Vienna Convention), including electroluminescent and flashing signs.

ADDITIONAL ADVANCED SAFETY FEATURES

The Lexus IS goes beyond the level of protection afforded by Lexus Safety System+ to make use of further advanced systems and controls to improve safety and vehicle control. The driver can make use of a Blind Spot Monitor and Rear Cross Traffic Alert (Takumi grade and Takumi Pack option) for safe manoeuvres and all versions of IS are fitted with an Auto Location Tyre Pressure Warning System. Vehicle Dynamics Integrated Management continues to provide ideal co-ordination of the car's braking, traction control and stability control functions with the electric power steering.

Blind Spot Monitor and Rear Cross Traffic Alert

The IS is available with a Blind Spot Monitor, which uses a rear-mounted radar to detect vehicles travelling in adjacent traffic lanes, outside the driver's line of sight in the door mirrors. An indicator light is illuminated in the appropriate mirror to alert the driver when another vehicle is detected in the blind spot. If the turn indicator is operated while a vehicle is in the blind spot, the warning light in the mirror will flash on and off.

The same radar is used to provide the Rear Cross Traffic Alert function. This warns the driver of an approaching vehicle from either side when reversing out of a parking space, triggering a warning light in the corresponding door mirror and sounding a warning buzzer.

Auto Location Tyre Pressure Warning System

The Auto Location Tyre Pressure Warning System (AL-TPWS) works using data from individual sensors integrated into each tyre's air valve assembly. This allows the air pressure values for each tyre to be shown on a display in the driver's instrument binnacle. When low pressure is detected, the value of the affected tyre is shown in amber to alert the driver. This provides more precise information for the driver, compared to conventional systems which do not indicate which tyre requires attention.

The system is activated the moment the ignition is turned on, so the driver can check tyre pressures before driving off. Ensuring all tyres are at their recommended pressures contributes both to safer driving and optimum fuel economy.

PASSIVE SAFETY

The IS's passive safety performance is underpinned by its exceptionally strong and rigid body shell, engineered to provide essential protection to passenger and occupants in frontal, offset, side-on and rear impacts. Its quality was duly reflected in the IS registering a top five-star rating in independent Euro NCAP testing and, at the time of inspection, achieving the highest score in its class.

All IS models are fitted as standard with eight airbags: front (dual-stage), side and knee airbags for the driver and front passenger and full-length curtain airbags. The front airbags have variable force operation, deploying in line with the severity of an impact, as measured by sensors.

Pop-up hood

Lexus's measures to safeguard pedestrians from serious injury include a pop-up hood system for the IS. This ensures excellent protection, while at the same time enabling the car's designers to maintain an attractive low bonnet line. A sensor in the front bumper detects when a person is struck by the front of the vehicle, triggering actuators that immediately raise the bonnet by about 70mm, creating extra space between the bonnet and the engine. The bonnet can then deform and absorb the impact with the person's head. The system is designed so that it will not operate should the car hit a bollard, lamp post or other street furniture.

LED headlights

The IS's full LED headlights offer higher intensity illumination at close distance. When measured at a point 15 metres in front of the car, light intensity shows a 10 per cent improvement, compared to that from high-intensity discharge headlights. The breadth of illumination is also wider by one metre to the left and right, compared to HID headlights and fog lights working in combination. This shows how the performance of the LED lights on the IS cover the functions of both headlights and fog lights.

UK MODEL RANGE

- Grade structure revised for 2019 with three trim levels – IS, F Sport and Takumi
- All models equipped with Drive Mode Select, Cruise Control, LED headlights and Lexus Safety System+
- Option packs enable customers to upgrade their vehicle with styling, equipment and technology features

Lexus refocused the IS 300h line-up in the UK for the 2019 model year with three core grades – IS, F Sport and Takumi.

The entry point to the range is IS, which includes the following features in its standard specification: -

- 17-inch alloy wheels
- Drive Mode Select
- Push-button start
- Pop-Up Hood
- Power windows
- Dual-zone climate control air conditioning with electrostatic temperature control switches
- Power-folding, heated door mirrors
- Dusk-sensing LED headlamps
- LED daytime running lights
- LED rear lights
- Tyre Pressure Monitoring System
- Hill Assist Control
- Vehicle Dynamics Integrated Management
- Six-speaker Lexus display audio with DAB digital tuner and Bluetooth
- 2 x USB, 1 x Aux-in
- Seven-inch multimedia display screen with remote dial controller
- Lexus Safety System+ - Adaptive Cruise Control, Pre-Collision System, Lane Keeping Assist, Automatic High Beam and Traffic Sign Recognition
- Eight airbags
- Rain-sensing wipers
- Heated front seats
- 60/40 split-folding rear seats
- Front and rear parking sensors
- Lexus Navigation with seven-inch display

The F Sport introduces sports-themed elements to the interior and exterior, extending the including:-

- 18-inch, 10-spoke F Sport alloy wheels
- F Sport-specific mesh front grille and bumper design
- LED front fog lamps

- LFA-style instrument meters
- F Sport aluminium sports pedals
- F Sport perforated leather trim on steering wheel and gear lever
- Aluminium-look trim inlays
- Eight-way electrically adjustable, heated front sports seats

At the top of the range the Takumi grade offers the highest standard specifications, including: -

- 18-inch alloy wheels
- Auto-folding door mirrors with reverse tilting function
- Eight-way electrically adjustable leather front seats with integrated heating and ventilation functions and memory setting
- Electrically adjustable steering column
- Aluminium front scuff plates
- Laser-cut dark wood trim inlays
- Smooth leather upholstery
- Lexus Premium Navigation with dynamic route guidance, rear-view camera and access to Lexus connected services
- Smart entry
- Reversing camera
- Mark Levinson sound system with 15 speakers, 5.1 channel surround sound, DVD player and DAB digital tuner
- Blind Spot Monitor and Rear Cross Traffic Alert
- Triple-eye LED headlights
- Sunroof
- Ventilation function in the front seats

A range of four option packs is available for the IS, according to model grade. Full details of these are provided in the equipment specification table below.

The third generation IS is the first for which a towing accessory pack can be specified. These include a detachable towing hitch and a choice of seven or 13-pin wiring. Towing capacity is 750kg for both braked and unbraked trailers. The tow hitch can be removed when not in use.

LEXUS IS TIMELINE AND UK SALES

1999	May	The first generation IS200 is launched.
2001	October	IS 300 and IS 300 SportCross models join the range.
2002	October	The IS 200 SportCross is introduced in the UK.
2005	March	The second generation IS is revealed at the Geneva motor show.
	November	The new Lexus IS goes on sale in the UK, the SportCross body style is dropped.
2006	April	The IS range gains Lexus's first diesel-powered model, the IS 220d. The IS 250 Sport is also launched.
2007	January	Lexus unveils the high-performance IS-F sports saloon at the Detroit motor show, equipped with a 5.0-litre V8 engine and eight-speed automatic transmission.
2008	April	IS F goes on sale in the UK
	May	IS 250 SR model is added to the range.
	November	2009 IS launched with new SE, SE-I and SE-L grade structure. VDIM standard on all models. IS 220d emissions reduced to 163g/km. Sport and SR grades are deleted.
2009	January	IS 220d CO_2 emissions further reduced to 148g/km.
	July	IS 250C coupe-convertible is launched in the UK.
	December	Minor changes for new model year, including new HDD navigation system and DAB-ready audio systems.
2010	January	IS range gains new F-Sport grade, focusing on new styling features inspired by ultra-high performance IS F model.
	August	Introduction of IS 200d and revision of IS 250 to meet Euro 5 emissions standards. Changes to F-Sport specification are introduced. IS 250 becomes automatic-only.
2011	January	Advance grade introduced, with HDD satellite navigation system and rear parking camera as standard equipment.
	May	Lexus IS is the top ranked individual model in the What Car? and J.D. Power and Associates UK Customer Satisfaction Survey.
2012		UK IS 250C sales conclude.
2013	January	All-new third generation IS makes its public debut at the Detroit motor show.
	February	UK order books open for new IS 250 and IS 300h. Range is priced from £26,495.
	March	New IS given European premiere at the Geneva motor show.
	July	First UK customer deliveries of the new IS range.
	August	End of UK sales of the IS F.
2014	January	IS 300h achieves best-in-class score and five-star rating in Euro NCAP safety testing.
	June	The IS Executive Edition is added to the range.
2015	April	The IS 300h range grows to include the Advance model. The hybrid powertrain meets Euro 6 emissions standards, with lower CO_2 emissions and improved fuel economy.
		IS is named best car in the Auto Express Driver Power awards.
	September	The turbocharged IS 200t joins the IS range, together with a new Sport equipment grade. The IS 250 is discontinued.

	October	Lexus in the UK builds an IS replica from cardboard, inspired by Lexus's Takumi craftsmanship and the art of origami.
2016	August	Cumulative global sales of the Lexus IS pass one million.
	September	The revised 2017 Lexus IS is unveiled at the Paris motor show.
2017	January	First UK customer deliveries of the 2017 IS.
2018	December	The 2018 IS is introduced with a revised grade line-up.
2019	January	The IS range is simplified into three grade: IS, F Sport and Takumi.

UK sales in 2018: 1,594

Cumulative UK sales since launch (1999): 86,931

LEXUS IS 300h TECHNICAL SPECIFICATION

ENGINE	
Engine code	2AR-FSE
Engine type	4 cylinders in-line
Valve mechanism	16 valve DOHC, dual VVT-i
Fuel system	EFI, D-4S direct injection
Displacement (cc)	2,494
Bore x stroke (mm)	90.0 x 98.0
Compression ratio	13.0:1
Total system output (bhp/kW)	**220/164**
Max. engine power (bhp/kW @ rpm)	178/133 @ 6,000
Max. engine torque (Nm @ rpm)	221 @ 4,200 – 5,400
HYBRID SYSTEM	
Motor generator	
Type	Permanent magnet, synchronous motor
System voltage	650
Max. power (bhp/kW)	141/105
Max. torque (Nm)	300
Hybrid battery	
Type	Nickel metal-hydride
Nominal voltage	230.4
Number of cells	192
System voltage	650
PERFORMANCE	
0-62mph (sec)	8.4
Max. speed (mph)	125
DIMENSIONS	
Overall length (mm)	4,680
Overall width –mirrors folded (mm)	1,810
Overall width – including mirrors (mm)	2,027
Overall height (mm)	1,430
Wheelbase (mm)	2,800
Track front (mm)	1,535
Track rear (mm)	1,550 1,540 (18in wheels)
Overhang front (mm)	845
Overhang rear (mm)	1,035
Coefficient of Drag (Cd)	0.26
Fuel tank capacity (litres)	66
INTERIOR DIMENSIONS	
Interior length (mm)	1,945
Interior width (mm)	1,500
Interior height (mm)	1,115
Luggage capacity (litres)	450
WEIGHTS (kg)	
Kerb weight	1,620 – 1,720
Gross vehicle weight	2,130
Towing capacity (braked)	750
Towing capacity (unbraked)	750
TRANSMISSION	
Type	E-CVT

Gear ratios	Forward	3.333
	Reverse	3.333
FUEL CONSUMPTION		
Combined – WLTP data (mpg)		44.37 to 50.0
EMISSIONS & INSURANCE		
CO_2 - combined, NEDC correlated data (g/km)	17in wheel	104
	18in wheel	109
Insurance groups		28E to 30E
SUSPENSION		
Front		Double wishbone
Rear		Multilink
BRAKES		
Front (diameter x thickness, mm)		Ventilated discs 296 x 28
Rear		Ventilated discs 290 x 18
STEERING		
Type		Rack and pinion, electric power steering
Ratio		13.2:1
Turns (lock to lock)		2.8
Min. turning radius (m)	Tyre	5.2
	Body	5.5
TYRES & WHEELS		
Tyre & wheel size	17in	Front 225/45R17 91W Rear 225/45R17 91W
	18in	Front 225/40R18 88Y Rear 255/35R18 90Y

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LEXUS IS 300h EQUIPMENT SPECIFICATIONS

SAFETY & HANDLING	IS	F SPORT	TAKUMI
Lexus Safety System+ including: - Adaptive Cruise Control Pre-Collision System Lane Keep Assist Traffic Sign Recognition Sway Warning System Automatic High Beam	✓	✓	✓
Driver & front passenger airbags	✓	✓	✓
Driver & front passenger side airbags	✓	✓	✓
Driver & front passenger knee airbags	✓	✓	✓
Curtain Shield airbags	✓	✓	✓
Front passenger airbag cut-off switch	✓	✓	✓
Child proof locks on all rear doors	✓	✓	✓
ABS	✓	✓	✓
Electronic Brakeforce Distribution (EBD) with Brake Assist System (BAS)	✓	✓	✓
Vehicle Stability Control (VSC)	✓	✓	✓
Traction Control (TRC)	✓	✓	✓
Vehicle Dynamics Integrated Management (VDIM)	✓	✓	✓
Sports suspension	×	✓	×
Adaptive Variable Suspension (AVS) with Sport+ drive mode	×	Opt[4]	×
Hill Assist Control (HAC)	✓	✓	✓
Blind Spot Monitor with Rear Cross Traffic Alert	×	Opt[4]	✓
Pop-Up Hood	✓	✓	✓
Tyre Pressure Monitoring System	✓	✓	✓
Speed-sensitive electric power steering	✓	✓	✓
Electronic front seatbelt pretensioners with force limiters	✓	✓	✓
Five three-point seatbelts and headrests	✓	✓	✓
High mounted rear stop light	✓	✓	✓
Seatbelt warning system	✓	✓	✓
ISOFIX child seat anchor points on outer rear seats	✓	✓	✓
INSTRUMENTS & CONTROLS	**IS**	**F SPORT**	**TAKUMI**
Active Sound Control	✓	✓	✓
Eco, Normal, Sport and EV driving modes	✓	✓	✓
LFA-style instrument meters	×	✓	×
Analogue clock	✓	✓	✓
AUDIO, NAVIGATION & INFORMATION	**IS**	**F SPORT**	**TAKUMI**
Lexus Media Display with 6-speaker audio, CD player, DAB, remote dial control and 7in display	✓	✓	×
Lexus Navigation with full European mapping	✓	✓	×
Lexus Premium Navigation with 10-speaker audio, DAB, DVD player, 10.3in display and Remote Touch Interface control	Opt[3]	Opt[3,4]	✓
15-speaker Mark Levinson 5.1-channel surround sound system with Auto Volume, DVD player and DAB tuner with Remote Touch controller	×	Opt[4]	✓
2 USB sockets	✓	✓	✓
Aux-in socket	✓	✓	✓

Bluetooth	✓	✓	✓
COMFORT & CONVENIENCE	**IS**	**F SPORT**	**TAKUMI**
Auto-dimming rear view mirror	Opt[1,2,3]	✓	✓
Manually adjustable steering column	✓	✓	×
Electrically adjustable steering column	×	Opt[3,4]	✓
Electric front and rear windows with anti-jam protection	✓	✓	✓
Rain-sensing wipers	Opt[1,2,3]	✓	✓
Front and rear parking sensors	✓	✓	✓
Reversing camera	Opt[1,2,3]	Opt[3,4]	✓
Push-button start	✓	✓	✓
Smart entry	Opt[1,2,3]	Opt[3,4]	✓
Interior LED lighting	✓	✓	✓
Centre armrest with storage	✓	✓	✓
2 cupholders in centre console	✓	✓	✓
2 cupholders in rear armrest	✓	✓	✓
VENTILATION	**IS**	**F SPORT**	**TAKUMI**
Dual-zone air conditioning with S-flow and electrostatic control switches	✓	✓	✓
SECURITY	**IS**	**F SPORT**	**TAKUMI**
Alarm with intrusion and inclination sensors	✓	✓	✓
Remote central locking with deadlocks	✓	✓	✓
Two-step double locking	✓	✓	✓
Security VIN etching	✓	✓	✓
Locking wheelnuts	✓	✓	✓
Engine immobiliser	✓	✓	✓
SEATING, UPHOLSTERY & TRIM	**IS**	**F SPORT**	**TAKUMI**
60:40 split-folding, locking rear seat	✓	✓	✓
Cloth upholstery	✓	×	×
Tahara upholstery	Opt[1]	×	×
Cloth upholstery with Tahara bolsters	Opt[2]	×	×
F-Sport seats with cloth upholstery and Tahara bolsters	×	✓	×
F Sport seats with leather upholstery	×	Opt[3,4]	×
Smooth leather upholstery	Opt[3]	×	✓
Heated front seats	✓	×	×
Heated and ventilated front seats	Opt[3]	Opt[3,4]	✓
6-way manually adjustable front seats	✓	×	×
8-way electrically adjustable front seats	Opt[3]	✓	✓
2-way electric lumbar adjustment on driver's seat	Opt[2]	✓	✓
Memory setting for driver's seat	×	Opt[3,4]	✓
3-spoke leather steering wheel with paddle shifts	✓	✓	×
3-spoke leather steering wheel with heater and paddle shifts	Opt[3]	Opt[3,4]	✓
Leather shift lever trim	✓	✓	✓
Black scuff plates	✓	×	×
Front aluminium/rear black scuff plates	×	×	✓
Map pockets on front seatbacks	✓	✓	✓
F Sport aluminium sports pedals	×	✓	×
F Sport aluminium front/black rear scuff plates	×	✓	×
Gloss black inlay	✓	×	×
Warm metal inlay	Opt[3]	×	×
F Sport aluminium-look inlay	×	✓	×
F Sport Naguri-style trim inlays	×	Opt[4]	×
Laser-cut dark wood inlay	×	×	✓
Centre console knee pads	✓	✓	✓

Carpet mats	✓	✓	✓
EXTERIOR	**IS**	**F SPORT**	**TAKUMI**
LED headlights with Automatic High Beam	✓	×	×
Triple LED headlights with Automatic High Beam	Opt[3]	Opt[3,4]	✓
Headlight cleaners	✓	✓	✓
LED daytime running lights	✓	✓	✓
LED rear lamp and stop lamps	✓	✓	✓
Power-folding, heated door mirrors with puddle lights and turn indicators	✓	✓	×
Auto-folding, auto-dimming, heated door mirrors with puddle lights, reverse tilt function and turn indicators	×	Opt[3,4]	✓
Sunroof	Opt	Opt	✓
Sport styling: black spindle grille, mirror covers, wheels and rear bumper valance	Opt[2]	×	×
F Sport front bumper	×	✓	×
F Sport mesh grille	×	✓	×
17in alloy wheels	✓	×	×
F Sport 18in 10-spoke alloy wheels	×	✓	×
Black 18in alloy wheels	Opt[2]	×	×
18in multi-spoke alloy wheels	Opt[3]	×	✓
Run-flat tyres	✓	✓	✓
Metallic/special paint finishes	Opt	Opt	Opt
OPTION PACKS	**IS**	**F SPORT**	**TAKUMI**
[1] Comfort Pack: Tahara upholstery, rear-view camera, smart entry, rain-sensing wipers, auto-dimming rear-view mirror	Opt	×	×
[2] Sport Pack: 18in black alloys, cloth/Tahara upholstery, rear-view camera, smart entry, rain-sensing wipers, auto-diming rear-view mirror, sports exterior styling	Opt	×	×
[3] Premium Pack: 18in alloys (std F Sport), smooth leather upholstery, 8-way power-adjustable, ventilated seats (driver's seat memory on F Sport), heated steering wheel, triple-eye LED headlights, 10.3in premium navigation with DVD player and Remote Touch, smart entry, rain-sensing wipers (std F Sport), auto-dimming rear-mirror (std F Sport), power-adjustable steering column (F Sport only)	Opt	Opt	×
[4] Takumi Pack: Mark Levinson audio, Blind Sport Monitor with Rear Cross Traffic Alert, Adaptive Variable Suspension with Sport+ drive mode, Naguri-style trim, smooth leather upholstery, 8-way power adjustable, heated/ventilated front seats with driver's seat memory function, heated steering wheel, 10.3in premium navigation with DVD player and Remote Touch, smart entry, auto-dimming and auto-folding door mirrors with reverse tilt function, power steering column adjustment, sunroof	×	Opt	×

ENDS

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