

# TEST DRIVE THE NEW LS 460



We hope to have conveyed in these pages that the LS 460 offers an entirely new and exciting driving experience. But there's only one way to feel the pure driving pleasure it offers - and that's to get behind the wheel and try it for yourself. Visit your nearest Lexus Centre to arrange a test drive.

For more information and the location of your nearest Lexus Centre, please visit our website: [www.lexus.co.uk](http://www.lexus.co.uk) or call 0845 278 8888.

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Information in this brochure was correct at time of going to press.

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# THE NEW LEXUS LS 460

# THE PURSUIT OF PERFECTION

A close-up, artistic photograph of a car's front end, focusing on the sleek, curved lines of the headlight and the window frame. The lighting is soft and directional, highlighting the metallic and plastic textures of the car's bodywork. The background is a blurred, light-colored sky.

'The pursuit of perfection is the primary motivating force for us at Lexus – it always has been. We use technology, insight and knowledge to innovate, to refine and to push the boundaries of sophisticated, intelligent luxury.'

TAKESHI YOSHIDA, MANAGING OFFICER, LEXUS DIVISION

We also strive to perfect our relationship with our customers, constantly seeking greater depths of understanding when it comes to their needs.

A crucial element with Lexus, however, is that, through a process of continuous learning, we endeavour to create an ownership experience that goes beyond meeting people's requirements. Instead, we try to anticipate them. This focuses on everything from interior and exterior design, to the pleasures of driving and the way we treat our customers.

The new LS – in the form of the LS 460 and in 2007 its hybrid derivative, the LS 600h, which will also be available in a long wheelbase version – is our flagship model and, as such, the embodiment of the Lexus philosophy.

'Our pursuit of perfection has created the most complete Lexus yet, offering a driving experience that reaches another dimension.'



# HUMAN-CENTRED ENGINEERING

'The new LS 460 takes core ideas that motivate us at Lexus to their highest level. This, therefore, is our most advanced and intelligent vehicle offering strong sensory and emotional appeal.'

MORITAKA YOSHIDA, CHIEF ENGINEER

Fusing the most advanced technology and craftsmanship with a new kind of design artistry, the LS 460 redefines the luxury saloon. It also achieves revolutionary advances in performance, driving dynamics and quality.

The powerful new 4.6-litre V8 petrol engine, featuring breakthrough technologies, works seamlessly with the world's first eight-speed automatic transmission to set new standards for dynamic, smooth driving.

Ride quality, always a high priority for Lexus, has also been redefined with an all-new multi-link air suspension set-up. This is networked with intelligent vehicle dynamics systems to create a ride that is exceptionally refined yet rewardingly responsive and agile.

Our pursuit of perfection also applies to safety. With the LS 460, therefore,

we have pioneered a host of systems that protect all on board by anticipating difficulties and providing the optimum response at all times.

Of every Lexus, not least the flagship, customers expect uniquely compelling performance combined with peerless appointment, protection and entertainment.

The LS 460 will not disappoint.



# MODERN ART

The new LS 460 is the highest expression of Lexus values, from protection to high performance. As such, it takes all aspects of luxury driving into another, higher dimension. And it's communicated visually by a combination of leading edge design and finesse that is expressed in all Lexus vehicles - L-finesse design.

The front of the car has a bold, almost imposing presence which expresses confidence and strength. The powerdome flows into the wings and the complexity of the front grille, the spoiler and crystal projector headlights. Throughout the car craftsmanship catches the eye and conveys ideas of seamless power, dynamism, security and protection. This is strength with depth and intelligence.

The long cabin section suggests comfort and space. Side panels, gently curved with convex-concave

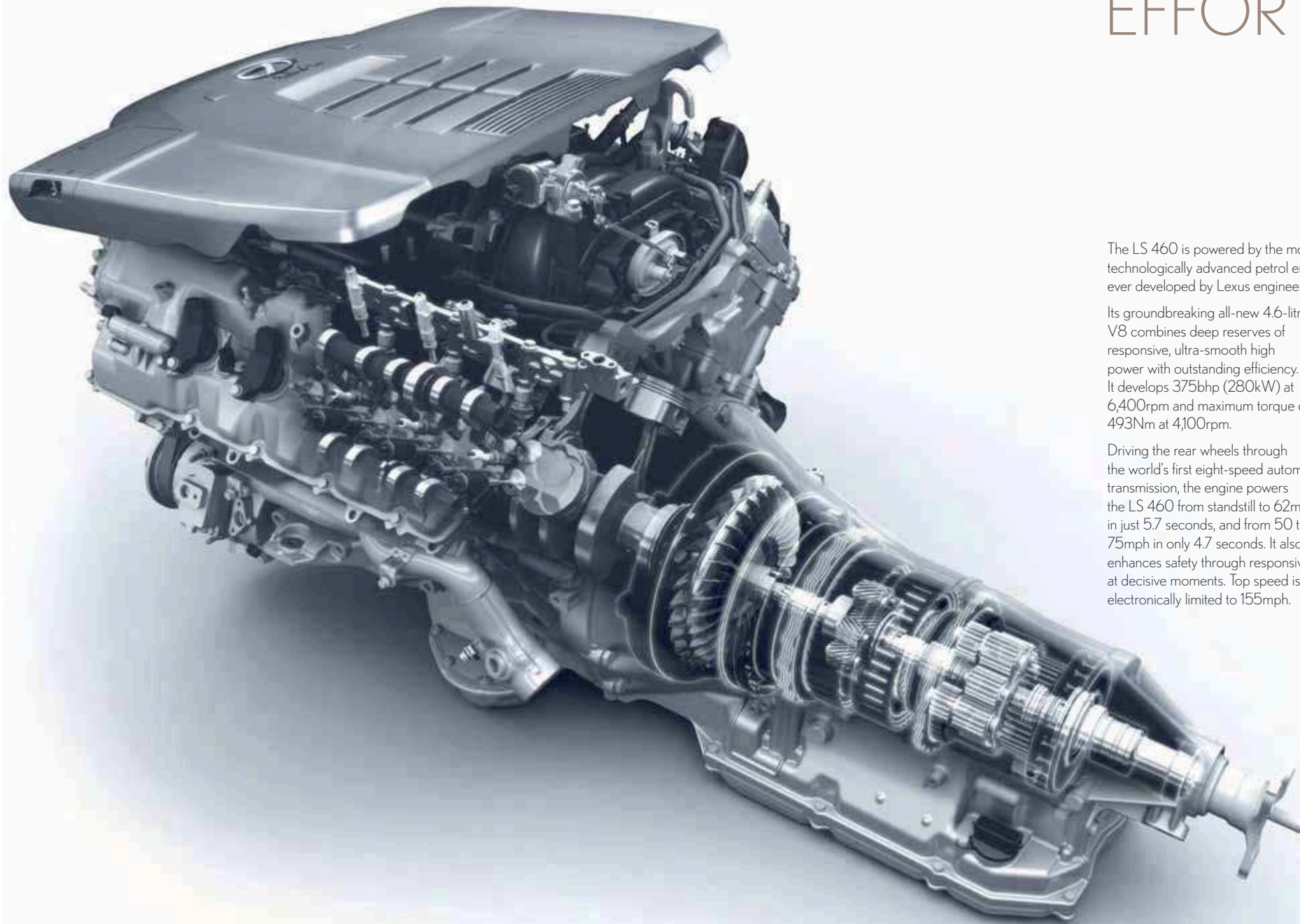
shapes, create reflections, shadows and light that constantly shift as the car is in motion.

At the rear, the roofline flows smoothly into the boot formation. Here, the slingshot shape - a recurring motif that creates a feeling of readiness for movement - is seen in the rear lamp clusters with their array of jewel-like Light Emitting Diodes (LEDs).

No detail has been overlooked in the search for cohesive, compelling form. Even the exhaust design is a striking original creation, seamlessly integrating the sculpted tailpipes within the car's bodywork.

This is form that heralds, once again, a new era of automotive luxury.

# EFFORTLESS POWER



The LS 460 is powered by the most technologically advanced petrol engine ever developed by Lexus engineers.

Its groundbreaking all-new 4.6-litre V8 combines deep reserves of responsive, ultra-smooth high power with outstanding efficiency. It develops 375bhp (280kW) at 6,400rpm and maximum torque of 493Nm at 4,100rpm.

Driving the rear wheels through the world's first eight-speed automatic transmission, the engine powers the LS 460 from standstill to 62mph in just 5.7 seconds, and from 50 to 75mph in only 4.7 seconds. It also enhances safety through responsiveness at decisive moments. Top speed is electronically limited to 155mph.

The 4.6-litre unit also offers excellent fuel consumption for a car of this nature, returning 25.4mpg (11.1l/100km) in the combined cycle. CO<sub>2</sub> emissions are 261g/km.

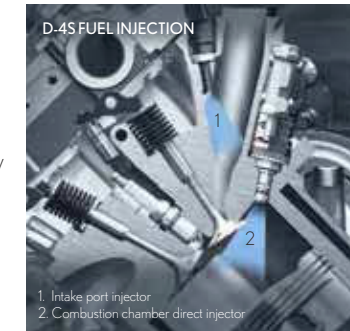
Creating this new engine required radically innovative engineering techniques. The starting point was a powertrain that is strong, light, smooth and compact. Two breakthrough technologies, D-4S and VVT-iE, were then incorporated.

## D-4S FUEL INJECTION

Featuring two injectors per cylinder, D-4S is the latest evolution of our direct injection engine technology. One injector is installed in the combustion chamber, a second in the intake port. In this way the engine combines the strengths of both direct and port injection, ensuring high efficiency and improving torque, while also minimising fuel consumption and emissions.

## ELECTRIC VARIABLE VALVE TIMING WITH INTELLIGENCE (VVT-iE)

The V8 engine features Dual Variable Valve Timing with intelligence (Dual VVT-i). This is an optimised variable intake and exhaust timing system which allows greater intake/exhaust valve overlap, benefiting both low and high end torque as well as contributing to



a significant reduction in exhaust emissions, such as nitrogen oxide (NO<sub>x</sub>) and hydrocarbons (HC).

As a further development the V8 presents a world first - VVT-iE. Using an electric motor to vary valve timing (rather than the hydraulic pressure of conventional systems), the system is faster to respond and gives greater engine flexibility, thus improving torque and economy over a wider range of engine speeds.

## ALUMINIUM ENGINE BLOCK / COMPUTER TOMOGRAPHY

Reduce weight and you improve performance in almost every way. With this in mind, we die-cast the V8 cylinder block in a lightweight, yet immensely strong aluminium alloy. And because, at high temperatures, cavity bubbles allow metal deformation,

we examine the inner structure of each engine block and cylinder head using a system called Computer Tomography (CT) - similar to methods used by radiologists in hospitals - to create three-dimensional computer images.

## PRECISION ENGINEERING

Precision is critical to the integrity of the V8 engine in the new LS. This is why we meticulously clean and inspect all engine components before assembly and sensitive electronic components are stored separately in a dust-free atmosphere.

An accomplished expert is also a vital part of the process, using a stethoscope to check each finished powerplant for microscopic abnormalities in sound.

In addition, each LS 460 undergoes a test drive during which experienced drivers listen for the slightest indication of noise or harshness. Development cycles such as these are all critical in our pursuit of perfection.

# SEAMLESS DRIVE

## THE WORLD'S FIRST EIGHT-SPEED AUTOMATIC TRANSMISSION

There is an inherent contradiction between fast acceleration and fuel economy. The former requires low gearing, while fuel economy relies on high gearing. At Lexus, however, we thrive on such challenges. That's why, for the new LS 460, we developed the world's first eight-speed automatic transmission.

The unit is light, quiet and compact and its new hydraulic control system gives a smoothness of shift that's without parallel in this class of car. Power and fuel efficiency also reach new standards.

The transmission case is a one-piece design, forged in die-cast aluminium for minimal weight with optimal rigidity. To ensure smooth handling of the V8's 493Nm of torque, the precision and strength of each gear tooth have been maximised by a polishing system using micro laser technology.

Technical insight and forward thinking have created a transmission that is not only remarkably smooth but also extremely fast. A conventional shift control releases one engagement clutch before the connection of a second, which can lead to time lag and shift shock.

Our new transmission, however, transmits a seamless flow of power through either one of the two engagement clutches at all times. The new transmission can also perform multiple gear shifts to optimise torque rather than changes of one ratio at a time.

As a result of the new hydraulic system, gear shifts can be achieved in as little as 350 milliseconds. Another class-leading development in the LS 460.

## SMOOTH HANDLING

Working seamlessly together, a new combination of variable steering and multi-link front and rear adaptive air suspension ensures a safe, comfortable and engaging ride.

On twisting country roads, the intelligent suspension constantly adjusts the damping of each wheel to ensure a relaxing experience, while at high speeds the car lowers itself for improved aerodynamics.

The new LS 460 adopts a multi-link configuration for both front and rear air suspension systems. Combined with a vehicle track width of 1,607mm - the widest in this class - and new high performance pneumatic shock absorbers, this all-new format delivers exceptional stability and steering feel, while improving ride comfort and contributing to the hushed driving experience.

## ADAPTIVE VARIABLE SUSPENSION (AVS)

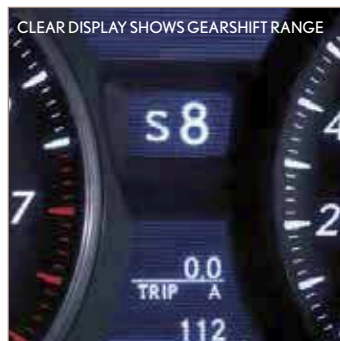
A switch near the gearshift lever allows the driver to choose between two suspension settings. 'Normal' provides great smoothness. 'Sport' gives improved body control and precise responses to steering input while cornering.

In either mode, AVS automatically and independently adjusts the performance of the suspension at all four wheels based on data received from sensors throughout the car. AVS activates the adjustable damping force of the shock absorbers to ensure the best possible dynamic control of the car in a wide range of circumstances.

## ELECTRIC POWER STEERING (EPS) WITH VARIABLE GEAR RATIO STEERING (VGRS)

The LS 460 sensitively anticipates the degree of steering assistance you require and gives you a precise feel for the car's performance.

It is equipped with a new, high-power, speed-sensitive EPS system featuring VGRS. This compact, lightweight, electrically assisted steering system offers silent operation and excellent feedback. The amount of steering assistance you receive changes smoothly depending on your speed.



CLEAR DISPLAY SHOWS GEARSHIFT RANGE



MICRO LASER POLISHED GEAR TEETH





# PEACE AND TRANQUILLITY

Progress in the LS 460 is always quiet. To help reduce wind noise the car has excellent aerodynamics, with a class-leading drag coefficient of just 0.26. This is the result of thousands of hours of computer time and real life wind tunnel testing - and the most extreme attention to detail.

## SCULPTED BODYWORK

The smooth flowing bodywork of the LS 460 offers little air resistance thanks to a host of measures including exceptionally narrow panel gaps and minimal protrusions. Every detail counts: the raised rear brake light, for example, has been seamlessly integrated between the roof and the top of the rear window to reduce wind resistance to a minimum.

## UNDERBODY AERODYNAMICS

The underside of the car has been designed to achieve the smoothest, flattest possible surface so that even at very high speeds the car generates remarkably little wind noise.

To make such a leap in aerodynamics, our engineers even devised a technique where underfloor drag characteristics could be isolated and studied separately.

## VIBRATION AND NOISE REDUCTION

The engine is usually the largest source of noise and vibration. For this reason, great care was taken to help make sure that the only sounds that reach the cabin are ones you want to hear. Specifically, the satisfying V8 engine note responding to performance demands.

When it came to running smoothness, our engineers focused in particular on minimising engine friction, enhancing rotational balance and increasing the amount of vibration absorbed by the engine mounts. We even created a body structure that generates counter-vibrations, thus suppressing noise.

## SOUNDPROOFING

Every effort has been made to prevent unwanted sound from entering the cabin. Special insulating materials, including high-specification laminated glass, surround the cabin. Wind noise is inhibited by the meticulous design of many details including external bodywork seals, weather strips and door and window frame mouldings.

# A WELCOME FEELING

We talk about 'human-centred engineering' at Lexus - the principle that our customers' wishes come first in everything we do.

On a deeper level, it's about anticipating and responding to needs and desires in a manner that's barely perceptible.

One simple example of this can be seen from the moment you approach the car. The LS senses your arrival with the help of a special Smart Key, then unlocks the door and welcomes you by discreetly illuminating the car.



## SMART ENTRY AND START SYSTEM

Considerable intelligence is contained within the Smart Key. For example, before you can lock the car, it first checks that it's outside the car, preventing you from locking yourself out. And if you have inadvertently left the engine running and closed the car doors, or the gearshift lever is in any position other than Park, the car cannot be locked.

Once you're inside the car, the key oversees a seamless departure. With the gearshift lever in Park or Neutral,

depress the brake pedal and a green light in the engine start button is illuminated. Just one push starts the engine.

You can also choose the Card Key - an ultra-slim electronic key about the size of a conventional credit card and just 3.35mm thick, yet still highly durable. Should its battery ever run flat, the card has a built-in mechanical key for entry.

Both the Card Key and Smart Key can be programmed to store the preferred

settings of each driver, such as the electrically adjustable seat and steering wheel positioning.

## POWER-ASSISTED DOORS

For greater comfort and convenience, all side doors on the new LS 460 feature automatic door closure. The system senses when a door is being closed and engages ultra-quiet electric motors to gently pull them fully shut.

## ANTICIPATION AND ILLUMINATION

We believe that true hospitality, and therefore luxury, is about anticipating needs and then being ready with the right answer at the right time.

The carefully choreographed lighting sequence in the LS 460 demonstrates this by guiding the driver and passengers into the car, meeting their needs every step of the way. For example, lights in the door handle provide a pleasant welcome, while those in the door help provide clarity and a sense of security.

Once the door is opened, the seats are illuminated, followed by the steering

wheel and the gearshift lever. When you wish to drive off, you'll find that the start button and gearshift lever are already discreetly illuminated for your convenience. Lighting, provided by sophisticated Light Emitting Diodes (LEDs), is also provided in locations such as the interior door handles, footwells and front and rear seats.



# INNER BALANCE

## LUXURY LEATHER SEATING

Leather seating is, of course, standard, while European semi-aniline leather is offered as an option. The hide is carefully selected and matched to ensure conformity throughout the interior. Extended buffing and pressing guarantee the smoothest, most even surface possible, while the leather is finished in super-seam, double-stitched sewing. The seats are upholstered in a choice of four colours: Black, Grey, Mellow White and Ivory.

The front driver's seat is electrically adjustable, with 10 different adjustments. The front passenger seat benefits from eight. If it's cold, your seat will be heated. Or cooled if it's hot. Furthermore, the front and two rear seats can be fitted with their own individual climate control systems.

The front seats feature comprehensive power adjustment with pre-set memory function - so that once you've found your

ideal position you can keep it. Adjustment includes the ability to flex the centre of the seat back and four-way lumbar support (two-way for the front passenger).

## SERENE MOTION

Few things better illustrate our pursuit of perfection than the development of the closing mechanism of the glovebox compartment in the LS 460.

The graceful motion of the Japanese sliding door was the ideal we set out to emulate. We soon decided that this could not be achieved by an electric motor. Instead, we devised a system of springs and dampers, tuned and refined to achieve the desired effect. We believe the result repays our efforts. The glovebox can be opened and closed smoothly in one operation with a natural, effortless movement.

## EXQUISITE JAPANESE CRAFTSMANSHIP

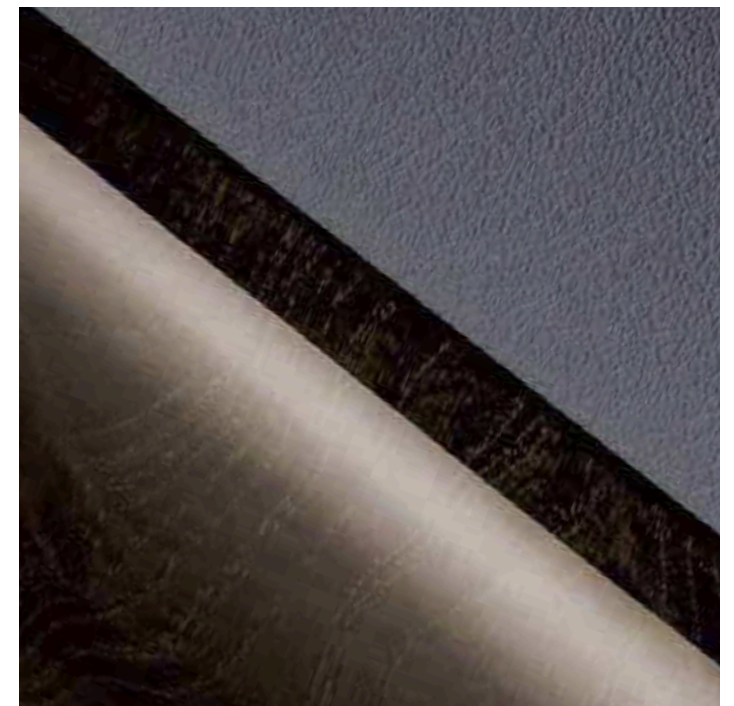
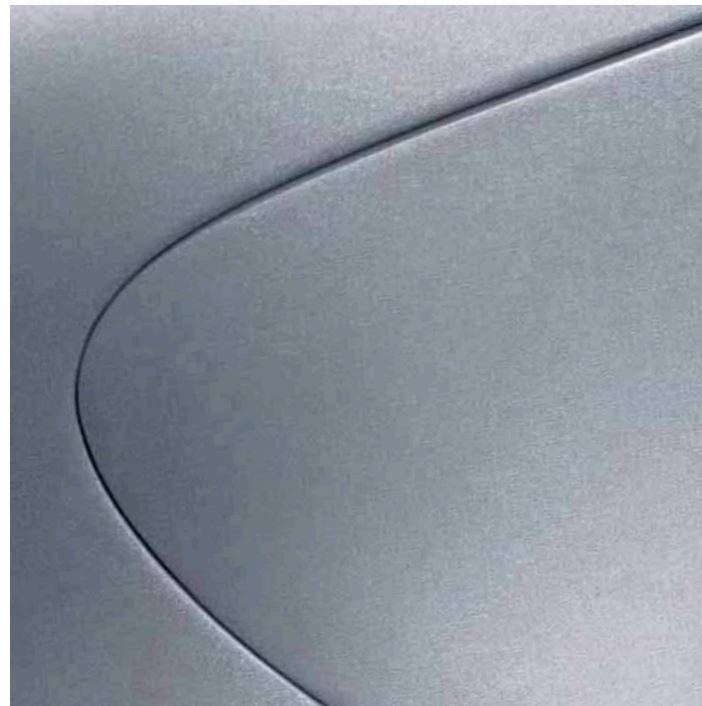
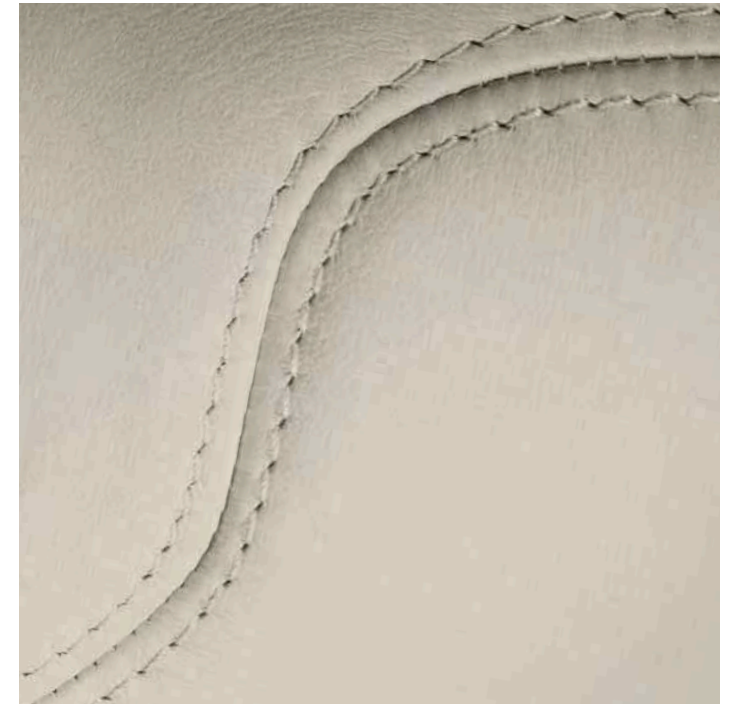
The new LS 460 provides a showpiece for the talents of some of the world's most accomplished experts. Exquisitely hand-finished leathers, beautifully grained wood, lustrous varnishes, flawless paintwork - this is quality that is affirmed by every sense.

LS 460 owners can choose from some of the world's finest veneer finishes - Ash Burr, Walnut and Birdseye Maple. For environmental reasons, all are sourced from sustainable plantations in Canada. And to ensure it remains in the best possible shape throughout the lifetime of the car, each veneer panel is laminated to an aluminium backing plate for extra rigidity. The finish of the wood is the result of many coats of lacquer which have endowed the surface with an ultra high-gloss and scratch-resistant finish.

## HIGH-GLOSS PAINTWORK

The high-gloss paint finish on the LS 460 is the result of a unique collaboration between some of the world's most advanced production robots and some of the world's most accomplished experts. The vertical surfaces of the car are wet-sanded after each of the foundation coat applications, and checked by eye as well as digitally to ensure the best quality. This is followed by wet-sanding of the entire foundation coat by hand, before the final clear coating process, to ensure a finish of the highest order.

Please refer to the specification information on page 44 for details of leather colour and wood veneer combinations.





# HOSPITALITY WITH INTELLIGENCE

Everything you touch in the LS 460 cabin conveys a sense of deep quality - from the leather-covered or leather and wood four-spoke steering wheel to the front console. Both are precision-stitched by machine, then finished and checked by an expert's hand.

Driving the Lexus LS 460 is a relaxing and pleasing experience. The controls - the vital link between car and driver - make an important contribution to this. They have been designed to be intuitively easy to use, to feel good to the touch and to respond to your commands with effortless efficiency.

## OPTITRON INSTRUMENTATION

The LS 460 features an Optitron display which automatically adjusts to the level of light. This ensures that the instruments are clearly visible at all times. The display consists of metal-faced dials with crisp, white illumination and Light Emitting Diodes (LEDs) indicator needles.

Between the two Optitron dials in the instrument panel, you will notice the Multi-Information Display - a discreet data resource supplying a wealth of information in colour.

## ADVANCED CLIMATE CONTROL

Both front seats feature a built-in air-conditioning system as standard. The system generates cold or warm air, as required. Blowers, installed in the seat back and cushion, direct air through the seat upholstery.

To ensure an efficient exchange of air, there are 20 individual outlets to distribute warm or cold air through the cabin of the LS 460.

Specify the Rear Seat Upgrade package, and rear seat passengers benefit from the world's first Roof Climate Diffusers. Mounted above each outer rear seat, they diffuse cooling air directly into the area around the heads of rear passengers.

## FOUR-ZONE AIR CONDITIONING

Another benefit of choosing the Rear Seat Upgrade package is four-zone independent climate control. This offers independent left and right controls to the front and the two outer rear seats, as well as automatic control of upper and lower cabin air zones. The system manages not only zone temperature, but also the choice of air outlets and the airflow volume.

## REAR SEAT UPGRADE PACKAGE

- Four-zone rear air-conditioning system with separate temperature controls left and right
- Air-conditioned and electrically adjustable rear seats with memory package
- Rear armrest controls for climate control, audio, seats and sunshade operation
- Rear Roof Climate Diffusers
- Five-litre cool box
- Rear side airbags
- Sunshades, electrically adjustable for rear door windows
- Rear head restraints, electrically adjustable



# ADVANCED GUIDANCE

An advanced navigation system comes standard on the new LS 460 and opens up an exciting world of mobility. It's intuitive to use and allows you extensive voice control over a wide range of features.

## ELECTRO MULTI-VISION (EMV) DISPLAY

The EMV, set in the centre console, provides an interactive information resource. Its eight-inch colour LCD display gives you information and control over many of the car's systems, such as navigation, the audio system and climate control. It can also present a comprehensive list of trip data, including details such as outside temperature, average fuel consumption for the last tank of petrol used, current fuel consumption and the distance driven since the journey started.

## ADVANCED NAVIGATION SYSTEM

This is up to seven times quicker than many conventional systems and offers a dual map display - large scale and small scale. The full-colour display has remarkable clarity with crisp and easy-to-read graphics.

You can tell the system where you want to go by address, stored destination and even point of interest. The system can offer a variety of routes based on the shortest distance or journey time. It is so intelligent and precise, that if you're low on petrol it will even help you locate the nearest petrol station.

In countries with Dynamic Route Guidance (DRG)\* facilities, the navigation unit is constantly updated on traffic conditions such as congestion, accidents and delays. To help you avoid these, the system can suggest an alternative route.

## VOICE ACTIVATION

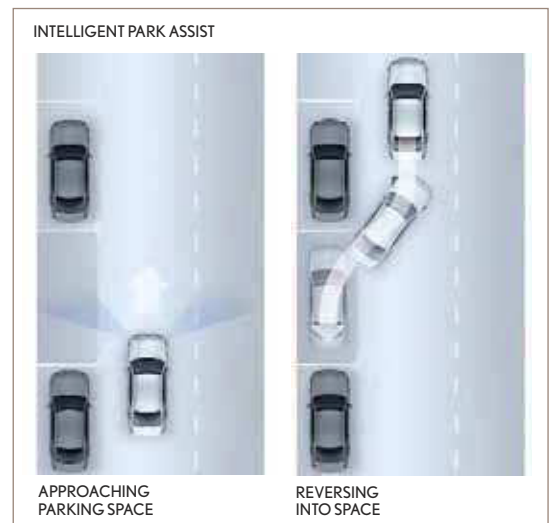
For your safety and convenience, the navigation system is equipped with voice activation, allowing the control of not only the navigation, but also audio, air-conditioning and phone systems. The system recognises English, German and French.

## BLUETOOTH® CONNECTIVITY

A Bluetooth® mobile phone\*\* operation system enables you to make and receive hands-free mobile phone calls by operating the colour touch-screen, the steering wheel-mounted switches or through voice recognition. Start the engine and, wherever your phone is in the car, the hands-free system is activated and the sound channelled through the car's speakers. A useful extra is that the system can store contact numbers from a mobile phone or PDA SIM card.

\* DRG is available in countries using the RDS radio system. The Traffic Messaging Channel will then enable the use of DRG.

\*\* Features require mobile phone to incorporate Bluetooth® technology. Please consult your local Lexus Centre for a full list of compatible phones or to check the suitability of your existing model.



## PARK ASSIST MONITOR

With the LS 460 you enjoy the benefits of the Park Assist Monitor, fitted as standard on all models. This features a camera, mounted within the rear numberplate surround, which relays a colour image of the area behind the car to the Electro Multi-Vision (EMV) display. Guidelines overlaid on the screen then help you plot your ideal course into the space.

## INTELLIGENT PARK ASSIST (IPA)

Making its first appearance in a luxury car, the IPA option employs a rear camera and ultrasonic sensors to identify parking spaces and then calculate the appropriate steering angle to guide the LS 460 into the space. The system controls the steering to automatically guide the vehicle into the target area. No steering input is required, you simply control vehicle speed during the manoeuvre.

# PREMIUM SOUND

The LS 460 is available with a choice of two systems, the standard Premium Sound system and the optional Mark Levinson® Reference Surround Sound system.

**PREMIUM SOUND, 10 SPEAKERS, 290 WATTS, NINE CHANNELS**

Featuring a nine-channel, 290 Watt Digital Sound Processing (DSP) amplifier and 10 speakers, the Pioneer Premium Sound system offers a class-leading standard audio specification. It features an in-dash six-CD autochanger capable of playing not only conventional audio CDs, but also MP3 and Windows Media Audio (WMA) music files recorded in CD format.

The stereo speaker system utilises 10 individual speakers, including front and rear door-mounted tweeters, upper rear door mid-range units, a large, 10-inch subwoofer for powerful, deep bass notes and a newly adopted three-inch front centre speaker for improved definition and mid-range clarity.

## MARK LEVINSON®

Since the late 1990s Mark Levinson has had the unique opportunity to be involved in the acoustic design of Lexus cabins. In the LS 460, with Mark Levinson® Reference Surround Sound, the audio qualities are so rich that driving while playing, for instance, Beethoven's sixth symphony, gives you the impression that the world is running to a superb soundtrack.

Together Lexus and Mark Levinson spent over 2,000 hours of laboratory and on-road testing to optimise the Mark Levinson® Reference Surround Sound system for the acoustic characteristics of the LS 460 cabin.

**19 SPEAKERS, 450 WATTS, DVD-BASED**

In conjunction with the Electro Multi-Vision (EMV) display screen, the Mark Levinson® Reference Surround Sound system introduces LS 460 owners to a complete, discrete 5.1 home theatre entertainment experience optimised for the playback of music, music videos and DVD films within the luxurious environment of the new flagship interior.

## SURROUND SPEAKER ARCHITECTURE

Separate, full-range side and five surround channels provide an extraordinary sense of musical envelopment for all passengers.

Key to the superlative performance of the new Mark Levinson® Reference Surround Sound system are 19 speakers (12 of which are unique to this system), each custom-engineered for the particular acoustic characteristics and its location within the cabin.

### PREMIUM SOUND SPEAKER ARCHITECTURE - 10 SPEAKERS



1. Two-way front system (three-inch/one-inch tweeters)
2. Three-inch centre speaker
3. Front door six-inch woofer
4. Rear door one-inch tweeter
5. Rear door three-inch mid-range unit
6. 10-inch subwoofer

### MARK LEVINSON SPEAKER ARCHITECTURE - 19 SPEAKERS



1. Two-way front system (four-inch mid-range/one-inch tweeter)
2. Two-way centre system (four-inch mid-range/one-inch tweeter)
3. Front door eight-inch woofer
4. Rear door one-inch tweeter
5. Rear door four-inch mid-range unit
6. Rear door six-inch woofer
7. Two-way satellite system (four-inch mid-range/one-inch tweeter)
8. 10-inch subwoofer



# DYNAMIC CONTROL

The LS, as you would expect, is equipped with a wide range of safety and stability features and driving aids such as an Anti-lock Braking System (ABS), Electronic Brakeforce Distribution (EBD), Traction Control (TRC), Vehicle Stability Control (VSC), Electric Power Steering (EPS) and Variable Gear Ratio Steering (VGRS).

All offer driver and passengers a heightened degree of security and comfort. The LS 460, however, offers even more, as the Vehicle Dynamics Integrated Management (VDIM) system ensures that the high power of the vehicle is harnessed smoothly and to full effect.

## VEHICLE DYNAMICS INTEGRATED MANAGEMENT (VDIM)

With many conventional cars, the stability and control systems act independently. We considered this and realised that if they all worked together, it would take safety and driving pleasure to a new level of sophistication.

What's more, VDIM is proactive rather than reactive. It can anticipate difficult situations and make corrections long before they get out of hand.

Sensors pick up information including wheel rotation, brake pressure and movement of the car's body. Thus informed, VDIM will apply stability and safety systems to varying degrees, achieving an optimum that could not be reached if each application worked independently.

VDIM also keeps working for you when conditions are more demanding. It will co-ordinate the front wheels' steering angle with steering input to optimise control and immediacy. For example, when the car starts off or brakes suddenly on roads where grip levels are different for the left and right wheels, steering integration control, using the VGRS system, equalises the situation and enhances stability.

And while conventional stability control systems are only activated immediately before the vehicle's performance limit is exceeded, VDIM activates control functions in stages before the limit is reached. This leads to smoother, more pleasurable driving.

Those drivers in search of dynamic handling will be pleased to note that VDIM can be deactivated at the flick of a switch.

## HOW VDIM WORKS

On these diagrams, the movement of the ball across a surface symbolises how the car behaves on the road.

### WITHOUT ANY STABILITY SYSTEM

Without any management system, the ball will roll off the plate in the same way that a car will slide off the road.



### CONVENTIONAL STABILITY SYSTEM

With a conventional system, the ball rolls from side to side before the system activates, giving an abrupt response.



### VDIM SYSTEM

With the VDIM system, the ball is always controlled in a smooth effective line, allowing the car to handle in a smooth and effective manner.





# EXCEPTIONAL SAFETY

With the LS 460, Lexus set out to create a car that will actively avoid accidents better than any other in history.

But even when the car is specified with state-of-the-art technology, accidents are not always avoidable. This is why we offer the choice of two systems:

- The highly effective Pre-Crash Safety system (PCS)
- Our revolutionary new Advanced Safety package

## PRE-CRASH SAFETY SYSTEM (PCS)

In an emergency, the PCS system will help reduce collision damage and keep passenger injury to a minimum. It features a millimetre-wave radar sensor - behind the Lexus emblem on the front grille - to detect obstacles in front. Data on objects ahead is constantly fed into a pre-collision computer which monitors vehicle speed, steering angle and yaw rate to help determine whether a collision is avoidable.

## PRE-CRASH IN ACTION

If a collision is deemed unavoidable by the Pre-Crash computer, the system prepares the LS 460 for impact:

- Seatbelts are automatically retracted to better restrain driver and front-seat passenger.
- The emergency Brake Assist System (BAS) is activated for maximum braking force and optimum reduction of collision speed. High-grip brake pads are applied intelligently to the large ventilated disc brakes to further increase braking efficiency.
- Adaptive Variable Suspension (AVS) also works together with the PCS system, automatically regulating the shock absorber rates to minimise vehicle nose diving under emergency braking conditions.

## ADAPTIVE CRUISE CONTROL (ACC)

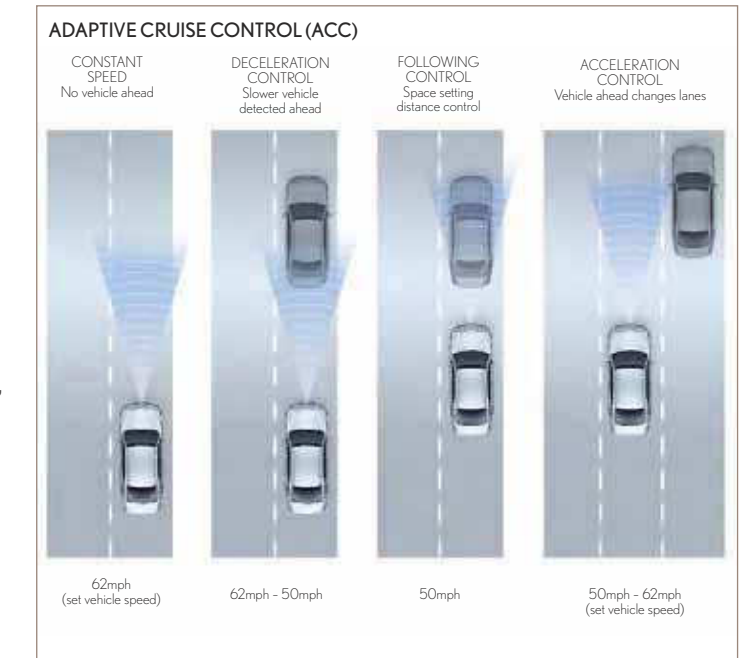
ACC is specified in tandem with PCS, as it uses the same advanced radar technology. With ACC, the radar is linked to the engine's braking and throttle systems. Engage ACC and the system will automatically maintain your chosen distance to the car in front (at speeds between 25mph and 124mph). Once the road ahead is clear, the car automatically returns to the original cruising speed.

Should the car ahead come to a halt, so will your LS. But if the driver ahead sets off again, you can choose to continue following the car by pressing RESUME, or the accelerator.

## INTELLIGENT ADAPTIVE FRONT-LIGHTING SYSTEM (I-AFS)

To allow you to see more of the road ahead, the LS 460 is fitted with High

Intensity Discharge (HID) bi-xenon headlights as standard. And, to help you see around corners, the car is also fitted with the Intelligent Adaptive Front-lighting System (I-AFS). This automatically swivels the headlights by up to 15 degrees into approaching corners, revealing details that would not otherwise be visible.



# VISIONARY PROTECTION

## ADVANCED PRE-CRASH TECHNOLOGY

With the new LS 460 you have the opportunity to order a car with the world's most advanced safety technology.

Equipped with the Advanced Safety package, which includes a host of global firsts, your LS 460 will not only detect objects ahead or vehicles approaching too fast from behind - taking preventative action in both cases - but will also warn about danger ahead should you be distracted for a few seconds. It can even help keep the car in lane on long journeys.

Building on our Pre-Crash Safety system (PCS), it combines radar, infrared projectors and a front-mounted stereo camera to extend the car's ability to detect obstacles.

The Advanced Safety package includes four breakthrough technologies.

## OBSTACLE DETECTION

The revolutionary Advanced Obstacle Detection system in the LS 460 can detect a wide range of obstacles in front of the car, including, for the first time, pedestrians and animals.

The system intelligently integrates three technologies:

1. Millimetre-wave radar that recognises objects in front of the vehicle. Radar is ideal for recognising objects with sharply defined edges, but less effective at identifying the human form. The



DRIVER MONITORING SYSTEM

25GHz millimetre-wave radar is located behind the Lexus emblem on the radiator grille.

2. A stereo camera that detects objects with minimal radar reflection - such as people and animals. The stereo camera, installed at the top of the windscreen, helps determine the car's distance from objects. The camera is also used for following white road markings to supply the Lane-Keeping Assist (LKA) system with lane positioning data.

3. Near infrared projectors that supplement the camera at night. These are located within the headlights and have the same range as high beam.

If the system anticipates a high probability of collision, it activates a warning buzzer and a red screen 'BRAKE' alert in the colour Multi-Information Display.

After testing the reactions of a number of drivers, our engineers determined the most appropriate timing for all Pre-Crash functions. At 1.5 seconds before impact,

the Advanced PCS will automatically activate several integrated safety systems:

- Pre-Crash Brake Assist System (BAS) - this will be put on stand-by, ready to provide maximum brake pressure the moment you activate the brakes.
- Emergency Steering Assist - this improves the vehicle's response to your steering input.
- Adaptive Variable Suspension (AVS) - this stiffens the dampers, controlling nosedive during Pre-Crash braking and increasing steering responsiveness.

If the system subsequently determines that a collision is unavoidable, Advanced PCS then activates the following systems:

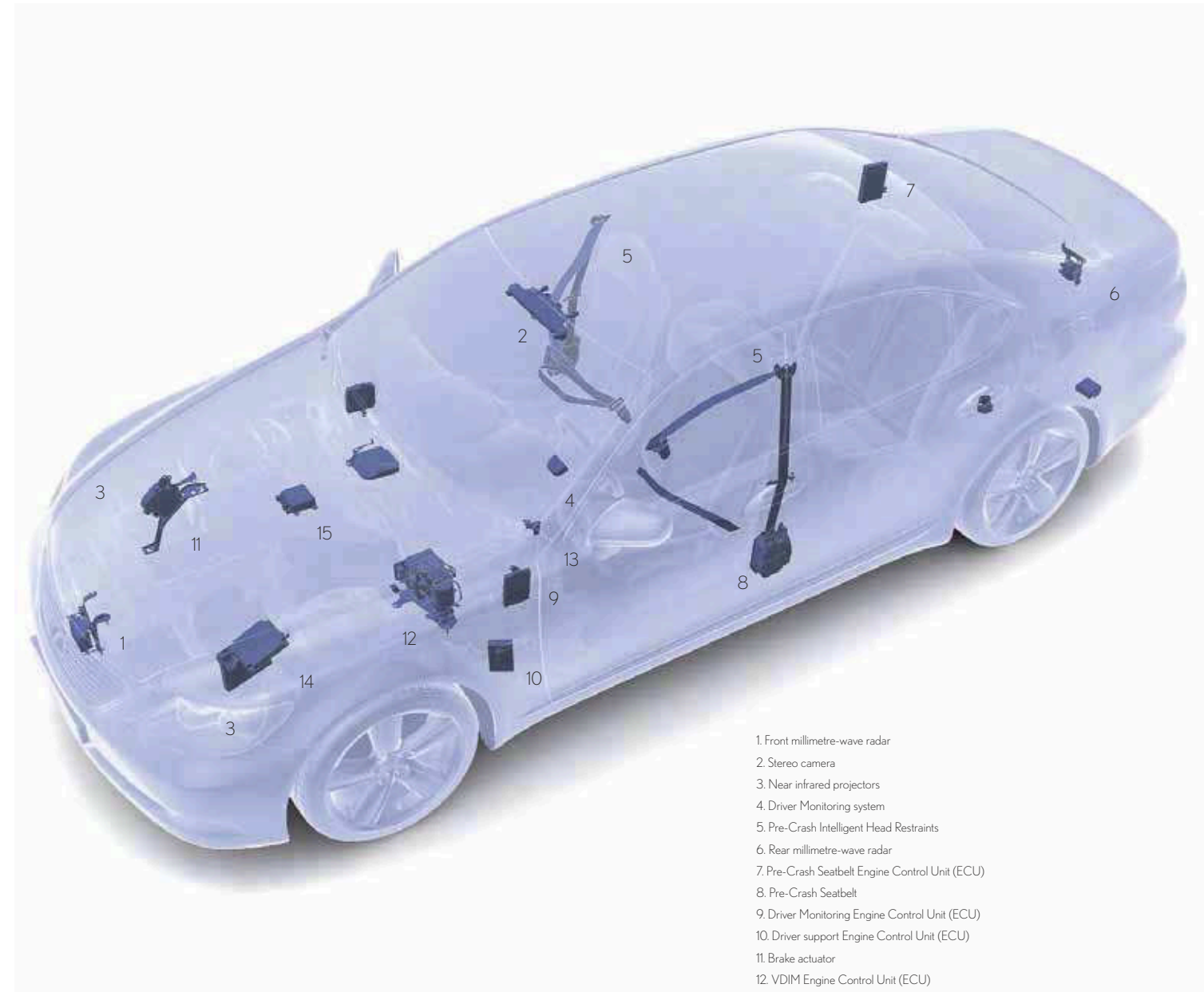
- Pre-Crash Seatbelt - this pre-tensions the front seatbelts through the motorised uptake of slack to maximise their initial restraint performance.
- Pre-Crash Brake system - this automatically engages the brakes to reduce the vehicle speed at the point of impact and thereby minimise the consequences of collision.

## DRIVER MONITORING SYSTEM

If you turn your head away from the road ahead by an angle of more than 15 degrees for more than 15 seconds while the vehicle is in motion, the system will automatically activate the Pre-Crash warning buzzer function and briefly apply the brakes to alert you.

## REAR PRE-CRASH SYSTEM

If a rear collision is deemed unavoidable, the system automatically activates the front seat Intelligent Head Restraints, which move by up to two inches forwards and one inch upwards to cushion the occupant's head in anticipation of an impact from behind, thus greatly reducing the risk of whiplash injury. A sensor determines the distance between the head restraint and the passenger's head, so that the head restraint stops automatically before substantial contact is made. The system will not activate if the seat is unoccupied.



1. Front millimetre-wave radar
2. Stereo camera
3. Near infrared projectors
4. Driver Monitoring system
5. Pre-Crash Intelligent Head Restraints
6. Rear millimetre-wave radar
7. Pre-Crash Seatbelt Engine Control Unit (ECU)
8. Pre-Crash Seatbelt
9. Driver Monitoring Engine Control Unit (ECU)
10. Driver support Engine Control Unit (ECU)
11. Brake actuator
12. VDIM Engine Control Unit (ECU)
13. Yaw rate and deceleration sensor
14. Engine Control Unit (ECU)
15. Throttle position sensor

# LANE-KEEPING ASSIST (LKA)

Long distance driving can be tiring and can lead to momentary lapses of concentration. With this in mind, we developed Lane-Keeping Assist (LKA) for the LS 460. This is an intelligent system that helps to keep you safely in lane.

Subject to weather and road conditions, LKA - offered for the first time in this class - monitors white line road markings via the stereo imaging camera to determine whether the vehicle is drifting out of a given lane. Should this happen, the system can provide an audible warning as well as steering support to help the driver regain the correct road position.

Activated by the driver, LKA offers a choice of two functions, dependent on whether or not Adaptive Cruise Control (ACC) is simultaneously in operation.

If ACC is inactive, the system offers a Lane Departure Warning (LDW) function. Operational at speeds of between 31mph and 124mph

and within a lane width of between 9 and 12 feet, LDW detects the possibility of lane departure after one second and encourages you to steer back into the lane by activating an audiovisual warning system and a function to provide a brief corrective steering force.

During ACC operation, LKA further offers a Lane Keep (LK) function. This provides steering torque to help you deliver the most appropriate steering response to re-centre the car within the lane. However, you maintain active control of the steering throughout. You can override the system's torque output at any time through a steering effort as small as 3.5Nm - a similar effort to that required when changing lane.

The system monitors the driver's steering input at all times and will automatically deactivate if it detects hands-free driving for a period of more than 15 seconds in a straight line, and five seconds when cornering.



# 360° SECURITY

The new LS 460 is engineered for the highest safety performance, surpassing all worldwide crash safety requirements. It has been created with the express aim of achieving class-leading safety in terms of full-frontal, offset, side and rear collisions.

## HIGH-TENSILE STEEL

Extensive use has been made of high-tensile steel throughout the body to produce a light, very stiff structure capable of superior energy absorption. The car's highly rigid bodyshell features numerous structural reinforcements to enhance its collision performance. Extensive bracing within the floor platform has resulted in high torsional rigidity and significantly improved impact safety.

## CLASS-LEADING AIRBAG TECHNOLOGY

To protect occupants from the consequences of a collision, the LS 460 is equipped with many strategically placed airbags.

- Two-stage front airbags including a twin-chamber passenger airbag
- Driver and front passenger knee airbags
- Front and rear side airbags
- Full-length side curtain airbags
- Large Thorax, Abdomen, Pelvis (TAP) airbags

An advanced system controls the deployment of variable-force front airbags for both driver and front passenger. Sensors determine the severity on an impact and, consequently, the force with which the airbags are deployed.

## INTELLIGENT AIRBAG ACTIVATION

The twin-chamber passenger airbag is offered for the first time in this class of car. Its advanced shape affords better protection. Once inflated, the twin chambers create a depression in the centre of the airbag, effectively cradling areas of the face such as the nose and mouth, while allowing the physical impact of the bag to be dispersed across numerous contact points on the head and shoulders.

## WHIPLASH INJURY LESSENING SEATS

The front seats on the LS 460 incorporate a 'Whiplash Injury Lessening' design to help minimise the risk of neck whiplash injuries in low-speed rear end collisions. Seat frames have been carefully designed to reduce the differential motion of head and torso when required.



### AIRBAGS

1. Two-stage front airbags including a twin-chamber passenger airbag
2. Driver and front passenger knee airbags
3. Front and rear side airbags
4. Full-length side curtain airbags

# SPECIFICATIONS

<b>Engine</b>	VVT-iE	Electric Variable Valve Timing with intelligence	
	ACIS	Acoustic Control Induction System	
	Cylinders/Valves		V8/32
	Capacity	(cm <sup>3</sup> )	4608
	Max. speed	(kW/bhp@rpm)	280/375@6400
<b>Transmission</b>	Max. torque	(Nm@rpm)	493@4100
	Rear-wheel drive		
<b>Performance</b>	8-speed automatic transmission		
	Artificial Intelligence automatic shift system		
	Max. speed	mph (km/h)	155 (250)
<b>Fuel consumption</b> (according to 93/116/EEC)	0-62 mph	(s)	5.7
	Urban	mpg (l/100 km)	171 (16.5)
	Extra urban	mpg (l/100 km)	35.8 (7.9)
	Combined	mpg (l/100 km)	25.4 (11.1)
	CO <sub>2</sub> emissions	(g/km)	261
<b>Brakes</b>	BIK Tax band	(06/07)	35%
	Front	Ventilated disc	
<b>Suspension</b>	Rear	Ventilated disc	
	Front	Multi-link	
<b>Dimensions</b>	Rear	Multi-link	
	Length	(mm)	5030
	Width	(mm)	1875
	Height	(mm)	1465
	Wheelbase	(mm)	2970
<b>Weights</b>	Luggage compartment	(l)	385-505
	Kerb weight (min.-max.)	(kg)	1945-2055



18-inch nine-spoke alloy wheels (235/50R18 tyres) - Standard on all LS 460 models



19-inch five-spoke alloy wheels - Optional on LS 460 and SE, standard on LS 460 SE-L



18-inch Getsu alloy wheels - Available through Lexus Accessories



19-inch Taiyou alloy wheels - Available through Lexus Accessories

## Standard equipment

### Safety and security

ABS (Anti-lock Braking System)  
BAS (Brake Assist System)  
EBD (Electronic Brakeforce Distribution)  
EBS (Emergency Brake Signal)  
ECB (Electronically Controlled Braking)  
EPB (Electronic Parking Brake)  
EPS (Electric Power Steering)  
TRC (Traction Control)  
VDIM (Vehicle Dynamics Integrated Management)  
VSC (Vehicle Stability Control)  
AVS (Adaptive Variable Suspension)  
Air suspension  
Anti-theft system, immobiliser, double door lock, intrusion sensor, inclination sensor and siren  
Driver 2-stage airbag  
Front passenger dual chamber 2-stage airbag  
Knee airbag (driver and front passenger)  
TAP (Thorax Abdomen Pelvis) airbag (driver and front passenger)  
Curtain shield airbags front and rear  
Airbag cut-off switch, front passenger  
ISOFIX attachment, rear seats  
WIL (Whiplash Injury Lessening) front seats  
Seatbelt pre-tensioners front and rear (left and right rear seats only)  
Audible Seatbelt reminder  
TPWS (Tyre Pressure Warning System)

### Exterior

18" 9-spoke alloy wheels (235/50R18 tyres)  
Full-size alloy spare wheel  
Outside rear-view mirrors: electrically adjustable, folding, heated, electro-chromatic (auto-dimming)  
HID (High Intensity Discharge) dipped headlights with pop-up washers and auto-levelling  
I-AFS (Intelligent Adaptive Front-lighting System)  
LEDs (Light Emitting Diodes) rear lights and licence plate illumination  
Laminated windscreen and side window glass  
Water repellent front door glass  
UV-cut and heat-insulating tinted glass  
Rain-sensing wipers

### Interior

Smart Entry and Start system  
Illuminated entry system with white LEDs (Light Emitting Diodes)  
Inside rear-view mirror: electro-chromatic (auto-dimming)  
Cruise control  
Leather upholstery  
Leather gearshift lever, leather steering wheel  
Electrically multi-adjustable power tilt and telescopic steering wheel  
Steering wheel operation for audio, phone and voice activation (audio, navigation, climate control)  
Wood inserts on doors and lower centre console  
Easy door and boot lid closer  
Optitron display with ECD (Electro Chromatic Device)  
Touch-screen 8" EMV (Electro Multi-Vision) VGA display  
Park Assist Monitor  
Park Assist Sensors  
DVD Navigation system with FM/MW/LW RDS tuner and in-dash, single-slot 6-CD autochanger  
Multi-Information Display in centre instrument cluster  
Bluetooth® mobile phone connectivity  
One-touch power windows front and rear  
Electronic Climate Control with automatic recirculation mode  
Clean air filter with pollen removal mode  
Separate driver/passenger temperature controls  
Electrically-adjustable front seats and head restraints with lumbar support (driver 10-way, passenger 8-way)  
Electrically adjustable rear seat head restraints  
Rear heated seats  
Front heated and air-conditioned seats  
Memory package for driver seatbelt position and height, driver seat, steering wheel and exterior mirrors

## Additional Specifications

### LS 460

Optional Rear Seat Upgrade package  
Optional Upholstery Upgrade package\*  
Optional Advanced Safety package\*  
Optional 19" 5-spoke alloy wheels (245/45R19 tyres)  
Optional IPA (Intelligent Park Assist)  
Optional Power boot closer  
Optional electric sunroof  
Optional Mark Levinson® audio package (19 speakers; DVD; 5.1 surround sound)  
Optional Rear Seat Entertainment \*\* (9" roof-mounted VGA screen with remote control)  
Optional PCS (Pre-Crash Safety)/ACC (Adaptive Cruise Control)

### LS 460 SE

Rear Seat Upgrade package  
Electric sunroof  
Power boot closer  
Mark Levinson® audio package (19 speakers; DVD; 5.1 surround sound)  
Rear Seat Entertainment  
Optional Upholstery Upgrade package  
Optional Advanced Safety package  
Optional 19" 5-spoke alloy wheels (245/45R19 tyres)  
Optional IPA (Intelligent Park Assist)  
Optional PCS (Pre-Crash Safety)/ACC (Adaptive Cruise Control)  
Optional heated wood trim steering wheel

### LS 460 SE-L

As LS 460 SE, plus:

Upholstery Upgrade package  
Advanced Safety package  
19" 5-spoke alloy wheels (245/45R19 tyres)  
IPA (Intelligent Park Assist)  
Card Key  
Optional heated wood trim steering wheel

\* must be ordered with electric sunroof and Rear Seat Upgrade package

\*\* must be ordered with Mark Levinson® audio package, electric sunroof and Rear Seat Upgrade package

### Advanced Safety package

(must be ordered with electric sunroof and Rear Seat Upgrade package)

PCS (Pre-Crash Safety) with ACC (Adaptive Cruise Control)  
Advanced Obstacle Detection System (radar and stereo camera)  
Rear PCS (Pre-Crash Safety) including Intelligent Front Head Restraints  
Driver Monitoring System  
Emergency Steering Assist  
LKA (Lane-Keeping Assist)  
Lane Departure Warning System

### Upholstery Upgrade package

(must be ordered with electric sunroof and Rear Seat Upgrade package)

Semi-aniline leather and trim details  
Alcantara® roof headlining and pillar finishing

### Rear Seat Upgrade package

Cool box  
Power rear seat slide/recline  
Power rear head restraints with memory function  
Air-conditioned rear seats  
4-zone air-conditioning with rear seat separate left/right climate control and roof-mounted diffusers  
Rear audio controls  
Electric sunshade for rear doors  
Rear side airbags  
Wood Console package