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# LEXUS LC ROAD TRIP

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 **LEXUS**  
EXPERIENCE AMAZING





# LEXUS LC

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# LEXUS AS GLOBAL LUXURY LIFESTYLE BRAND

The launch of the Lexus LC luxury coupe has a wider significance than being an exciting and technologically advanced addition to Lexus' global model range. The visual impact of its emotional design and its exhilarating performance are manifestations of a radical shift in the Lexus brand that has been developing during the past few years.

In automotive terms, Lexus is still a young brand, just 28 years old, but even in that short time the perceptions of what luxury means have changed. Back in 1989 people would choose a prestige car as a status symbol. Today the concept of luxury has evolved into a mindset that values quality and exclusivity not just in things, but in experiences and social interactions.

One of the qualities that has distinguished Lexus ever since it entered the highly competitive luxury car market is our commitment to delivering highest standards of customer service. Our philosophy is based on Omotenashi, interpreting and developing the best traditions of Japanese hospitality in treating customers as you would guests in your home and anticipating their every need and preference. The result is an exceptional, personalised experience and an approach to business that has earned Lexus multiple awards for customer satisfaction worldwide.

Such is the solid foundation on which Lexus is now taking its work beyond automotive into new arenas where it can nurture and inspire innovation, creativity and craftsmanship. For example, in the world of international design we have been a leading contributor to Milan Design Week since 2005. We also host an annual competition for up-and-coming talent and present specially commissioned works that capture key themes from our own design philosophy.

Lexus is supporting film-makers, too. Working with leading international producers such as The Weinstein Company we provide a showcase for new talents in the Lexus Short Films series, established in 2013. We are also bringing our design vision to the big screen. Collaborating with the Europa-Corp studios and acclaimed director Luc Besson, Lexus has helped create a futuristic pursuit aircraft - the SKYJET - for the science fiction blockbuster Valerian and the City of a Thousand Planets.

A focus on imaginative technology has brought numerous world-first features and capabilities to Lexus cars. This drive for technical innovation has spread further to embrace exciting new challenges commanding wider public attention and acclaim. For instance, Lexus succeeded in building a



fully functioning hoverboard. And, earlier this year, we unveiled the sleek and powerful Lexus Sport Yacht Concept, applying our technology and design skills for the first time to the world of marine high-performance.

Lexus' vision is not confined to creating great cars like the new LC. Our ambition is to build an exciting global lifestyle brand with a much wider outlook, an approach captured by our new brand tagline, "Experience Amazing".

In this way, Lexus is defining its own territory in the premium market, going beyond the purely numerical understanding of what a luxury car should be. The result is a holistic brand experience that is supported by a passion for design, craftsmanship, quality, technology and an unparalleled customer experience - qualities that are perfectly showcased in the new LC luxury coupe.

PASSION FOR  
DESIGN - CRAFTSMANSHIP  
QUALITY - TECHNOLOGY



# LEXUS LC KEY FACTS

## 1. BRAVE DESIGN

- An all-new luxury GT with a dynamic design and evocative, fluid lines.
- The first model in its segment to be offered with 21-inch wheels.
- A driver-focused cabin providing both luxury and a sporting feel with a low-set driving position, helping create an ideal connection between driver and car.

## 2. EXHILARATING PERFORMANCE

- Lexus' all-new, ultra-rigid GA-L platform, allowing to improve inertia specifications by moving all the critical weight to the car's centre and offering a lower centre of gravity and a more sporty driving position.
- A highly rigid and lightweight body.
- New multi-link front and rear suspension systems secure precise handling characteristics.

## 3. IMAGINATIVE TECHNOLOGY

- LC 500h equipped with a 3.5-litre naturally aspirated V6 engine and Lexus' all-new Multi Stage Hybrid System, delivering excellent efficiency and the most engaging hybrid driving experience yet.
- LC 500 equipped with a 5.0-litre naturally aspirated V8 petrol engine and a new 10-speed automatic transmission - a world first for a premium passenger car.

#### 4. TAKUMI CRAFTSMANSHIP

Developed and produced by highly-skilled, high-precision Lexus Takumi workers using their knowledge from the LFA supercar development and utilising high-quality materials.

#### 5. LEXUS SAFETY SYSTEM +

Comprehensive Lexus Safety System + fitted as standard to ensure the highest active safety standards.

#### 6. A CHOICE OF TWO PREMIUM AUDIO SYSTEMS

- 13-speaker Mark Levinson Reference Product audio system or
- 12-speaker Pioneer premium audio surround system.



ROAD TRIP LEXUS LC

## A FLAGSHIP LUXURY COUPE

The LC is a new flagship 2+2 luxury coupe for Lexus' global model range, not only showcasing the qualities of design, engineering and advanced technology that define us as a premium vehicle manufacturer, but also symbolising our ambition as a luxury lifestyle brand.

This isn't simply a car that looks good. It has been engineered in every dimension to deliver unique driving experience. "Even sharper and more refined" were the constant watchwords as Lexus honed every aspect of the LC's performance, ride and handling.

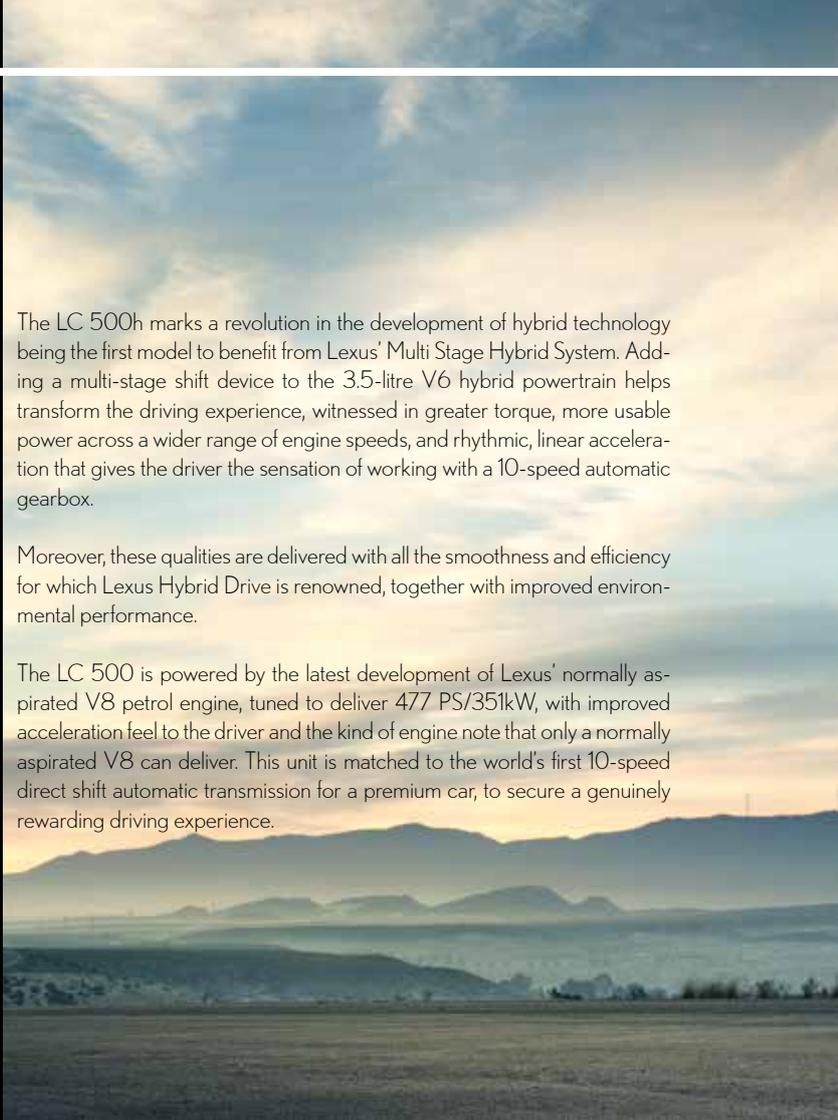
The LC is a contemporary interpretation of the finest traditions of the grand tourer, a coupe focused on the road, not the track. Its handling, responsiveness and comfort have been tuned on some of the world's great driving roads, to deliver a rewarding and hugely enjoyable experience.

The quality is equally high in both versions of the car that are being brought to the marketplace, the LC 500h and the LC 500 - two models that offer unique propositions for customers.

The LC 500h marks a revolution in the development of hybrid technology being the first model to benefit from Lexus' Multi Stage Hybrid System. Adding a multi-stage shift device to the 3.5-litre V6 hybrid powertrain helps transform the driving experience, witnessed in greater torque, more usable power across a wider range of engine speeds, and rhythmic, linear acceleration that gives the driver the sensation of working with a 10-speed automatic gearbox.

Moreover, these qualities are delivered with all the smoothness and efficiency for which Lexus Hybrid Drive is renowned, together with improved environmental performance.

The LC 500 is powered by the latest development of Lexus' normally aspirated V8 petrol engine, tuned to deliver 477 PS/351kW, with improved acceleration feel to the driver and the kind of engine note that only a normally aspirated V8 can deliver. This unit is matched to the world's first 10-speed direct shift automatic transmission for a premium car, to secure a genuinely rewarding driving experience.





# DESIGN

- Distinctive design for a Luxury Coupe based on award-winning LF-LC Concept car
- Avant-garde styling achieved through unprecedented level of co-operation between Lexus' design and engineering teams
- Fluid interpretation of Lexus' "seduction and technology" design theme
- Luxury 2+2 coupe proportions, with authentic front engine/rear drive design characterised by low bonnet and roof lines and aerodynamically efficient surfacing

## DYNAMIC LUXURY COUPE DESIGN

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The LC's exterior design is immediately recognisable as being a faithful reinterpretation of the styling of the LF-LC concept, winner of an EyesOn Design Award when first revealed at the 2012 North American International Auto Show in Detroit.

Making the show car's styling a practical proposition for a full production car required a new way of working at Lexus, bringing the engineering and design teams together with an unprecedented degree of co-operation to achieve the desired results, with hard work fuelled by a shared desire to make the LC a success, without compromise. At the same time as the challenge of the exterior design was taken up, a new cabin was created, combining a driver-focused cockpit with an open and welcoming space for passengers.

The success of this team was proven when the LC won two further EyesOn Design honours when it in turn was revealed at the 2016 Detroit Auto Show.

### **An unprecedented design challenge**

The LC coupe is a dynamic luxury coupe with an exterior design that is radical yet elegant, with commanding visual impact.

The delivery of such uncompromised styling was at the heart of the project led by Chief Engineer Koji Sato and Chief Designer Tadao Mori. Their work was inspired by the hugely positive media and public reception for the LF-LC

and the personal support of Akio Toyoda, who saw the concept as a route to introducing more emotion into the Lexus brand.

Translating the styling of the 2012 LF-LC concept into a viable production model was a complex challenge. Its successful achievement called for new ways of collaboration between the engineering and design teams, right from the start.

Sato explains: "While maximising the fundamental taste of the LF-LC, we applied completely different specifications to create a design that goes beyond the concept - a design that will captivate you as soon as you see it. In my view pursuing beautiful design and elaborating great performance are very similar. Beauty is the identity of Lexus' design.

"Every feature on the LC is the result of an integrated approach to design and engineering. All the team worked together, engineers and designers alike. This is why we have been able to create such a great car."

### **New Global Architecture - Luxury platform**

The desire was to preserve the LF-LC's defining low roof and hood lines, while ensuring the packaging allowed the LC to accommodate a sport suspension and 21-inch forged alloy wheels. At the same time, all powertrain, chassis and safety components had to be housed and comfortable headroom had to be provided in the cabin. The teams had the benefit of working on a completely new GA-L (Global Architecture - Luxury) platform, designed for new generations of front engine/rear-wheel drive Lexus models.

As an example of the teams' commitment to success, the front suspension components went through six months of re-working the multilink suspension control arm geometry until the required low hood line was achieved, without compromising suspension performance. Other clever solutions were developed, such as the new ultra-slim LED headlight unit design, which allowed the LC to retain exceptionally short front overhangs.

## **EXTERIOR: AVANT GARDE ELEGANCE**

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The LC displays luxury coupe proportions with an exterior design that projects an avant-garde elegance, remaining faithful to many of the defining features of the LF-LC concept car that inspired it. The design wraps the car in a glamorous body that represents an evocative and fluid interpretation of Lexus' "seduction and technology" design theme.

### **Athletic profile**

The luxury coupe's athletic profile is characterised by its sweeping roofline, which tapers rearward from above the centrally positioned cabin to create a distinctive silhouette. Chrome-plated mouldings along the side of the glass roof amplify the elegant coupe profile, their rear edges shaped to echo the lines of a traditional Japanese sword. The blacked-out finish to the roof and rear pillars creates a floating effect that visually separates the roof from the rear spoiler.

The Sport and Sport+ Package option raises the LC's sporting appearance with the addition of a Carbon Fibre Reinforced Plastic composite roof. The Sport+ Package also features an exclusive active rear spoiler.

The LC has a 2,870mm wheelbase and, directly referencing the styling of the LF-LC, very compact overhangs (930mm front, 970mm rear) and a notably low bonnet line. Overall length is 4,770mm, width is 1,920mm and height 1,345mm.

The prominent front and rear wings flare away from the centre of the car, housing wide, large-diameter wheels, while the door panels are pulled inwards, creating a powerful three-dimensional form that mirrors the spindle shape of the Lexus grille.

The LC is available with a choice of (standard-fit) 20-inch cast aluminium and (optional) 20 and 21-inch forged aluminium alloy wheels.

### **Frontal design**

The spindle grille itself - a hallmark of Lexus design - is finished in chrome and has an arresting new mesh design with visual tension that changes as it spreads across the front of the car. The unique LC lighting signature is created by independent daytime running lights in an arrowhead configuration and ultra-compact triple LED headlamp units. Achieving this remarkably slim headlight design played an important role in helping the designers achieve the coupe's low bonnet line and short front overhang.



### **Rear styling**

At the rear the roof tapers down between muscular wheel arches, reinforcing the car's wide and stable stance. The Lexus spindle shape is visible here in a three-dimensional form that is generated by lines flowing from the front of the car and along the sides, before cutting back around the inner edge of the rear combination lamps. The line of the spindle then moves outwards, following the shape of the licence plate mounting and outer edges of the tailpipes.

The rear combination lamps, set vertically at the outermost edge of the bumper, have a graphic that accentuate the flow along sides of the body and emphasise the vehicle's strong, planted look. The use of several different materials in the lens and bezel provides a further indication of the sophisticated workmanship invested in the LC. Within the combination units, the tail lights feature a new Lexus concept, using mirrors to create a multi-reflection, three-dimensional sequence of L-shaped graphics.

### **Aerodynamic detailing**

The quality of the LC's driving dynamics is witnessed in subtle yet functional aerodynamic details. Ducts in the front and rear wheel arches improve high-speed stability and a rear diffuser and active rear spoiler (supplied with the Sport+ Package) manage airflow during performance driving (for further detail, see the section on aerodynamics).

## AERODYNAMICS

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As much as Lexus sought to carry forward the sensuous styling of the LF-LC concept into the production LC, it also worked to introduce a high level of aerodynamic performance to improve the coupe's handling stability and ride quality and suppress wind noise.

The aim was to achieve a smooth, unbroken front to rear airflow both over and beneath the body. Design elements that help control and direct the airflow include small but critical aero stabilising fins on the front pillars, just forward of the door mirrors. Just a 5mm difference in their size or position can affect the car's handling and level of wind noise.

An active rear spoiler, fitted as part of the Sport+ Package, is automatically deployed when vehicle speed rises above 80km/h. This suppresses lift at the rear to give a high degree of stability when driving at speed.

Aero ducts are featured just forward of the rear wheel arches, serving a highly practical function as well as contributing to the dynamic power of the LC's styling. These feed air into the wheel arch, which then exits smoothly across the sidewall of the tyre. This contributes to the car's high-speed straight-line stability and steering responsiveness and generates improved grip feel from the rear tyres, for example when changing lanes.

The treatment of the underbody has been given equally close attention, with an almost completely smooth finish. Parts are aligned with the aero line, which kicks up towards the rear - notably the silencer is angled upwards, like a diffuser.

## DYNAMIC LUXURY INTERIOR

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The dynamic luxury theme of the exterior is carried through into the LC's 2+2 cabin combines elegance, superb comfort, sophistication and intricate attention to detail with a driver-focused cockpit.

### Cabin design

The area around the front passenger spreads outwards to create a comfortable and welcoming space. The flowing line of the door trim is an extension of an exterior line that flows from the hood and through the windscreen, building a sense of continuity between the outside and inside of the car.

The driver's cockpit has been ergonomically designed to instil confidence and invite spirited driving, with an intuitive layout of the controls and an excellent seating position. The driver's hip point has been located as close as possible to the coupe's centre of gravity, maximising direct feedback of the vehicle's dynamic behaviour. The driver also enjoys an excellent view of the road, uncompromised by the low seating position thanks to the low hood line, the low-profile instrument panel and the location and narrow width of the front pillars. The shallow height of the instrument panel has been helped by the development of compact air vents.

### Ease of access

Lexus has ensured getting in and out of the LC is easy and comfortable. We provided generous legroom beneath the instrument panel, reduced the height difference between the rocker panel and the vehicle floor and enlarged the door aperture to provide comfortable head space.

## Steering wheel and controls

Particular attention has been paid to the steering wheel design, with a change in the cross-section around its circumference to allow for variations in grip and twisting of the wrist. New, larger magnesium alloy paddle shifts have been profiled for easier hooking with the fingertips and have a more positive and satisfying click action.

The instrument panel has a taut and rigid frame that creates a strong horizontal axis. All the principal instrumentation and function controls are contained within its cross-section.

The information displays are arranged in order of importance, with the most critical positioned closest to the driver's sightline, within the dashboard's upper display zone. All are positioned at the same height, to reduce the degree of eye movement required for the driver to read them. The instrument binnacle houses the latest development of the TFT (thin film transistor) meter technology introduced in the Lexus LFA supercar, including a moving central ring.

Driving-related switches and controls are arrayed in a control zone that is concentrated immediately around the steering wheel. These include the paddle shifts, steering wheel combination switches, Drive Mode Select switch, starter button and shift lever, each located for the best ergonomic performance, focusing on easy reach and operation that allow the driver to concentrate on the road ahead with least distraction.

The centre console features the new generation Remote Touch Interface touchpad control with quick and intuitive operation.

Throughout the cabin the quality and finish of the upholstery, trim materials and detailing reflect the Takumi craftsmanship and fine attention to detail for which Lexus is renowned worldwide, witnessed in the hand-stitching of the leather gearshift lever, the draping treatment of the Alcantara door panel trims and the discreet use of the Lexus L motif in areas such as the face of the analogue clock and even the tactile raised surfaces of the air vent controls.

## Seat design

Providing the driver with a seat with the best possible combination of support and comfort was a focus point in the development of the LC's cabin. Chief Engineer Sato himself was involved in the process for developing a new design that went through an exhaustive 50 test cycles.

The aim was to deliver an advanced design with excellent holding performance and superb comfort. Lexus has achieved this with a new two-part construction technique in which the main part of the seatback drapes over the shoulder area of the seat and wraps around the back. To ensure superior lateral support, additional bolstering is provided for the driver's shoulder blade area, and resin inserts improve the holding performance of the side bolsters. On the sports seats provided with the LC Sport and Sport+ Packages, the bolsters are even more substantial, with a focus on keeping the driver's back in place in high-speed cornering.

The seat cushion has been shaped to ensure excellent support for the pelvis, so that pressure is evenly distributed to the front and back. The result is a perfect fit and high comfort from the moment you sit down based on a 'self-alignment' concept.





### **Interior colours**

The choice of interior colour schemes for the LC includes new Breezy Blue and Ochre shades, together with Lexus' established Dark Rose and Black finishes. The colour options and combinations allow customers to create a distinctive and individual cabin that projects a sporty or luxurious look.

The new Breezy Blue colourway is exclusive to the LC, combining a mid-blue finish for the upper door trims, steering wheel, instrument panel and centre armrest with contrasting white seat upholstery and vivid orange for the door panels and shift lever surround. The Ochre option provides a monotone finish throughout the interior in warmly harmonising shades of brown, producing a highly luxurious effect.



# EXHILARATING PERFORMANCE

- First model to be constructed on the new Lexus 'Global Architecture - Luxury' front engine/rear-wheel drive platform
- GA-L platform allows for a low centre of gravity and the setting of a new driving position
- Superb body rigidity with highest torsional stiffness of any Lexus model yet
- Strategic use of different steels, aluminium and Carbon Fibre Reinforced Plastic to achieve optimum combination of strength, light weight and weight distribution
- Detailed management of inertia specifications, using low centre of gravity, vehicle mass distribution and moment of inertia to achieve "sharper, more refined" dynamic performance
- New multi-link front and rear suspension and adoption of run-flat tyres
- Lexus Dynamic Handling with Limited-Slip Differential ensures faithful handling and ultimate steering response
- Engine sound reflects the coupe's performance qualities

The LC is the first car to be developed on Lexus' new front engine/rear-wheel drive Global Architecture - Luxury (GA-L) platform, the quality of which gives Lexus the freedom to take design and a performance to another level, fundamental to its future direction as more emotionally driven brand.

## NEW GLOBAL ARCHITECTURE - LUXURY PLATFORM

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The design and quality of the GA-L platform have given Lexus the opportunity to craft a highly rigid body with excellent noise and vibration characteristics. It plays a pivotal role in the new LC's dynamic performance, enabling a low centre of gravity to be achieved and a completely new driving position to be defined. Low vehicle mass, ideal weight distribution and the accommodation of finely tuned new multilink suspension systems add to the dynamic benefits of the platform's design.

### High body rigidity

The goal of obtaining emotional driving dynamics has been achieved by ensuring exceptional body rigidity and careful management of the inertia specifications.

To gain the best results, materials with different properties have been used in different areas of the coupe's construction, giving strength, rigidity and light weight in appropriate measure - in essence, "the right material for the right job".



The application of different materials can be broken down into different functions. To create a strong frame that helps provide robust cabin integrity, the non-deforming parts are made of ultra-high-tensile strength steel, while high tensile steel with good elastic properties is adopted for elements that are designed to deform in an impact to dissipate energy. The rigidity of the frame is supported by general steel with a high degree of stiffness, and aluminium is used strategically for its excellent energy-absorbing performance and for external bodywork where its lightness and tensile rigidity are of value. Finally, strong yet lightweight Carbon Fibre Reinforced Plastic (CFRP) is featured inside and out.

In pursuit of a comfortable ride, Lexus increased the amount of adhesive used to connect components in the LC's frame - around 73m in total. Also, line welds have been used in place of spot welds, wherever possible.

### **Inertia specifications**

Precise control of the LC's inertia specifications played an important part in achieving the "even sharper, more refined" quality Lexus sought for its luxury coupe. This included giving the car a low centre of gravity, balanced front-to-rear weight distribution and a good moment of inertia.

The quality of the new GA-L-based platform gave the opportunity to rethink packaging to improve the inertia specifications and achieve an excellent combination of handling stability and ride comfort. The principal elements included locating the tyres outwards to the corners of the vehicle, reducing overall weight, lowering the driver's hip point and moving the engine 50mm rearwards. The removal of the spare tyre in favour of run-flat tyres and relocating the battery to the luggage space further helped balance the car's weight distribution.

By achieving a low centre of gravity, Lexus was able to reduce the car's roll angle without stiffening the springs and detracting from ride comfort. Overall the LC displays controlled body motion and precise, linear response, creating a rhythmical and smooth driving experience, notably when cornering and making lane changes.

The innovative packaging aimed at improving the inertia specifications also helped the designers in their mission to give the LC the dynamic visual appeal witnessed in the LF-LC concept. Moving the engine mass rearwards, behind the front axle line, results in a front/mid-ship configuration. This was essential for achieving the desired low hood line and making space for 21-inch wheels, giving the coupe a low, dynamic silhouette. Thus a successful synergy has been generated between engineering the best possible dynamic performance and creating a superior design.

## **NEW MULTILINK SUSPENSION DESIGN**

The layout of the LC's new front and rear suspension systems focuses on achieving excellent vehicle response and greater steering feel, from the moment the steering wheel is turned, supporting the "even sharper" quality Lexus sought for the coupe. At the same time, a higher degree of ride comfort was a priority, combined with stability to give the driver peace of mind at all times.

The new high mount front suspension system has an optimal arm design to secure the required level of steering feedback. Conversely, the rear suspension has a low mount configuration, with precisely defined arm locations to achieve high-stability steering characteristics.



Double ball joints are featured on each of the two upper and two lower control arms, allowing for control of the smallest movements from driver inputs and the road surface. This arrangement helps optimise the suspension geometry and create more precise steering response with better initial effort. The upper control arms are made of lightweight forged aluminium, contributing to the LC's weight-saving programme.

The driver can appreciate the effectiveness of the LC's suspension designs in the car's immediate response at initial turn-in, with the tyres quickly developing lateral force, delivering stability, controllability and ride comfort.

## **Run-flat tyres**

The specification of run-flat tyres contributes to the LC's efficient packaging, weight-saving qualities, optimum weight distribution and dynamic performance.

By avoiding the need to accommodate a spare wheel, Lexus has been able to save weight and free up space to locate the sub (or auxiliary) battery in the luggage compartment, helping achieve the desired front/rear weight distribution. At the same time, a larger loadspace could be designed, without compromising the coupe's swooping profile.

The quality and performance of run-flat tyres have improved significantly as manufacturers make important advances in the application of new designs, tread patterns and material compounds, giving both high performance capabilities and everyday ride quality, durability and safety. Improved rolling resistance has also been achieved, ensuring the tyres make a contribution to the vehicle's overall fuel efficiency.

The tyres' increased lateral stiffness complements the LC's highly rigid suspension, while vertical stiffness has been reduced to favour ride comfort.

Tyre sizes are 245/45RF20 front and 275/40RF20 rear with 20-inch wheels, and 245/40RF21 front and 275/35RF21 rear with 21-inch wheels.

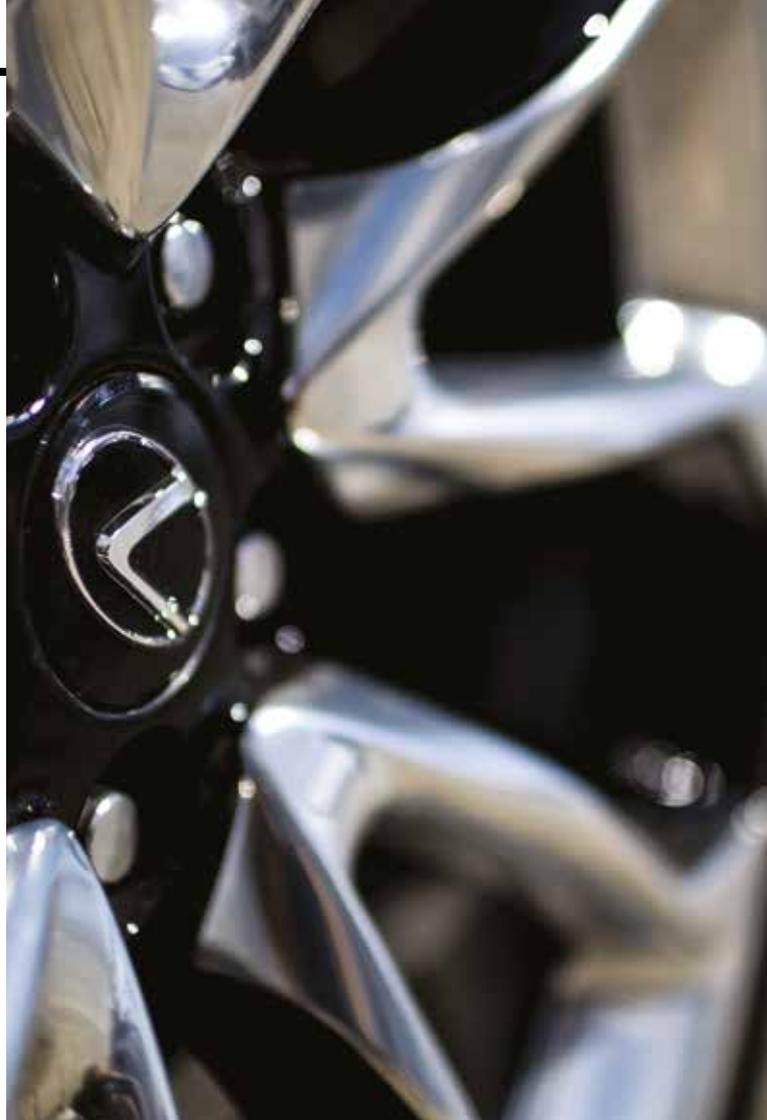
### **LEXUS DYNAMIC HANDLING WITH LIMITED-SLIP DIFFERENTIAL**

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The LC Sport + grade is equipped with the Lexus Dynamic Handling system.

Its role is to provide a higher level of handling in all driving scenarios, achieved through the co-ordination of the car's Variable Gear Ratio Steering (VGRS), Dynamic Rear Steering (DRS) and Electric Power Steering (EPS).

Monitoring vehicle speed, steering direction and driver inputs, LDH calculates the optimum angle for all four wheels. Using VGRS to the front and DRS to the rear, the system can independently control both front and rear wheel steering angles to greatly improve turn-in response, rear grip, vehicle stability and overall cornering agility. At speeds below 80 km/h, LDH turns the front and rear wheels in opposite directions, and in the same direction thereafter.



ROAD TRIP LEXUS LC



The result is excellent steering response in everyday driving, true to the driver's inputs, with a high feeling of rear tyre grip and instantaneous response in high-speed cornering, giving a greater feeling of security.

By equipping the LC with a limited-slip differential (LSD), Lexus allows the driver to enjoy secure acceleration while cornering; co-operation between the Vehicle Stability Control (VSC), DRS and the limited-slip differential is designed to counteract over or understeer and help keep the car to its intended line. At the same time, a natural driving feel is communicated to the driver, even at the limit of performance. VSC performance is notably enhanced being co-ordinated with other handling and stability systems through the LC's Vehicle Dynamics Integrated Management (VDIM) and Lexus Dynamic Handling (LDH). This allows control of rear-wheel torque and steering torque in addition to braking in over and understeer conditions.

The quality of the steering system has been carefully engineered to suppress any unwanted vibration while adding extra rigidity to the steering column to communicate a sense of security and responsiveness. The sharp, linear response of the EPS gives a natural feel, while taking handling precision to a higher level for a more rewarding driving experience.

## ENGINE SOUND

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Lexus considers the sound of the engine to be an important contributor to delivering a genuinely multi-sensory driving pleasure. In the new LC the brand has taken great steps to achieve an engine sound that truly stirs emotions. In fact, engineers have worked to combine the sounds produced both by the air intake system at the front and the exhaust system at the rear to create what they describe as a "concert hall" effect inside the cabin, both as the car gains speed and slows down.

The sound has been developed specifically for the LC, to reflect the coupe's specific performance qualities. As speed increases, it has an excellent tonal quality and harmony and a depth that expresses a pulsating feel.

On the LC 500's V8 engine the front air intake is fitted with a sound generator, with carefully engineered dimensions tuned to maximise the desired sound frequency and level. The opening is connected directly to the cowl reinforcement, so sound reverberates within the enclosed space, resulting in a natural quality.

At the rear, additional external valves have been introduced in front of the main muffler, which open and close according to the driver's use of the throttle, and the length and the diameter of the main muffler pipe has been adjusted, to generate a very satisfying exhaust note.

At low engine revs the exhaust sound gives a sense of the car's power, while at high speeds the engine note evokes an exhilarating feel.

## POWERTRAINS

- LC 500h powered by 3.5-litre V6 full hybrid powertrain
- First model to benefit from Lexus' new Multi Stage Hybrid System, delivering greatly enhanced torque and acceleration performance
- Compact and lightweight lithium-ion hybrid battery
- LC 500 features latest development of Lexus' 5.0-litre V8 engine, matched with the first direct shift 10-speed automatic transmission to be featured in a luxury car

### **TWO POWERTRAINS: 3.5-LITRE V6 FULL HYBRID WITH MULTI STAGE HYBRID SYSTEM AND NORMALLY ASPIRATED 5.0-LITRE V8**

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The Lexus LC gives customers the option of two powertrains, both of which benefit from numerous advanced technologies to achieve rewarding performance that fully complements the finely tuned handling qualities of the chassis.

The LC 500h marks the start of a new era in full hybrid technology, the introduction of Lexus' new Multi Stage Hybrid System. This transforms torque, power and acceleration through the addition of a new multi stage shift device to the powertrain, while still preserving the smoothness and efficiency for which Lexus hybrids are renowned.

The LC 500 is powered by a 5.0-litre normally aspirated V8 petrol engine, matched to a new close-ratio Direct Shift 10-speed automatic transmission - a first for a premium passenger car. Generating maximum power of 477PS/351kW thanks to an optimised intake and exhaust layout and engine control, it provides rapid, rhythmic acceleration accompanied by an engine sound that expresses the V8's power.

## **LC 500h WITH 3.5-LITRE V6 FULL HYBRID POWERTRAIN**

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The 3.5-litre V6 petrol engine featured in the LC 500h's full hybrid powertrain is powerful, with a red line set at 6,600rpm, yet also environmentally efficient.

Detailed design and engineering measures have been taken to fine tune performance, including a reduction in the diameter of the cylinder intake port to increase flow speed and efficiency, contributing to excellent power output and a feeling of continuous acceleration. The engine makes good use of Dual VVT-i (intelligent variable valve-timing), with timing precisely gauged in line with driving conditions, helping secure high torque at all engine speeds.

Measures to reduce friction losses and thus improve engine efficiency include the adoption of narrow, lightweight roller rocker arms and low-friction timing chains, while D-4S direct fuel injection helps create optimum combustion conditions, contributing to fuel economy of only 6.4l/100km in the combined cycle, with 145g/km CO<sub>2</sub> emissions.

## **IMAGINATIVE TECHNOLOGY: NEW MULTI STAGE HYBRID SYSTEM**

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The LC 500h introduces Lexus' first Multi Stage Hybrid System, a technology that delivers a revolution in hybrid powertrain performance and aims at changing perception of the kind of driving experience a hybrid can provide.

Chief Engineer Koji Sato explained: "In the past, people only associated hybrid with 'eco'. We wanted to broaden that perception and create a true high-performance powertrain."

The Multi Stage Hybrid System amplifies engine and motor output thanks to a new multi stage shift device, which changes the output in four stages in order to utilise the engine speeds across the whole speed range. This creates a system that responds much more directly to driver inputs and achieves a higher level of dynamic performance and driving pleasure, while maintaining the smoothness and efficiency that are characteristic of Lexus cars.

### **Improved torque and acceleration**

The Multi Stage Hybrid System is central to the "even sharper" quality Lexus targeted for the LC, providing responsive, direct and rhythmical acceleration with good grip. In fact, such is the level of torque and acceleration when pulling away from stationary, the LC 500h tests the limits of tyre grip.

In a conventional full hybrid vehicle, engine output is amplified by the electric motor via a reduction gear, but with the new Multi Stage Hybrid System the power from the V6 engine and the electric motor can be amplified by the multi stage shift device, allowing much greater drive power to be generated when accelerating off the line.

Lexus has succeeded in increasing maximum engine speed from 6,000 to 6,600rpm. And thanks to the Multi Stage Hybrid System, the operating range in first, second and third gears has been increased, so that maximum revs are reached at about 50km/h.

As a result, the LC 500h's 3.5-litre V6 is able to produce more drive power when pulling away than Lexus' 5.0-litre V8 hybrid vehicle engine, enabling a nought to 100km/h acceleration time of just five seconds.

### **Transmission with 10-speed driving feel**

Although the multi stage shift device changes the output in four stages, the D range has a simulated shift control pattern that replicates the feel of driving with a 10-speed shift control. As vehicle speed rises, engine speed increases with a linear, direct and continuous acceleration feel that avoids the “rubber band” effect witnessed in some continuously variable transmissions. In the 10th gear range, the CVT control allows for cruising at lower engine revs for quiet, smooth and fuel-efficient performance.

In a first for a Lexus hybrid, the transmission benefits from an improved version of the AI SHIFT control found in conventional automatics. This enables intelligent, optimum gear selection to be made in line with driving conditions and driver inputs, for example when going up or downhill. The system also includes an automatic Drive Mode switching control. This means it can adjust gear shifts to suit the driver’s style and behaviour, without the driver having to select a different drive mode to get the kind of performance they want from the transmission.

### **M mode with manual gear selection**

Thanks to the Multi Stage Hybrid System’s design, the driver is able to take advantage of an M mode to select and hold gears manually, using paddle shifts mounted behind the steering wheel – a function not previously available on a Lexus hybrid. Thanks to the co-ordinated control of the Power Split Device and the gear shifting mechanism, the gear shift will start instantaneously with the computer receiving the signal from the paddle shift, giving an exceptionally quick response.

### **LITHIUM-ION HYBRID BATTERY**

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The LC 500h is the first production Lexus to use a compact, lightweight, lithium-ion hybrid battery. Twenty per cent smaller than the nickel-metal hydride unit featured in the Lexus LS, it fits neatly between the rear seats and the luggage compartment. Although smaller, it has a higher power density, with its 84 cells producing 310.8 Volts.

Using lithium-ion technology has reduced the component’s weight, helping reduce the LC 500h’s overall mass, and contributed to the effective management of the car’s inertia specifications. This supports overall fuel economy, emissions performance and the coupe’s handling balance.

It is also the first Lexus hybrid battery to feature a satellite construction design, in which the cell voltage monitoring function has been made separate from the battery ECU. This allows for efficient use of what would otherwise be empty space inside the battery pack to house the wiring harness and battery cooling blower, thus reducing the unit’s overall dimensions. The cooling blower itself has been made more powerful and thinner in size.

Adopting lithium-ion battery technology results in more compact packaging, ensuring that good luggage space is maintained.



## LC 500 WITH 5.0-LITRE V8 ENGINE

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The performance heart of the LC 500 is Lexus' high-revving (maximum 7,300rpm), normally aspirated 5.0-litre V8 petrol engine. It is a develop-

ment of the Atkinson cycle unit which has been deployed to good effect in the GS F and RC F, its performance supported by advanced D-4S fuel injection technology. Power delivery is to the rear wheels via a new 10-speed close-ratio automatic transmission.



The V8 supports the essential dynamic character of the luxury coupe, providing smooth, linear throttle response and generating a stirring engine note. Maximum power of 477PS / 351kW delivered at 7,100rpm, with maximum torque of 540Nm generated at 4,800rpm. This gives the LC 500 a nought to 100km in 4.7 seconds. The intention is to give the driver a sense of endless acceleration, combined with the responsiveness and high output customers expect from a normally aspirated unit. The LC 500 posts combined cycle fuel consumption of 11.5l/100km and 263g/km CO<sub>2</sub> emissions.

The engine is designed for durability and has a lightweight construction, with high-strength, forged connecting rods and titanium valves that allow it to flourish at high revs. A dual intake inlet enables efficient breathing and contributes to the engine's distinctive sound (detailed in a separate section, above). Noise and vibration have been reduced by the use of a double torsional damper on the crank pulley, while fuel efficiency is supported by the use of D-4S direct fuel injection, Atkinson cycle operation, optimised VVT-i operation and a high compression ratio. Extensive measures have also been taken to reduce friction and pumping losses.

## **IMAGINATIVE TECHNOLOGY: NEW DIRECT SHIFT 10-SPEED AUTOMATIC TRANSMISSION**

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In designing a new Direct Shift automatic transmission for the LC 500, Lexus sought to avoid the drawbacks of systems where driving pleasure is diminished by the wider spacing of the higher gears, often producing an unappealing, drawn-out engine sound. It recognises the critical role the transmission plays in generating a rhythmic drive through good feedback and quick shifts that respond instantly to the driver's wishes.

The solution is a new 10-speed unit with close ratios that bring the gears closer together, and even spacing between each gear - a world-first for a premium passenger car.

An extra gear was added to eliminate the feel of second and third gears being drawn out for too long, and a 10th gear has been provided to allow for efficient high-speed cruising at lower engine rpm. The system provides some of the world's quickest shifts, giving a crisp feel, fast response, rhythmic shifting with no "shock" effect, and a harmonised engine sound, contributing greatly to the core goal of making the LC "sharper and more refined".

The transmission uses an AI-SHIFT control with a drive mode switching function. This selects the optimum gear according to its estimation of the driver's preferences and intentions, based not just on vehicle speed and use of the accelerator, but also from past driving history. The system will adapt gear selection to suit, even if the driver has not used the Drive Mode Select switch.

The transmission benefits from a new torque converter with full range lock-up control to support the delivery of a pleasingly direct feel and eliminating unnecessary revving of the engine. Thanks to intelligent design and packaging and exhaustive weight-saving measures, the complete unit is comparable in size and weight to Lexus' current eight-speed automatic. Low-friction materials have been used where possible to support fuel economy and the number of internal parts - planetary gears, clutches and brakes - has been kept to a minimum.

## TAKUMI CRAFTSMANSHIP

- LC quality and performance benefit from the precision skills of Lexus' Takumi master craftspeople
- Motomachi factory provides ideal environment for luxury coupe manufacturing
- Hand-finishing & stitching of core interior parts such as steering wheel and shift knob
- Continuous, detailed refinement of driving dynamics

The skills of Lexus' master craftspeople - the famous Takumi - are central to the exceptional quality Lexus delivers in every car. The new LC benefits from this precision approach, not just in the intricate details of its fittings and finishes, but also in the way the car rides and performs. Throughout, the experience and finely tuned judgement of the Takumi have been brought to secure the best possible results.

### **THE MOTOMACHI FACTORY, HOME OF THE LEXUS LFA AND THE LC**

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The LC is built at Lexus' Motomachi plant, famously home to production of the hand-crafted LFA supercar. The factory's lay-out and its facilities have been tailored to the production of the LC, to ensure the highest quality levels.

Many of the Takumi and skilled workers who built the LFA transferred to the LC project, bringing with them a wealth of knowledge and experience, particularly in areas such as the handling of carbon fibre components, and hand-finishing.



The new production line at Motomachi has a pure white finish from floor to ceiling to create an environment that helps the team members focus on their work. Each person will spend as much as 20 minutes working on every car, combining hand and eye skills with the use of tablet devices to check and re-check the quality of each process. Skills – both mental and technical – are constantly developed to support a “no compromise” mindset when it comes to achieving Lexus’ rigorous quality standards.

Final checks are carried out in a glass-walled inspection booth with LED lighting – even set into the floor – to ensure the precision finish of all surfaces and bodywork panels, the evenness of colour, the quality of the interior and the operation of functioning parts. The substantial thickness of the glass walls also allows the smallest abnormalities in sound to be detected in dynamic checks that monitor noise and vibration.

## **INTERIOR FINISHING**

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The skills of the Takumi can be seen in precise stitching that maintains a flawless finish where leather spreads across complex surfaces. The draping effect of the Alcantara in the door panels and the arrangement of the perforations in the leather seat upholstery are further hallmarks of the attention to detail invested in creating a perfect cabin environment.

The shape and feel of the steering wheel – a critical link in communicating the quality of the LC’s performance to the driver – were defined through hours of testing and re-testing by a Takumi master driver. His exhaustive analysis produced a highly complex cross-section design. The profile for each section of the wheel produces the ideal shape to suit the driver’s changing grip



and hand position. The same process was applied to developing the shape and action of the paddle shifters for manual gear selection. Crafted in cool-to-the-touch magnesium alloy, they have a finely defined profile for ease of use and they operate with a satisfying click-response.

## **HAND-CRAFTED GEAR SHIFT KNOB**

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The construction and finishing of the gear shift knob exemplifies the craftsmanship and attention to detail that is invested throughout the vehicle. Great efforts have been made to ensure this highly tactile part conveys the level of quality that can only be delivered by skilled craftspeople.

The covering is leather, in keeping with the extensive use of fine leather in the LC’s cabin, created using an in-stitch method that keeps the stitching con-



cealed. The seams are straight thanks entirely to the advanced skills of the Lexus craftspeople (the sewing margin is just 2mm), while the size and shape of the stitch holes and the thickness and angle of the needle are all subject to constant checks to ensure perfect consistency.

The metal parts are slightly recessed, so the palm of the driver's hand feels only the leather surface when using the shift lever. Different parts of the knob have contrasting tactile qualities: the top is smooth and soft, with a urethane sheet adding a degree of flexibility, while the perforated leather surface on the knob's rear section is harder to the touch, adding a telling sensation to each shift change.

### **HIGH-SPEED RESIN TRANSFER MOULDING (RTM)**

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The finish of the LC's Carbon Fibre Reinforced Plastic (CFRP) has a twill weave effect, made possible by a new, high-speed resin transfer moulding (RTM) process, developed at the Motomachi factory from a technique originally used in production of the Lexus LFA. Raw carbon fibre material is inserted into a mould and clamped in place before the insertion of the resin material. As a result, the process has been made suitable for volume production. The use of the CFRP roof makes a major contribution to the coupe's low centre of gravity and reduces overall weight.

### **SELF-PIERCING RIVETS**

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Lexus has adopted a new technique for combining aluminium with steel to help save weight in key areas, notably the construction of the front suspension towers.

The use of self-piercing riveting allows these different metals to be securely joined where traditional welding methods are unsuitable: in place of spot-welding, the material is pierced on its upper side only.

### **DRIVING DYNAMICS**

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The skills and experience of the Takumi were further invested in securing excellent driving dynamics for the new luxury coupe. The aim was to ensure that when you take the wheel and pull away, the car delivers on the promise of a great drive expressed by its styling and the sound of the engine on start up.

The sharpness and responsiveness of the steering, the strong, rhythmic progress of the transmission, the supportiveness and comfort of the seats and the position of your feet and the pedals - all these elements and more were scrutinised to produce the best possible combination, with the goal not just of a rewarding drive, but performance that actively makes you want to drive.

Prototypes were assessed on all kinds of roads, including in Europe and the USA, to ensure that ride and handling meet the different demands of drivers and driving conditions around the world.

A Takumi master driver works exclusively on the LC to maintain a complete focus, making fine adjustments to achieve the best results, right up to the start of production.

## LEXUS SAFETY SYSTEM +

- All LC models equipped with Lexus Safety System +
- Package of active safety features includes Pre-Crash safety System, All-speed Adaptive Cruise Control, Lane-Keep Assist with Lane Departure Alert, Automatic High Beam and Road Sign Assist
- Lexus Safety System + helps reduce the risk of an accident, alerts the driver to potential hazards and can help reduce the consequences should an impact be unavoidable

All versions of the LC are equipped as standard with Lexus Safety System +, a collection of active safety features that can help the driver avoid an accident, or help lessen the consequences of a collision.

The system uses a camera and a millimetre-wave radar to monitor the road ahead for potential hazards and collision risks. This provides the LC with a Pre-Crash Safety System which is designed to detect vehicles and pedestrians, All-speed Adaptive Cruise Control (ACC), Lane-Keep Assist (LKA) with Lane Departure Alert (LDA) and Sway Warning function, Automatic High Beam system (AHB) and Road Sign Assist (RSA).

### **Pre-Crash Safety System**

Designed to detect the risk of an impact and operating in unison with warning and braking systems, the Pre-Crash System also helps to lessen the damage sustained in a collision.

The system is designed to recognise both vehicles and pedestrians in the vehicle's path, using data from a forward recognition camera and millimetre wave radar sensor.



If it determines that the possibility of a collision is high, pre-collision warning control and pre-collision brake assist control are initiated. If a collision is imminent, pre-collision braking control will be engaged to help reduce the impact of the collision, or help avoid it.

If the driver fails to react and the system judges a collision to be imminent, the brakes are automatically applied to reduce vehicle speed by up to 40km/h, which could potentially bring the car to a stop in order to help mitigate the force of an impact.

### **All-speed Adaptive Cruise Control**

The same radar unit used by the PCS provides the LC with All-speed Adaptive Cruise Control (ACC). This helps the driver maintain a safe distance from the vehicle in front, down to very low speeds, even to a standstill. Once the way ahead is clear, the LC automatically and smoothly accelerates to its pre-set cruising speed. If the car has been brought to a halt, the driver simply needs to press the accelerator briefly to reactivate the system.

### **Lane-Keep Assist, Lane Departure Alert and Vehicle Sway Warning**

The LC's Lexus Safety System + package includes Advanced Lane-Keep Assist, which is designed to recognise when the vehicle is deviating from its lane on the highway. It helps the driver steer the vehicle safely back to its correct path, automatically providing steering inputs to keep the car within its lane. Working with the ACC, it can operate even at very low vehicle speeds. The driver can also choose which alert they prefer (warning sound or vibrating steering wheel) and the sensitivity of the warning, via the multi-information display. The system can also be switched off, if desired.

Lane Departure Alert (LDA) uses a camera on the windscreen to track the vehicle's course between lane markings painted on the road surface. If it judges that the vehicle is about to move out of its lane without the turn indicator being used, the system triggers a light on the multi-information display and sounds a warning buzzer. It will also apply appropriate steering control force to help bring the vehicle back on course.

ALL VERSIONS OF  
THE LC ARE EQUIPPED  
AS STANDARD WITH  
**LEXUS SAFETY SYSTEM +.**



The system also includes a Vehicle 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, it will sound an alert and display a warning on the multi-information display, recommending the driver takes a break.

### **Automatic High Beam**

Lexus Safety System + includes Automatic High Beam (AHB), which is designed to detect oncoming traffic and vehicles ahead and automatically switches the headlights between high and low beam. This helps maximise illumination to give the driver the best possible field of vision when the road ahead is clear, while minimising the risk of dazzling oncoming cars.

### **Road Sign Assist**

The driver gains a "second set of eyes" when it comes to important road signs on motorways and major routes. The Road Sign Assist (RSA) system uses a front camera designed to recognise principal warning and command signs, which are then replicated on the multi-information display, helping to reduce the risk of the driver not being aware of speed limits, lane closures and other important information.

If the system detects the driver is not respecting no overtaking, no entry and speed limit commands, it will give visual and audible alerts. The driver can customise the system's operation using switches on the steering wheel to adjust the multi-information display.

\* Specification and equipment availability may vary according to market

## AUDIO SYSTEMS

- Thirteen-speaker Mark Levinson Reference Product audio system uses innovative technologies to deliver concert hall quality sound
- Twelve-speaker Pioneer premium audio surround system for real-life immersive soundscape

### MARK LEVINSON

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Lexus has enjoyed an auto industry-exclusive partnership with Mark Levinson since 2001, giving its customers the benefit of bespoke audio systems of the highest quality in its vehicles. The new LC follows in this tradition, offering exclusive equipment from Mark Levinson's top-of-the-range Reference Product line.

Designing the system to deliver the highest listening experience in the LC presented new challenges, as sound reacts differently in the compact cabin of the 2+2 coupe compared to a larger sedan or SUV. Mark Levinson specialists measured the sound frequencies produced in different parts of the cabin using 24 individual microphones, producing data that helped them work with Lexus engineers to precisely locate the 13 speakers.

"As a result, the audio system is able to make the cabin sound larger than it actually is, giving the listener the sensation of being in a concert hall rather than the interior of a vehicle," said LC Chief Engineer Koji Sato.

To support Lexus' requirements for low vehicle weight, Mark Levinson engineers reduced the mass of the speakers achieving a 30 per cent overall reduction compared to the previous system, without compromising performance. Overall the saving was 136g per speaker.





The speakers in the LC feature Ceramic Metal Matrix Diaphragm (CMMD) cone material. By sandwiching an aluminium driver between layers of a ceramic compound, sound can travel nearly twice as fast through the cones with better damping, producing a sound that is a near-exact replication of the original recording.

CMMD construction allows Mark Levinson to offer the first application of Direct Drive Unity, an innovative speaker-within-a-speaker concept that provides both a mid-range and high-frequency transducer in a single housing. This allows sound quality and sound pressure level to be maximised within a compact design

The system also features Clari-Fi music restoration technology that enhances music playback by automatically analysing and improving the quality of all

types of compressed, digitised music sources. It identifies music signals that have been compressed and restores them in real time during playback to achieve an accurate and full listening experience.

## **PIONEER**

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The LC can also be equipped with a 12-speaker Pioneer premium audio surround system. Specifically designed for the new model, this system integrates advanced technologies to accurately reproduce any sound source, resulting in a real-life, immersive soundscape that contributes to the overall driving pleasure.

The Pioneer system includes four innovative 9cm CST (Coherent Source Transducer) double speakers, combining tweeter and mid-range functions for optimal rendition of vocal frequencies, located at the base of the front pillars and in the rear cabin side panels. The two 16cm woofers in the front doors are contained in a special housing in order to reduce vibrations, resulting in excellent low-frequency sound generation. Other elements include a 9cm midrange speaker in the centre of the instrument panel, a 25cm sub-woofer in the back of the rear seats, and an eight-channel Class-D amplifier under the luggage compartment floor.

The speakers housed in the instrument panel are inclined to a certain angle to ensure that the sound directly coming from the speakers and the sound reflected by the windshield both reach the listener in the most efficient way, realising a rich, dynamic sound field.

| MAJOR DIMENSIONS AND VEHICLE WEIGHTS |  | LC 500                    | LC 500h                   |
|--------------------------------------|--|---------------------------|---------------------------|
| Overall                              | Length <small>mm</small>               | 4770                      | 4770                      |
|                                      | Width Without Mirror <small>mm</small> | 1920                      | 1920                      |
|                                      | Height* <sup>1</sup>                   | 1345                      | 1345                      |
| Wheelbase                            |  | 2870                      | 2870                      |
| Tread                                | Front <small>mm</small>                | 1630                      | 1630                      |
|                                      | Rear <small>mm</small>                 | 1635                      | 1635                      |
| Effective Head Room                  | Front <small>mm</small>                | 943.8, 933.4 <sup>2</sup> | 943.8, 933.4 <sup>2</sup> |
|                                      | Rear <small>mm</small>                 | 818.2                     | 818.2                     |
| Effective Leg Room                   | Front <small>mm</small>                | 1066.9                    | 1066.9                    |
|                                      | Rear <small>mm</small>                 | 825.7                     | 825.7                     |
| Shoulder Room                        | Front <small>mm</small>                | 1438.7                    | 1438.7                    |
|                                      | Rear <small>mm</small>                 | 1245.2                    | 1245.2                    |
| Hip Room                             | Front <small>mm</small>                | 1377.4                    | 1377.4                    |
|                                      | Rear <small>mm</small>                 | 1112.4                    | 1112.4                    |
| Interior                             | Length <small>mm</small>               | 1868                      | 1868                      |
|                                      | Width <small>mm</small>                | 1550                      | 1550                      |
|                                      | Height <small>mm</small>               | 1080, 1075 <sup>2</sup>   | 1080, 1075 <sup>2</sup>   |
| Couple Distance                      | Front to Rear <small>mm</small>        | 850                       | 850                       |
| Seating Capacity                     | <small>person</small>                  | 4                         | 4                         |
| Overhang                             | Front <small>mm</small>                | 930                       | 930                       |
|                                      | Rear <small>mm</small>                 | 970                       | 970                       |

| MAJOR DIMENSIONS AND VEHICLE WEIGHTS      |                               | LC 500             | LC 500h        |
|---|-------------------------------|--------------------|----------------|
| Coefficient of Drag                       |                               | 0.33               | 0.33           |
| Min. Running Ground Clearance             |                               | 133                | 140            |
| Location of Min. Running Ground Clearance |                               | Front Exhaust Pipe | Rocker Molding |
| Angle of Approach <small>degrees</small>  |                               | 12.1               | 12.1           |
| Angle of Departure <small>degrees</small> |                               | 16.3               | 16.3           |
| Kerb Weight                               | Front Min. - Max. (EC/ECE) kg | 1040 - 1050        | 1040 - 1050    |
|   | Rear Min. - Max. (EC/ECE) kg  | 895 - 920          | 945 - 970      |
|   | Total Min. - Max. (EC/ECE) kg | 1935 - 1970        | 1985 - 2020    |
| Gross Vehicle Weight                      |                               | 2375               | 2445           |
| Cargo Space                               | VDA L                         | 197                | 172            |
| Fuel Tank Capacity                        | L                             | 82                 | 82             |

\*1: Unladen vehicles

\*2: With CFRP roof

| <b>ENGINE</b>                    |                       | <b>LC 500</b>              | <b>LC 500h</b>                                   |
|----------------------------------|-----------------------|----------------------------|--|
| Engine Type                      |                       | 2UR-GSE                    | 8GR-FXS  |
| No. of Cyls. & Arrangement       |                       | 8-cylinders, V type        | 6-cylinders, V type                              |
| Valve Mechanism                  |                       | 32-Valve, DOHC, Dual VVT-i | 24-Valve, DOHC, VVT-iW (intake), VVT-i (exhaust) |
| Bore x Stroke                    | mm                    | 94.0 x 89.5                | 94.0 x 83.0                                      |
| Displacement                     | cm <sup>3</sup>       | 4969                       | 3456   |
| Compression Ratio                |                       | 12.3:1                     | 13.0:1   |
| Fuel Injection System            |                       | EFI, D-4S                  | EFI, D-4S  |
| Intake System                    |                       | Natural Aspiration         | Natural Aspiration                               |
| Emission Certification           |                       | EURO 6 (STEP 1)            | EURO 6 (STEP 2)                                  |
| CO <sub>2</sub> Emissions (g/km) | Urban                 | 399                        | 163  |
|                                  | Extra Urban           | 184                        | 134  |
|                                  | Combined              | 263                        | 145  |
| Fuel Type                        |                       | Petrol                     | Petrol   |
| Fuel consumption (l/100km)       | Urban                 | 17.4                       | 7.2  |
|                                  | Extra Urban           | 8.0                        | 5.9  |
|                                  | Combined              | 11.5                       | 6.4  |
| Recommended Octane Rating        | RON                   | 95 or higher               | 95 or higher                                     |
| Max. Output                      | EEC kW/rpm (ps/rpm)   | 351/7100 (477/7100)        | 220/6600 (299/6600)                              |
| Max. Torque                      | EEC Nm/rpm (kg-m/rpm) | 540/4800 (55/4800)         | 348/4900 (35.5/4900)                             |

| <b>MOTOR GENERATOR</b> |              | <b>LC 500</b> | <b>LC 500h</b>                     |
|------------------------|--------------|---------------|------------------------------------|
| Motor Type             | Front & Rear | -             | Permanent magnet synchronous motor |
| Max. Output            | kW (PS)      | -             | 132 (179)                          |
| Max. Torque            | Nm (kg-m)    | -             | 300 (30.6)                         |

| <b>HYBRID BATTERY</b>   |    |   |             |
|-------------------------|----|---|-------------|
| Battery Type            |    | - | Lithium-ion |
| Nominal Voltage         | V  | - | 310.8       |
| Number of Battery Cells |    | - | 84          |
| System Voltage          | V  | - | 650         |
| Power Output            | kW | - | 44.6        |

| <b>TOTAL SYSTEM OUTPUT</b> |         |   |           |
|----------------------------|---------|---|-----------|
| Total Max. Output*3        | kW (PS) | - | 264 (359) |

| <b>PERFORMANCE</b> |                    |     |     |
|--------------------|--------------------|-----|-----|
| Max. Speed         | km/h               | 270 | 250 |
| Acceleration       | 0 to 60 mph sec.   | 4.4 | 4.7 |
|                    | 0 to 100 km/h sec. | 4.7 | 5.0 |

\*3: The combined total power of the engine and electric motor (using the battery) exhibited as a hybrid system.

| CHASSIS                               |                             | LC 500                 | LC 500h                         |
|---------------------------------------|-----------------------------|------------------------|---------------------------------|
| Transmission                          | Type                        | Automatic Transmission | Multi Stage Hybrid Transmission |
|                                       | Layout                      | FR                     | FR                              |
| Transmission Gear Ratio               | 1st                         | 4.923                  | 3.538                           |
|                                       | 2nd                         | 3.153                  | 1.888                           |
|                                       | 3rd                         | 2.349                  | 1.000                           |
|                                       | 4th                         | 1.879                  | 0.650                           |
|                                       | 5th                         | 1.462                  | -                               |
|                                       | 6th                         | 1.193                  | -                               |
|                                       | 7th                         | 1.000                  | -                               |
|                                       | 8th                         | 0.792                  | -                               |
|                                       | 9th                         | 0.640                  | -                               |
|                                       | 10th                        | 0.598                  | -                               |
|                                       | Reverse                     | 5.169                  | -                               |
| Motor Reduction Ratio                 |                             | -                      | -                               |
| Differential Gear Ratio (Front/ Rear) |                             | - / 2.937              | - / 3.357                       |
| Brake Type                            | Front                       | Ventilated Disc        | Ventilated Disc                 |
|                                       | Rear                        | Ventilated Disc        | Ventilated Disc                 |
| Brake Size                            | Front Diameter/Thickness mm | 337.8/ 36              | 337.8/ 36                       |
|                                       | Rear Diameter/Thickness mm  | 308.2/ 30              | 308.2/ 30                       |

| Suspension Type     | LC 500  | LC 500h    |
|---------------------|---|------------|
|                     | Front   | Multi-link |
| Rear                | Multi-link  | Multi-link |
| Power Steering Type | EPS   | EPS        |
| Wheel size / Type   | inch  |            |
|                     | 1. 21 (forged aluminium - available)<br>2. 20 (forged aluminium - available)<br>3. 20 (cast aluminium - standard) |            |
| Tyre Size / Type    | 1. Fr: 245/40 RF21, Rr: 275/35 RF21<br>2. Fr: 245/45 RF20, Rr: 275/40 RF20<br>3. Fr: 245/45 RF20, Rr: 275/40 RF20 |            |
| Tyre Brands         | Bridgestone, Michelin   |            |

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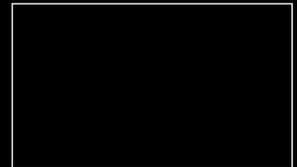
# PRESS MATERIALS

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LC presskit, LC images, LC movies.





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