



## Lexus RX300 A New Definition For Lexus

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- An innovative alternative to a conventional off-roader or to a luxury saloon
- Trend-setting external styling combined with luxurious and practical interior
- Four-wheel drive versatility plus Lexus-class road performance, ride and handling

The Lexus RX300 marks a new definition for the Lexus brand in Europe, a new breed of Lexus and a new breed of sport utility vehicle. The unique design of RX300 offers levels of driving comfort and on-road performance in line with Lexus saloons. It is aimed at satisfying the changing tastes of luxury car buyers.

A key to the success of the Lexus RX300, is that it offers an off-road capability without the on-road compromises often associated with all-wheel drive vehicles. Powered by a 3-litre V-6 engine, featuring VVT-i Variable Valve Timing - intelligent for increased efficiency and flexibility, the RX300 features a passenger car-type unibody design in contrast to the traditional ladder type chassis used by traditional off-roaders. This is combined with all-round independent suspension to provide the levels of ride, handling, responsiveness and ride comfort, customarily associated with Lexus luxury saloons.

The Lexus RX300 differs from its American stablemate, with a number of powertrain and chassis refinements developed in Europe to ensure the optimum performance in European driving conditions. These include fine tuning the steering and suspension to offer greater driver response and feedback, as well as the addition of security and safety items like Electronic Brake Distribution and Brake Assist.

The RX300 is designed to offer Lexus customers the best of all worlds. It combines the style, versatility, commanding visibility and poor-weather traction of the traditional all-wheel drive vehicle with the on-road performance and refinement of a Lexus.

Lexus RX300 has already redefined the marketplace in the USA, where it has been on sale since 1998. The RX was truly innovative at launch in the USA. It is the best selling Lexus in the USA, with over 73,000 sales in 1999 and significantly more expected in 2000.

"Lexus RX300 is a very important new model for Lexus in Europe. It redefines the market place, both in terms of Lexus owners and in the SUV segment" said John Howett, Vice President of the Lexus Brand in Europe. "RX300 is a new product, it is powerful visually and adds to the brand purely from identity" said Howett. "A further advantage is that by offering four wheel drive, RX300 has a huge implication in markets with leisure needs such as Switzerland, Austria and

Scandinavia."

"However RX300 is an optimal vehicle, not a pure 4x4. As a result it has a unitary construction and the consequent high level of on-road ability, car-like driving qualities and Lexus refinement. It brings something new to both the existing Lexus customer and to buyers from other markets."

### **Engine and Drivetrain guarantee Lexus-Refinement**

The Lexus RX300 is powered by the 1MZ-FE unit: a 3.0-litre, twin cam, all aluminium V6 engine, that employs Variable Valve Timing - intelligent to offer an unrivalled combination of performance, efficiency and low emissions.

The Lexus VVT-i (Variable Valve Timing - intelligent) engine optimises valve overlap throughout the engine's rpm range to eliminate the traditional compromises between low-end torque and high-end horsepower. The result is an engine that develops a class-leading 201 DIN hp at 5600rpm and 283 Nm of torque at 4400rpm, yet continues to produce eighty percent of peak torque as low as 1,600 rpm for optimum pulling power and standing-start performance.

The smoothness and refinement of the V6 engine is further enhanced by the use of the first-ever fully active engine control mount, which is controlled directly by each combustion stroke of the engine. A solenoid-controlled diaphragm creates pulses which are equal but opposite to the engine's movements to counteract vibrations.

The engine is also equipped with the ACIS (Acoustic Control Induction System), which adapts the intake air-passages according to the engine speed and the throttle valve opening, in order to optimise performance in all speed-ranges.

The Lexus RX300 features a four-speed electronically-controlled automatic transmission (U140F) matched to a sophisticated four-wheel drive system featuring a viscous limited-slip centre differential. This requires no activation by the driver in slippery conditions and automatically transfers torque when required to the wheels which have the most traction. Furthermore, the VSC (vehicle stability control) steps in as soon as wheel spin is detected on one of the wheels.

The resulting levels of traction combined with the engine's power characteristics mean that the RX300 is capable of meeting off-road tasks without the need for a seldom-used low-range transfer gearbox and differential locks with their associated cost, weight and maintenance implications. This helps give the RX300 its excellent power to weight ratio, which gives on-road performance to rival some sports saloons with a 0-62mph acceleration time of just 9.2 seconds.

### **Sophisticated Drivetrain and Suspension**

Specifically designed to meet the needs of customers who are already used to the standards of refinement and performance set by Lexus saloons, the RX300 drivetrain and suspension are well in advance of traditional SUV's in terms of driveability and comfort.

Matching the RX300's straight-line performance is its ride, handling and cornering ability. While the RX300 has the size and stance of a compact sport-utility vehicle, it is built on a passenger car-style unibody platform rather than the body-on-chassis design still used by many off-roaders. This along with fully independent Macpherson strut-type suspension, power assisted rack and pinion steering and four-wheel anti-lock disc brakes, ensures luxury car levels of agility and stability.

## **Stability, Response and Handling, Engineered in Europe:**

To still further enhance its class-leading performance, the RX300 has been comprehensively re-engineered to suit European driving styles and conditions. Even before its launch in the USA, the Toyota Motor Europe Technical Centre in Brussels were actively involved in fine tuning the new model for European driving conditions.

"European driving involves higher sustained speeds, harder acceleration and later braking than driving in Japan or the USA and we aim to develop cars that respond better in those conditions" said Jos De Boes, General Manager, Vehicle Engineering in Brussels.

"The RX300 basic design was very good right from the start, the first prototypes reacted to changes very well." Said De Boes. "We developed new springs, dampers and stabiliser bars to suit the European driving styles and remapped the power steering system to give levels of weighting, feedback and responsiveness more appropriate to European specifications. We are confident that RX300 is dynamically at the top of its class.

"We also paid particular attention to brake tuning, to ensure optimum high-speed braking stability, very important in a large, high-bodied vehicle of this kind. It wasn't just a case of fine-tuning the discs and pads, in this case we also changed the type of brake booster to offer more pedal feel and high-speed controllability."

The Lexus RX300 for Europe also features a revised NVH package developed with the higher European cruising speeds of 75-81mph in mind, as opposed to 62mph in the USA and Japan. "Door sealing is just one area where we paid particular attention, to minimise wind roar at high speed" said engineer De Boes.

"We also worked hard on minimising the road noise normally generated by the big wheels and tyres of a 4x4 at high speed. We are certainly ahead of every competitor and harder still, we've reached Lexus standards - some of these modifications are now being carried back into the RX300s being built for the USA."

## **Active and Passive Safety**

Further enhancing the dynamic handling characteristics, are the use of electronic traction control (TRC), a multi-channel anti-lock braking system (ABS), with Electronic Brake Distribution (EBD), Brake Assist and a Vehicle Stability Control (VSC) system.

While the primary roles of the TRC traction control and ABS anti-lock braking systems are to help the vehicle's stability under acceleration or braking, the purpose of the innovative VSC system is to help the stability during cornering. The system monitors the vehicle's behaviour during cornering and maintains vehicle stability by using the cars ABS and traction control sensors to apply small amounts of asymmetric braking to correct oversteer or understeer before it occurs.

Further significant safety enhancements are the use of EBD, which uses the anti-lock braking sensors to optimise front and rear brake force distribution and Brake Assist, which interprets a quick push of the brake pedal as emergency braking and supplements the braking power applied to maximise braking performance in conjunction with ABS.

This overcomes a known problem in emergencies of drivers, especially inexperienced ones in panic, not applying sufficient force to the brake pedal. A key feature of Brake Assist is that the timing and degree of braking assistance is designed to ensure that the driver doesn't discern

anything unusual about the braking operation. When the driver eases up on the brake pedal, the system reduces the amount of assistance it applies.

In addition to the active safety generated by its class-leading dynamic responses, the Lexus RX300 also ensures similar levels of passive safety. The rigid monocoque passenger compartment and progressively absorbent crumple zones make a secure cage to protect occupants, with safety being further enhanced by a head impact protection structure built into the interior pillar trims and roof interior as well as both frontal and front side-impact airbags and front seat-belt pre-tensioning and force limiter systems.

## **Exterior Style**

The RX300 breaks new ground in the Lexus range with futuristic body styling reflecting both urban style and a sturdy outer shape with a characteristic flowing silhouette. The overall shape combines a careful balance between luxury car and sport-utility vehicle proportions. One feature of the styling is that it is neither overly rugged nor overly soft. As a result it attracts both male and female buyers. The RX has a commanding driving position which gives a feeling of safety, yet seat height is not too tall, for ease of access.

Front and rear design too, combine a voluminous shape which is not inferior to a traditional off-road vehicle, with a stylish, sporty and high-quality aspect. The distinctive Lexus grille, combined with halogen headlamps integrated into the body style by a hallmark Lexus green-tinted lamp extension fairing give a clear brand identity.

The rear lamp treatment features keynote Lexus circular elements in the compact multi-function clusters, with an inner, chromed, three-dimensional architecture which echoes the styling of other members of the Lexus family.

In brighter conditions the RX300's anti-ultra violet glass is both stylish and practical. In addition to preventing sunburn, it also reflects heat from the cabin.

## **Interior Comfort and Convenience**

The interior of the RX300 has been designed to blend practicality and versatility, with a style expected to be a trend setter for the next generation of SUVs. It goes almost without saying, that it also provides the expected Lexus standards of luxury, equipment and innovation. The dashboard design is a classic example of function and style combined. The use of an electronically-controlled automatic transmission has allowed the shift lever to be positioned in the centre instrument panel, liberating the floor space between the seats for the storage of small packages, handbags or for better access to the central console, which features drawers, sized for CD, tapes, telephones or similar items, as well as movable and adjustable cup-holders.

Above the gearshift lever lie the controls for the six-speaker premium stereo system, with the option of a 6-disc CD auto changer located in the glovebox. Heading the central display is the 14.7cm (diagonal) liquid crystal display screen which displays audio, heating, climate control and trip computer functions.

The same screen also acts as navigation display, when the optional voice navigation system is installed. The system uses DVD-technology, which allows for more storage space (x13) and faster calculation than CD-based systems.

Ahead of the driver, an integrated optitron display combines speedometer, tachometer, fuel,

temperature, mileage and warning light displays in a single, easy to read display. The luminescent graphics provide a further sporty, yet high-quality feel to the interior. The Lexus luxury continues with eight-way power adjustment of the driver and front passenger seats, which feature fold-down arm rests and a characteristic U-shaped sewing pattern on their leather facings. The rear seats feature headrests and can be split 60:40. Additionally they can be slid forwards or backwards by up to 12cm to create more leg room or baggage space as required.

Combined with the space and practicality is the customary Lexus attention to detail and design. Beneath the carpeted spare wheel cover, which gives a flat load floor, lie two covered oddment storage areas, while a third storage area is incorporated in the side trim. The rear compartment is fully trimmed in carpet to provide a further luxury feel in addition to ensuring Lexus levels of sound absorption.

With all its innovations, the RX300 is true to the Lexus values of refinement, comfort and quality. But at the same time, it offers a real alternative to traditional SUV's or luxury saloons.

**ENDS**