Lexus RX 350 Provides All-Weather Performance in Front- and All-Wheel Drive Models

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The third-generation RX 350 continues to be the most popular choice in the luxury crossover segment it created over 10 years ago. Equipped with an engaging driving experience, a quiet and smooth ride, 18-inch standard aluminum-alloy wheels and a choice of front-wheel drive (FWD) and all-wheel drive (AWD), it's no surprise the RX 350 offers luxurious standard and optional amenities. The eye-catching design features an elegant exterior combined with sculpted surfaces inside.
The RX 350 carries over with minimal changes for 2012 model year. RX 350 owners will appreciate the new fuel recommendation of 87-octane gasoline. A new eye-catching Nebula Gray Pearl exterior replaces Smoky Granite Mica.

Engine/Transmission/Drivetrain/Performance

The Lexus RX 350 teams a 3.5-liter V6 engine with a six-speed Electronically Controlled Transmission with intelligence (ECT-i) for an output of 270 horsepower at 6,200 rpm. Intake and exhaust manifolds have been tuned for enhanced performance and fuel economy. Lexus maximized the torque output to better meet the needs of luxury crossover drivers. Ninety percent or more of the 248 lb.-ft. of peak torque is available from 2,300 to 6,100 rpm, an optimal range where torque is most utilized. An insulated engine cover, styled in the shape of two cylinder banks, conceals the V6 to help ensure a quiet cabin; easy-access points facilitate routine service.
Dual Variable Valve Timing with intelligence (VVT-i) is used to control both intake and exhaust camshafts independently, optimizing engine performance at all speeds and loads. Refinements to the valvetrain, including roller rocker arms and slimmer valve stems, reduce friction and weight to improve fuel economy. Also helping to enhance torque is the improved Acoustic Control Induction System (ACIS), which varies the intake runner length in response to engine speed and throttle position. The ETCS-i (Electronic Throttle Control System with intelligence) softens throttle response during initial acceleration for smoother takeoff and to help reduce wheel spin.

The RX 350's six-speed automatic transmission yields a quick shifting response with help from miniature high-flow linear solenoids that control transmission-fluid line-pressure. The torque converter uses a low-speed lockup damper to enable lock-up from second to sixth gear to help improve the fuel economy.
When applying the accelerator pedal rapidly during kick-down, the direct-downshift control allows the transmission to directly shift from sixth to third or fifth to second, skipping the intermediate gears to achieve the quickest response. Under normal kick-down pedal application, downshift control uses the intermediate gears to ensure the smoothest shift is attained. "Shift shock" is further reduced.

The Multi-Mode Sequential Shift Automatic Transmission allows the driver to shift manually when desired by first moving the gated shift lever to the "S" slot and then pushing it forward ("+") to up shift and backward ("-") to downshift. An Intelligent Shift Control sets shift patterns based on the vehicle speed and throttle position and

estimates road conditions and driver input to automatically control the shift pattern. For example, when driving in hilly areas, this system can prevent unnecessary shifting. When descending inclines, the transmission prevents up shifts to achieve more engine braking.

The RX 350 AWD model features an electronically controlled Active Torque Control AWD system. Active Torque Control AWD uses an electronically controlled coupling ahead of the rear differential to vary torque distribution anywhere from 100:0 to 50:50 front to rear, depending on driving dynamics and road conditions. When accelerating, or starting off on a low-grip surface, torque is quickly provided to all four wheels. At steady speeds, torque is sent only to the front wheels, enhancing fuel efficiency.

To help provide handling agility and control, the AWD system increases rear-wheel torque when the vehicle's front tires start to lose traction and decreases rear-wheel torque when the vehicle's rear tires start to lose traction. On rough or sandy terrain, an AWD LOCK switch provides enhanced traction performance for low-speed maneuvering (if in LOCK mode, the system reverts to AUTO mode when speed exceeds 25 mph). To help prevent a tight corner-braking condition (shuddering) during low-speed cornering, the system reduces rear wheel torque.

Chassis/Body/Suspension/ Brakes/Tires

Lexus engineers provided the RX with an engaging driving experience, and a quiet and smooth ride. A key factor in the RX models' handling agility is the uniquely designed double-wishbone rear suspension. Another key benefit of the rear suspension is that the packaging yields greater cargo area room. The front suspension geometry was optimized with a thick stabilizer bar. Inversely wound front coil springs compress in opposite directions, preventing the negative effects of suspension compression on steering.
The standard electric power steering system contributes to agility and better steering feel while eliminating the parasitic losses of a hydraulic steering pump. Eliminating hydraulic oil also provides an environmental benefit and reduces maintenance. When the driving conditions involve little steering input, energy consumption is reduced, improving fuel economy by nearly three percent. Steering assist is automatically adjusted in response to vehicle speed, with greater assist at low speeds and greater feel at higher speeds. In addition, maneuverability in the RX is easy with its 38.8 foot turning circle curb-to-curb.

The RX stops with the help of two-piston front caliper brakes and brake feel is enhanced by optimizing pads, pedal ratio and booster output characteristics.

Standard 18-inch aluminum-alloy wheels, which were designed to appear as if carved from a single block, have 235/60R18 tires. Optional 19-inch seven spoke aluminum-alloy wheels with 235/55R19 tires are available.

Safety/Security

The Vehicle Dynamics Integrated Management (VDIM) handling technology is available on the RX 350. The VDIM system anticipates loss of vehicle control in many situations.
VDIM governs all of the vehicle's dynamic handling systems – the Anti-lock Braking System (ABS), Brake Assist (BA), Vehicle Stability Control (VSC) and Traction Control (TRAC) – employing them collectively and seamlessly to make corrections while allowing higher dynamic capability. VDIM also interfaces with the electronic throttle control system.

The system's enhanced VSC function adds steering assist torque to help aid handling on a split-friction surface. The VDIM system also provides a limited slip differential effect. The TRAC and VSC functions can also be turned off, for example, when the driver needs to free the vehicle when stuck in mud or snow.

The RX features Hill-start Assist Control (HAC), which uses brake pressure to help prevent the vehicle from moving backward when starting out on an incline. This system does not wait to detect rollback, however. It can be controlled by the driver and works in both forward and reverse. While the vehicle is stopped and the brake pedal is depressed, pushing it further activates the feature. Brake pressure is then maintained for approximately two seconds after the brake pedal is released and the driver switches to the accelerator pedal.

The RX also offers available Intelligent Adaptive Front-lighting System (AFS), which is used for high beams of the HID headlamp equipped models. When entering a corner, AFS estimates where the vehicle will be based on the vehicle speed and the angle of the tires, and adjusts the lateral aim of the headlamps. AFS can be switched off by the driver if desired and includes an auto-leveling function.

Also available is an automatic high beam system which uses a camera mounted on the inner rear view mirror to switch between high and low beams in response to oncoming vehicles and those traveling in front, or when other ambient sources are detected, helping reduce driver inconvenience.

The optional Pre-Collision System (PCS) with Dynamic Radar Cruise Control uses millimeter-wave radar to measure and help maintain a pre-set following distance from a vehicle traveling ahead. The radar sensor can detect certain obstacles in front of the car, and a PCS computer with vehicle speed, steering angle and yaw-rate inputs helps to determine whether a collision is highly possible. In such a situation, PCS preemptively retracts front seat belts and pre-initializes BA so that increased braking will be applied the instant the driver depresses the pedal.

A high-strength cabin design and comprehensive Supplemental Restraint Systems (SRS) are designed to help provide a high level of crash-energy management. Approximately 42 percent of the entire structure uses high tensile strength sheet steel. The new structure was engineered to help provide collision compatibility with vehicles of varying heights and weights.

RX models are equipped with a segment-leading 10 standard airbags, including side curtain airbags, front seat-mounted side airbags, rear side airbags (for the outboard seating positions) and knee airbags for the driver and the front passenger. A roll sensor signals the side curtain airbags to inflate if a predetermined threshold of vehicle tip-up is detected.

The front-passenger airbag is a dual stage, twin-chamber design that, when deployed, helps provide optimal protection. Active front headrests help to reduce the severity of a whiplash injury in the event of certain types of lower speed rear collisions.

The RX also features standard Smart Stop Technology as an additional measure of consumer confidence. The braking system enhancement will automatically reduce engine power when the brake pedal and the accelerator pedal are applied simultaneously under certain driving conditions.

Luxury/Comfort/Convenience

Lexus luxury begins with how the customer first interacts with his or her vehicle. All RX models are equipped with the SmartAccess keyless entry with push-button start. As the driver approaches the vehicle, interior and exterior courtesy lamps illuminate. Opening the door, the instrument panel lighting gradually fades in. When the

engine is started, the instrument gauge needles and markings illuminate, followed by the multi-information display. After the driver exits the vehicle, the lights fade out at different intervals.

All RX models are equipped with a power tilt and telescopic steering column. To ease entry and exit, the seat automatically slides up to two inches rearward and the steering wheel tilts upward and slides forward when the engine is switched off. Upon pushing the “ON” switch, the seat and steering wheel return to their last position automatically.

The standard 10-way power front seats are shaped to accommodate arm movement when operating the available Remote Touch, while also holding the occupants in place. Both the driver and passenger seats also feature power lumbar adjustment.

The shape and texture of the armrests and switches offer an ideal combination of tactile feel and functionality. The leather-wrapped three-spoke steering wheel features integrated audio controls and a unique cross-section that is designed to provide a more natural grip than a conventional round-section wheel. An optional leather and wood-trimmed wheel is available for added luxury.

Three seat materials include standard fabric, optional smooth leather-trim or even softer semi-aniline leather. In addition to Light Gray and Black, Parchment is available as an interior color for vehicles equipped with optional leather trim. Standard wood trim comes in Brown Walnut matched to Parchment, or Espresso Bird’s-eye Maple matched to Light Gray and Black.

The center console box provides 0.75 cu. ft. of storage capacity, enough space to comfortably store CDs/DVDs or the vehicle’s owner’s manual. The three-part (40/20/40) rear seats can slide fore and aft, recline, and fold down using the one-touch levers mounted in the luggage compartment. Compact rear-seat headrests help improve the driver’s visibility.

The quiet climate-control system offers quick cooling and warming. A high-efficiency compressor detects refrigerant flow in order to optimize engine control and fuel economy. An available smog sensor is designed to detect harmful particles (CO, HC, NOx) in other vehicles’ exhaust emissions and automatically switch between fresh air and recirculation modes.

The RX can accommodate a variety of music sources, providing auxiliary and USB inputs, Bluetooth® Audio wireless connectivity and a standard integrated SiriusXM Satellite Radio receiver (complimentary 90-day trial subscription included). Standard voice recognition and Bluetooth® technology allow phone calls to be made and received while driving. When an iPod® is attached via the optional USB port, information such as names for the artist, track and album is displayed on the available navigation or headunit, while the iPod can be controlled through the audio system. The large center console storage box easily accommodates a variety of electronic devices while keeping wires out of sight.

The RX continues the tradition of offering the Lexus Premium Audio system as standard equipment, in this case a powerful nine-speaker system with a six-disc changer. Creative placement and angling of the speakers perfectly cross-channel sound to the occupant on the opposite side of the vehicle to transform the cabin into a clear, crisp acoustic environment.

Luxury Options

The RX offers several additional luxurious amenities including a ventilation function for the front seats to help improve comfort on hot and humid days. A 12-speaker audio system comes with the optional Comfort Package

or rear seat entertainment system and includes two-rear-door tweeters and a compact, L-shaped subwoofer in the rear-luggage compartment.

The optional 15-speaker Mark Levinson® Surround Sound system allows listeners to enjoy 330 watts at 0.01 percent THD through 7.1-channel surround sound. The Mark Levinson system, a Lexus exclusive, features a center channel coaxial speaker, metal-cone midrange speakers, tweeters and a 100-watt amplified subwoofer. A 2.5-inch speaker built into each D-pillar provides the right and left surround-sound channels. The diffusion of sound provides each occupant the same level of audio quality.

The available Hard Disc Drive (HDD) navigation system eliminates the need for DVD map discs and offers a unique voice recognition system, which can work using casual-language inputs on certain functions. An optional rear-seat entertainment system includes two high-definition seven-inch screens, one on each of the front seatbacks. Each screen can display video from separate sources. A remote control allows independent control of each screen. Rear-seat occupants can also choose to listen to audio through the wireless headphones instead of vehicle speakers.

The available wide-view side camera and back-up camera each help provide the driver with a wider range of visibility when driving at low speeds. The driver can check hard-to-view areas by simply pressing the camera-select button on the steering wheel or, when in reverse, viewing the camera images on the navigation screen. An optional back-up camera displays images on the eight-inch navigation screen; systems without navigation have an optional 2.5-inch display in the rear-view mirror.

The Lexus RX 350 also offers a telematics system, Lexus Enform® with Safety Connect®, available by subscription. Complimentary one-year trial subscriptions are included on all purchases of new Lexus vehicles equipped with these features. Safety Connect® is standard on all vehicles while Lexus Enform with Safety Connect is on all vehicles equipped with the optional Navigation system. The Lexus Enform and the Safety Connect response centers operate 24 hours a day, 7 days a week—every day of the year.

Lexus Enform vehicles are factory ready for subscriptions to a variety of innovative SiriusXM services including NavTraffic, NavWeather, Sports, and Stocks. SiriusXM services include 90-day trial subscriptions and require separate SiriusXM subscriptions.

Exterior Design

The Lexus RX models blend a dynamic version of L-finesse design to create a sleek profile that is accentuated by broad “shoulders” for an athletic yet elegant presence. Bright finish side-window moldings follow a subtly concaved line across the A– and C– pillars, extending at the front and rear ends.
The Lexus design cue of placing the grille lower than the headlights, along with sharper headlight graphics, yields a strong frontal expression. The RX 350 offers standard halogen and optional HID headlights. The plated upper edges of the front grille extend toward the headlights to draw the front features together. The lower edges of the grille form a unique arrowhead design. Subtle surface movement can be seen in the sculpted vertical bars that change shape as they spread upward.

Pronounced front fenders flow into the doors, and integrated rear fender flares neatly sweep around to pull together the taut rear corners of the vehicle. The lower body emphasizes the standard 18-inch wheels. Passenger doors extend below the entry sill, helping keep out dirt and moisture. A distinctive feature of the door handles is that the surface subtly twists outward from the front to the rear to give a comfortable grip. The side mirrors feature integrated LED turn signal lamps.

The rear spoiler's primary function is to help lower the vehicle's Coefficient of drag (Cd), but it also conceals the rear wiper and houses the AM/FM radio antenna and high-mount stop lamp.

Interior Design

Based on Lexus L-finesse philosophy, the dramatically designed interior clearly separates the interior into two distinct zones – the "display zone" to provide information, and the "operation zone" for interaction with controls. The shoulder of the door trim comfortably envelops the occupants, the clear line of the trim beginning inside the cabin and tapering outward toward the exterior. The design imbues a feeling of a continuous line encircling the occupants and defining the controls and displays. Neatly sculpted metallic surfaces, especially on the asymmetrical center stack, showcase a bold contrast of shadow and light.
A high contrast white Organic Light Emitting Diode (OLED) is used for the multi-information display located next to the speedometer. Vibrant white characters are sharply displayed on a high-contrast black background for ease of use and a luxurious appearance.

In addition to an Eco Driving indicator light, RX models feature an Eco driving indicator zone that displays current fuel economy using a bar graph and alerts the driver when they are achieving low fuel efficiency.

To help reduce driver distraction and wasted movement, Lexus engineers strategically placed several features close to the driver including the multi-information switch, the Remote Touch console-mounted navigation controller and the optional Heads-Up Display. The available eight-inch navigation display (or seven-inch audio/HVAC display when navigation is not ordered) is placed at a higher, more distant position, providing a more natural visual angle. A multi-information switch on the steering wheel allows the driver to access numerous function settings without taking hands off the steering wheel, and reduces the number of individual switches, contributing to a cleaner instrument panel. Vehicle settings can be customized according to personal preference, including personal door-lock preferences, interior/exterior light adjustments, driver's seat easy exit, and window-closure settings.

The optional navigation system on the RX can be controlled using either the Remote Touch device or voice command. The Remote Touch allows the user to operate the navigation system, climate, audio, phone controls and more. The screen menus are selected with the controller, eliminating the need to reach out and reducing eye movement.

The attribute that most distinguishes Lexus' navigation controller from other devices in other luxury models is its available "haptic"-feedback technology, which provides a tactile response to the hand. As the user operates the controller near a screen icon, the cursor is pulled to that icon with feedback from a servomotor in the device enabling the user to feel it "click" into place. The driver or passenger makes a selection by pressing the side thumb button on either side, and the feedback servo is adjustable for sensitivity. The system then confirms the action with a subtle sound. Remote Touch integrates the functions of seven hard switches used with the previous touch screen, helping users to operate those functions with reduced effort and distraction.

The available Heads-Up Display (HUD) utilizes white readouts. High-intensity LEDs project high-contrast white figures onto the windshield, which are easier to read – and easier on the eyes – than the typical green-colored readouts. The HUD offers displays for speed, navigation, and audio. A wedge-shaped windshield interlayer for the HUD projection area eliminates the distracting printed grid pattern seen on some other vehicles equipped with HUDs.

Warranty

All new Lexus vehicles come with a 48-month/50,000-mile basic limited warranty with roadside assistance for 48 months/unlimited miles. Powertrain and restraint system coverage is provided for 72 months/70,000 miles. Corrosion perforation protection is covered for 72 months, regardless of mileage.

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