

# **Toyota Avalon Enters Second Year of Bold Redesign with Additional Standard Features**

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TORRANCE, Calif., (Dec. 2, 2013) – Introduced for the 2013 model year, the new-generation Toyota Avalon dramatically energized the sedan's position in the highly competitive premium mid-size segment, blending emotional design, more engaging performance, new technology and an elevated level of craftsmanship.

For 2014, all Avalon models now come with a backup camera as standard equipment. The system in Limited grade models also features dynamic guidelines superimposed on the display to indicate approximate distances from objects in the camera's field of view. All Avalon models also gain a three-blink turn signal mode for more convenient lane change maneuvers. The Limited grade models add ambient lighting to the dash.

The 2014 Avalon is available as a V6 gas model in XLE, XLE Premium, XLE Touring and Limited model grades; the Avalon Hybrid, rated at 40-mpg combined by the EPA, comes in the top three grades.

### **Exterior**

A very American effort, much of Avalon's design and engineering was led by the company's Caltly Design Research (Newport Beach, Calif. and Ann Arbor, Mich.) and the Toyota Technical Center-Ann Arbor. The athletic exterior represents a dramatic styling departure from previous Avalon models. A long, flowing roofline, along with a lower vehicle beltline, creates a dramatic, coupe-like profile.

Lower by nearly an inch than the previous-generation Avalon, with shorter overhangs, wider track dimensions and tighter gaps between the tires and body, this model's athletic exterior dimensions suggest a sense of motion with a road-hugging stance. The more sculpted, athletic exterior design also helps the new Avalon cut through the air with a low 0.28 coefficient of drag that improves fuel efficiency and enhances aerodynamic stability.

A stronger, more expressive front-fascia design with larger grille opening creates a very sporty appearance while enhancing cooling airflow and pedestrian impact protection. The industry-first QuadraBeam™ headlight cluster uses a sleek and compact "double-eye" PES headlight design. Halogen and high intensity discharge (HID) bulbs are available for low beams.

Available daytime running lights (DRLs) using six high-performance LED bulbs give the front a distinct, modern image. Sleek and sculpted taillights use LED lamps for high visibility. Power side mirrors integrate a turn signal lamp, mirror heater, memory positioning, a puddle lamp, available Blind Spot Monitor indicator and available auto-dimming electro-chromatic glass. The Avalon Hybrid model is distinguished by blue-trimmed emblems and a hidden exhaust tailpipe.

### **Interior**

Avalon's Caltly-led interior design combines high technology and craftsmanship with an artistic application of sculpted surfaces. Luxury begins with a supremely quiet ride. Sound-absorbing and sound-insulating materials are strategically placed throughout the car's structure. Acoustic-type glass is used for the windshield and side glass. Foam material is used within the A-pillar, B-pillar, rocker panel, and C-pillar to help eliminate outside noise and control wind noise. The EVA (ethylene-vinyl acetate copolymer) material used in the rear seats is also effective at sound insulation.

The Avalon's rich-looking instrument panel uses Optitron-type gauges and a 3.5-inch thin-film transistor (TFT) color multi-information display. The Avalon Hybrid's display features a Hybrid System Indicator, which shows power output and regeneration. An Eco area on the dial display helps guide the driver to foster economical driving habits.

Extensive use of premium soft-touch materials helps enhance the interior's feeling of quality and comfort. The interior is available in three themes: almond, light grey and black. Other premium touches include smoke chrome trim surrounding the center panel and glossy panel trim around the shifter.

Avalon's front seats are available as either eight-way or 10-way power adjustable for the driver's seat, and available 8-way and 4-way adjustment for the passenger seat. The Limited grade's 10-way adjustable seat driver's seat incorporates a seat-cushion length extender. A pneumatic four-way lumbar support is built into the driver's seat and a two-way lumbar support for the passenger, and both are heated and ventilated. Rear seats offer heating.

Seating surfaces are covered with medium-grain genuine leather or available premium leather with a finer grain. The door panel is also covered by durable synthetic leather with stitching that matches the armrests.

A dual-zone automatic climate control system is standard, and a three-zone system is available. The dual-zone system controls temperature for the driver and front passenger, and the three-zone system adds independent temperature control for the rear seat. The Intelligent Touch controls have been tuned to operate conveniently with a light touch, and can even be operated by hands with gloves or longer fingernails. The fan speed is operated by use of a responsive touch slide.

### **Luxury Details**

Luxury details abound throughout the Avalon's cabin. Variable-rate motors slow the windows as they approach the top of the window frames to help reduce wind noise and add refinement. Even the coin box to the left of the steering wheel has a damper to smooth its opening and closing. LED lighting illuminates the door panel's controls and glove box. For the Avalon Limited, the two chrome-trimmed cup holders in the center console are also lit by LED ambient lighting that can be adjusted in three levels.

An available rear window power shade blocks sunrays for the rear passengers, and it operates automatically when the car is shifted into reverse. The rear-view mirror is available with a variety of functions such as a microphone, a compass display and a garage door opener. The control buttons are LED-backlit.

The Avalon offers 16 cu. ft. of trunk capacity for the V6 model and 14 cu. ft. for the Hybrid model. The passenger cabin offers abundant storage, including spaces specially designed to accommodate electronic devices.

The eBin™ electronics storage tray beneath the climate controls in the center console allows storage for two devices (cellphones or iPod®, for instance) side-by-side on a high-grip surface. Charging jacks are located below the tray, which can be opened and closed with cables passing neatly through a slot. The tray is also illuminated by LED light for improved night visibility. Beneath this tray is an electronics storage box where devices can also be stored completely out of sight while charging. Two DC 12v power outlets, an AUX and a USB jack are accessible in the storage box.

A large-capacity rear console box is big enough to store a tissue box and also includes a detachable sliding tray to store smaller items and contains another 12v DC outlet.

### **Powertrains**

The gas-powered Avalon features a powerful, all-aluminum V6 engine mated to a six-speed automatic transmission. The 3.5-liter, DOHC V6 features Dual VVT-i (Variable Valve Timing with intelligence) to provide ample torque across the engine speed range. The engine produces 268 horsepower at 6,200 rpm and 248 lb.-ft. of torque at 4,700 rpm. The Avalon V6 can accelerate from zero to 60 mph in less than seven seconds. Fuel efficiency is no less impressive, with EPA-rated 25 mpg combined (21 city/31 highway), or 24 mpg combined with the 18-inch wheels.

The transmission can be shifted from D mode into S mode on the shift gate, where shifts can be actuated with the lever. The Sport mode adopts highly responsive upshift control and throttle blipping downshift control. Steering-wheel-mounted paddle shifters in the V6-powered XLE Touring and Limited models allow fast, responsive shifts while keeping both hands on the wheel.

The V6 Avalon offers three drive modes: Eco, Normal and Sport. Eco Mode prioritizes fuel efficiency by balancing driving performance, air conditioning function and fuel efficiency. Sport mode helps create a more engaging driving experience by adjusting throttle response and by increasing the Electric Power Steering effort for a more direct, responsive feel.

### **Hybrid Synergy Drive**

Avalon Hybrid is equipped with a modified version of the Hybrid Synergy Drive system that also propels the Camry Hybrid. The Avalon Hybrid weighs just 3,585 lbs., which is just 124 lbs. heavier than the V6 gasoline model. The admirably low vehicle weight, clean aerodynamics and an efficient hybrid drivetrain combine to give this roomy sedan an EPA estimate of 40-mpg combined fuel economy

rating (40 city/39 highway). With its 17-gallon fuel tank, the Avalon Hybrid can offer over 600 miles of highway driving range.

An EV Drive mode allows the driver to operate the Avalon Hybrid under certain conditions solely on the electric motor for a short distance at speeds under about 20 mph. A driver-selectable ECO mode optimizes throttle response and air conditioning output to prioritize fuel economy.

Through its unique transaxle, which uses a planetary-type continuously variable transmission, the Hybrid Synergy Drive system combines output from the 2.5-liter Atkinson cycle four-cylinder engine and a high-torque electric motor. The system produces a combined 200 horsepower and varies power between the gas engine and electric motor, or combines both, as needed. The Avalon Hybrid can accelerate from zero-to-60 in 8.0 seconds, with a substantial feeling of torque at all speeds.

The Variable Valve Timing with intelligence (VVT-i) system on the intake camshaft enhances torque. An electric water pump, a roller-rocker type valvetrain and a variable-output oil pump help to reduce internal friction, boosting fuel economy. A water-cooled exhaust gas recirculation (EGR) system helps to ensure the lowest possible emissions at all vehicle speeds and contributes to fuel efficiency.

Because there are situations in which the gas engine in the Avalon Hybrid shuts off, air conditioning and power steering systems are driven electrically. The proven nickel-metal-hydride battery, located in the trunk area, is air-cooled. Its compact size, along with locating the DC/DC converter within the engine compartment, results in a trunk that is just 2.1-cubic feet smaller than in the Avalon gas model.

Beyond the force generated by the Avalon's conventional brake system, the hybrid also adds the regenerative braking force produced by the electric motor/generator in the transaxle. Regenerative braking captures the kinetic energy of the still-spinning wheels, storing it in the hybrid battery.

#### **High-Rigidity Structure with Advanced Lightweight Construction**

The Avalon's lightweight but highly rigid body structure uses considerably more high-tensile steel in the structure than before, while increasing the number of welds in the front and rear door openings has helped enhance unibody rigidity. The additional rigidity and chassis strength does not carry a weight penalty. Thanks to the lightweight steel and intelligent engineering, the Avalon has a curb weight of 3,461 lbs., the lowest in its segment, which benefits handling, fuel economy and overall performance.

Though the new Avalon rides on a long, comfortable 111-inch wheelbase, the steering and suspension tuning help the car feel agile and nimble. Tuning of the front Macpherson strut suspension and dual-link rear suspension takes advantage of a unibody structure that is 12 percent more rigid overall, and 23 percent more rigid at the rear than the previous model. Inversely wound coil springs are matched to dampers to enhance steering feel across a variety of surfaces. The rigidity of the 0.98-in. diameter (25 mm) front stabilizer bar and a 0.63-in. (16 mm) rear bar promotes flatter cornering.

Avalon and all Avalon Hybrid models ride on aluminum 17-inch wheels with 215/55R17 tires. The 18-inch alloy wheels on V6-powered XLE Touring and Limited models are shod with P225/45R18 tires that offer enhanced handling and grip. The 17-inch wheel design on the Avalon Hybrid model features a unique design with thinner spokes.

For the 18-inch wheel applications, more rigid suspension knuckles and lower control arms are used that enhance handling and steering feel. The design offers a reduced toe-in angle during turning and braking to help rear control. Pillow ball joints are used in one of the suspension arms to help enhance handling precision.

The Avalon's electric power steering system (EPS) assist has been optimized in response to vehicle speed to create a lighter effort sensation at lower speeds and increased effort and on-center feel at higher speeds. The steering column tilts and telescopes.

#### **Advanced User Technology**

The Avalon offers a long list of convenient, user-friendly technologies in addition to offering special features that enhance the car's functionality, capability and the level of safety. The standard Display Audio System uses a 6.1-inch TFT touchscreen that offers audio system operation, Bluetooth® compatibility, customizable vehicle settings, driving information such as fuel consumption, and operation

of iPod® and USB devices. The head unit is also available with HD radio broadcasts.

The steering wheel integrates a four-direction audio switch, in addition to a cruise control switch, DISP (Display) and TEL (Telephone switch). The wheel also offers buttons for available voice recognition and a vehicle-to-vehicle distance switch for Dynamic Radar Cruise Control.

The Avalon Limited model features a Premium HDD (Hard Disk Drive) navigation system that includes a seven-inch, high-resolution touchscreen display and voice driven search for iPod or USB connected device. DVD playback capability, split-screen capability, audio information or vehicle information can be displayed together with a map on the main navigation screen.

Avalon also offers Toyota's Entune® App Suite, which functions through a smartphone interface and brings applications such as Bing™, iHeartRadio, MovieTickets.com™, OpenTable®, and Pandora® to the vehicle audio display. This audio configuration also features real-time traffic, weather, fuel prices, sports, and stocks.

The Avalon is available with either eight-speaker (Display Audio), nine-speaker (Display Audio with Navigation and Entune App Suite), or the Premium HDD Navigation system with Entune App Suite and JBL Synthesis® 7.1 channel matrix sound system. The Premium HDD system uses a 12-channel external JBL Synthesis amplifier and 11 speakers, including two subwoofers, and features GreenEdge™ technology that reduces power draw on the car's electrical system.

The standard Smart Key System locks and unlocks the front doors, and a trunk-opening feature that enables opening of the doors when the key fob is within a short distance of the door handle. The key fob's transmitter also enables remote starting.

### **Safety Technology**

Like all Toyota models, the Avalon features the STAR™ Safety System, which includes Vehicle Stability Control (VSC), Traction Control (TRAC), Anti-lock Brake System (ABS), Electronic Brake Force Distribution (EBD), Brake Assist (BA), and Smart Stop brake-override Technology (SST). Equipped with 10 standard airbags, the Toyota Avalon has earned the Top Safety Pick rating from the Insurance Institute for Highway Safety (IIHS).

An available Blind Spot Monitor uses two-millimeter wave radar systems to detect vehicles in the adjacent lane where drivers may be challenged to see them. The same radar technology provides a Rear Cross Traffic Alert that is designed to detect low-speed cross traffic behind the vehicle. The Blind Spot Monitor indicators are on the outside mirrors, and a signal also appears on the TFT color display.

The Avalon is available with a pre-collision system that helps mitigate the effects of a frontal vehicle impact. The first stage of the pre-collision system retracts the front seat belts and primes the brake system, and the second stage is designed to compensate for inadequate brake pedal pressure by applying optimal brake system effort. Available Dynamic Radar Cruise Control uses a radar sensor at the front of the vehicle to help control speed and keep a safe distance from the vehicle traveling ahead. For the Blind Spot Monitor, the millimeter wave radar sensors are tuned to detect vehicles larger than 125-cc motorcycles at over 10 mph, with a maximum detectable speed differential of 26.8 mph. The system's detection range spans from about 10 feet to 2 feet depending on vehicle location.

The Rear Cross Traffic alert uses the sensors in the rear quarter panels to help detect vehicles approaching from the side and behind the vehicle. If cars are approaching within the detection area, a buzzer will sound. The vehicle shift lever must be in Reverse to detect any vehicle larger than a 125-cc motorcycle. The maximum speed of the Avalon can be five mph with a maximum speed of the approaching vehicle not to exceed 18 mph.

### **Warranty Protection and Toyota Care**

Toyota's 36-month/36,000 mile basic new-vehicle warranty applies to all components other than normal wear and maintenance items. Additional 60-month warranties cover the powertrain for 60,000 miles and against corrosion with no mileage limitation. The hybrid-related components, including the HV battery, battery control module, hybrid control module and inverter with converter, are covered for eight years/100,000 miles.

The 2013 Avalon and Avalon Hybrid come standard with Toyota Care, a complimentary plan covering normal factory-scheduled maintenance and 24-hour roadside assistance for two years or 25,000 miles, whichever comes first.