

New-Generation Toyota Camry and Camry Hybrid Gain Interior Enhancements in Their Second Year

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Following the introduction of the all-new seventh-generation Toyota Camry and Camry Hybrid for 2012, these midsize sedans enter the 2013 model year gaining enhancements to interior design and comfort and safety technology. The Blind Spot Monitor system, with availability expanded to the Camry SE grade, adds a rear cross traffic alert function.

America's best-selling car for 14 of the past 15 years, the Toyota Camry introduced a bold, sophisticated new design with a more spacious interior, improved driving dynamics and an even quieter ride than before when it debuted for 2012.

The 2013 Camry Hybrid, which achieves 43 city MPG, also gains the interior enhancements of the gasoline Camry. A new soft-touch material is used on the front door panels on the Hybrid LE, as well as on the gasoline LE and SE grades, replacing harder plastic material used in the 2012 models. On LE grade models (including Hybrid), interior armrests now match interior color, replacing black. On models equipped with leather seating, the door panels feature new stitching accents.

In other changes for 2013, the Display Audio screen becomes standard for the Camry L grade and Camry Hybrid LE. The gasoline Camry is offered in entry-level L, value-driven LE, premium XLE and sporty SE grades, with a four-cylinder engine on L and LE and a choice of four-cylinder or V6 on SE and XLE. The Camry Hybrid is offered in LE and XLE grades.

Introduced in 1983, the Toyota Camry would later establish the template for the modern midsize sedan, setting benchmarks for Quality, Dependability and Reliability (QDR), along with a comfortable, quiet ride. Since that time, Toyota has sold more than 15 million Camry models worldwide.

Performance and Efficiency

The 2013 Toyota Camry offers three powertrain choices, including a 2.5-liter four-cylinder gasoline engine, a 3.5-liter V6 and the Hybrid Synergy Drive. The 2.5-liter four offers 178 horsepower and 170 lb.-ft. of peak torque and, teamed with the standard six-speed automatic transmission, returns 25 MPG city / 35 MPG highway EPA fuel economy ratings, among the highest in its class.

The 2.5-liter engine employs Dual VVT-i (Dual Variable Valve Timing-intelligent), which controls valve timing on both the intake and exhaust camshafts for optimal performance and efficiency at all engine speeds. The Acoustic Control Induction System (ACIS) helps optimize torque over a broad engine speed range.

The DOHC 3.5-liter V6, available in the SE and XLE grades, delivers 268 horsepower at 6,200 rpm and 248 lb.-ft. of peak torque at 4,700 rpm. This engine also gained enhancements in the 2012 redesign, resulting in impressive 21 MPG city / 31 MPG highway fuel economy ratings. The V6 uses chain-driven camshafts and Dual Variable Valve Timing with intelligence (Dual VVT-i).

The gas-engine LE, XLE and SE models come equipped exclusively with a six-speed automatic transmission that offers a sequential manual shift mode using the console shifter. Intelligent control adapts shifting strategy in response to driver input, with fast kick-down. The Camry SE exclusively offers "D range" sequential shifting,

which allows manual shifting with the new steering wheel paddle shifters even when the console shifter is in the “D” mode. Also exclusive to the Camry SE, the automatic transmission features faster shift times when in “S” mode, along with downshift blipping control to emphasize a sense of sportiness.

Camry Hybrid Achieves 43 MPG City

The new-generation Camry Hybrid debuted a highly revised version of the brand’s Hybrid Synergy Drive powertrain, including a new 2.5-liter four-cylinder engine.

The EPA-estimated 43 mpg city/39 mpg highway/41 mpg combined ratings for the 2013 Camry Hybrid represent a more-than-30 percent boost in fuel economy compared to the original Camry Hybrid. The gain was due largely to the new hybrid powertrain, but also due to lighter vehicle weight and optimized aerodynamics.

Through its unique transaxle, the Hybrid Synergy Drive system combines output from the four-cylinder engine with a small 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 2.5-liter engine, like the 2.4-liter it replaced, uses the Atkinson cycle (delayed intake-valve closing for an expansion ratio greater than compression ratio) to achieve maximum efficiency. The Variable Valve Timing with intelligence (VVT-i) system on the intake camshaft enhances torque, which is greater than with the previous engine. An electric water pump, a roller-rocker type valvetrain and a variable-output oil pump help to reduce internal friction, boosting economy.

A water-cooled exhaust gas recirculation (EGR) system helps to ensure the lowest possible emissions at all vehicle speeds and helps increase fuel efficiency. By cooling and controlling exhaust gas injected into each cylinder, the system eliminates the need to richen the air-fuel mixture to control cylinder temperatures.

The 2013 Camry Hybrid meets AT-PZEV (Advanced Technology Partial-credit Zero Emissions Vehicle) standards.

Because there are situations in which the gas engine in the Camry Hybrid shuts off, air conditioning and power steering systems are driven electrically. New efficiency measures in the Hybrid Synergy Drive system include reducing internal losses in the transaxle, improving motor-voltage control, and optimizing the regenerative braking. The proven nickel-metal-hydride battery, located in the luggage compartment behind the rear seats, features enhanced air-cooling. Its more compact size, along with moving the DC/DC converter to the engine compartment, results in a trunk that is 2.1-cubic feet larger than in the previous-generation Camry Hybrid.

Lighter overall vehicle weight also contributes to better performance and fuel economy. A 7.6-second zero-to-60 acceleration time places the Camry Hybrid between the four-cylinder and V6 models. Lower rolling resistance tires, available for the first time in 17-inch size, also help boost fuel economy.

An EV Drive mode allows the driver to operate the Camry Hybrid on the electric motor alone for up to 1.6 miles at lower speeds (below approximately 25 mph). The EV indicator illuminates when the vehicle is being propelled solely by the electric motor. A driver-selectable ECO mode optimizes throttle response and air conditioning output to prioritize maximum fuel economy.

Applying the brake in the Camry Hybrid converts the electric motor to a generator that captures the kinetic energy from the still-spinning vehicle wheels, storing it in the hybrid battery pack. Putting the shifter into “B” uses regenerative braking as a form of engine braking for enhanced control on steep descents. Hill-start assist control helps prevent the vehicle from rolling backward when starting off on an incline when the brake pedal is released.

Exclusive exterior and interior design touches and badging differentiate the 2013 Camry Hybrid from other Camry models. A Hybrid-exclusive instrument cluster with Hybrid System Indicator and fuel consumption indicator helps the driver to operate the car as economically as possible. Instantaneous fuel economy is shown with LEDs (light emitting diodes) around the outside of the average fuel economy gauge. The car's Multi-Information display graphically shows fuel economy in real time and can also show energy flow, and cruising range information.

Hybrid-exclusive trim is used on the instrument panel and door switch bases, upper console panels and shift knob. The Camry Hybrid also features its own exclusive seat fabric in ivory or light gray, and an exclusive leather and Ultrasuede® is also available. A three-dial Optitron gauge panel with chrome-accented outer rings provides a luxurious appearance.

Exterior Design

The new-generation Camry employs an elegantly simple but modern form, emphasizing a wider, lower stance than previous models. The design conveys an "architectural statement" through crisp, precise character lines, accented by dynamically shaped headlights. A strongly curved door cross-section and defined rocker panel molding (chrome accented on LE and XLE) give the Camry an expressive appearance. Fog lights are standard on the XLE and SE grades.

The Camry LE and XLE feature additional exterior chrome trim, and the SE grade has its own lower-body design and exclusive fine-mesh upper grille section. The SE also features a three-part lower grille section housing fog lamps, along with black sport trim headlamp bezels. The more prominent rocker panel moldings on the SE cleanly link to integrated front and rear underbody spoilers, emphasizing width, and the trunk lid carries an integrated spoiler.

Interior Design

While featuring nearly the same external dimensions as the previous generation, the new-generation Camry offers a more spacious interior. Toyota optimized interior elements to gain additional space and to enhance driver and passenger comfort. As one example, tilt range for the standard tilt/telescoping steering wheel was increased 33 percent over the previous-generation model. And the middle rear seat gained two inches of legroom in the redesign.

The prominently curved center cluster appears to float over the instrument panel, reducing its visual mass. Soft textures used on the upper instrument panel, upper door trim, door panels, armrests, and center console armrest contribute to refined comfort in the Camry. Stitching on the instrument panel soft padding and matching stitching-look trim elsewhere helps to create a sense of luxury. Aluminum-color and chrome trim are used judiciously.

The LE and XLE grades feature either ivory or gray seating color; the Camry SE features unique upholstery in black-on-black or black-on-gray. Seat comfort, long a Camry strong suit, received extensive attention to detail in the 2012 redesign. New seat frames, higher seat backs and longer seat cushions all combine to enhance driver and front passenger comfort. The SE's sporty front seats provide thicker, more supportive side bolsters.

The 2013 Camry offers four seat-covering materials: fabric in the LE and XLE; fabric with SofTex™ trim in the SE, standard leather trim on the XLE V6 (optional in the XLE four-cylinder), and Ultrasuede® with leather available for the SE and XLE Hybrid. Heated seats are standard on the XLE V6 and are available for SE, XLE four-cylinder and Hybrid with variable temperature control.

Two steering wheel designs, with integrated audio and Bluetooth® controls, are featured: a four-spoke for LE; a leather-wrapped four-spoke for XLE; and a sporty three-spoke, leather-wrapped wheel for the SE, which offers

paddle-shift control for the six-speed automatic transmission.

Controls in the Camry impart a high-precision feel when used. The console's front section offers a 12V accessory connector and an easy-to-access USB/input jack port for connecting iPods and other media devices. A sliding rear console door, rather than the more traditional flip-up design, enables easier access from either front seat.

All grades feature a standard 60/40 split folding rear seatback to expand cargo capacity. The seats can be lowered by a remote release from the trunk area. Rear-seat side airbags are standard across the line, and an armrest with cup holders adds comfort and convenience.

Advanced Connectivity

All 2013 Camry models feature a standard Bluetooth® wireless connection for compatible hands-free phone calls, and a phone book transfer function is available. A standard USB port allows playing music and video from portable audio devices, using the vehicle sound system and available in-dash display screen, and includes full iPod® integration.

The Camry L and Camry Hybrid LE models gain the Display Audio 6.1-inch screen for 2013. On the Hybrid, the screen also displays the energy monitor and fuel consumption data. On models with the available integrated back-up camera, the display functions as the monitor. The screen also offers a new value-driven navigation system and serves as a portal for Entune®, Toyota's innovative new multimedia system. An available HD Radio system enables CD sound quality from digital FM broadcasts, and has features that maximize analog and AM broadcast sound quality. The system includes HD Radio with iTunes® tagging and SiriusXM Satellite Radio™.

The top-of-the-line audio is equipped with a new seven-inch Premium HDD Navigation system with Entune® and JBL. This system offers a new split-screen feature that allows for simultaneously displaying navigation and audio information.

Camry also offers the JBL GreenEdge™ audio system that combines an eight-channel amplifier and door-mounted acoustic lens speakers. The GreenEdge™ amplifier achieves a 66-percent reduction in overall mass and a 50-percent enhancement in sound efficiency, and the speakers produce a higher sound output with the same power or less consumption of conventional models.

Entune Multimedia System

The Camry's available Entune multimedia system leverages the user's smartphone to provide a richer in-vehicle experience with fully integrated access to navigation, entertainment and information services.

Toyota Entune offers support for engaging mobile apps, such as Bing, OpenTable, and movietickets.com, along with accessing useful travel-related services, such as live weather, traffic, fuel information (location and price), stocks, and sports. Toyota Entune brings the largest selection of music options available to a vehicle, including iHeartRadio's 750+ stations, and Pandora's personalized music service.

The audio systems combined with Entune feature a best-in-class, advanced conversational voice recognition system that helps the driver to stay focused on the road by eliminating the need to memorize thousands of voice commands. The system also allows for audio read-back and replay capabilities for text messages, with the ability to respond by pre-set "Quick Reply Messages" such as: "I'm driving and will reply later."

A Benchmark for Midsize Sedan Quietness

Long lauded as a benchmark for ride smoothness and quietness in the midsize segment, the new-generation Camry takes both attributes to an even higher level of refinement. To reduce noise throughout the entire cabin, focus was placed on suppressing noises that stand out. As powertrains have become more refined and quieter,

wind noise and road noise have tended to become more noticeable to drivers and passengers. A low noise reading (in decibels) does not always equate to a subjectively quiet interior. Vehicle occupants' perception of quietness also depends on the type and frequency of the sound.

Additional insulation was placed in areas where such noticeable sounds might enter the cabin. Sound absorbing materials silence any noise that manages to penetrate the interior. In particular, engineers focused on suppressing noises that are near the frequencies of human speech to provide an environment that is more comfortable for conversation.

Measures that focus on reducing wind noise include stronger door and rocker area seals; optimized placement of sound insulating materials; foam applied in the roof, pillars and door openings; acoustic glass used for the V6 and Hybrid model's windshield, and special bracing of cowl intake louvers. The dashboard structure and assembly was thoroughly optimized to prevent noise intrusion, including the use of sandwiched sheet steel that uses asphalt foam to absorb vibration energy while increasing sound blocking effectiveness.

A dash outer silencer uses an air layer between the dash panel and sound absorbing felt. An inner silencing layer uses soft and hard felts to block a wide range of low-to-high frequencies.

Damping-coating thickness and application areas were optimized for reduced floor-panel vibration and noise penetration through the floor, and a new type of carpet also helps eliminates noise. Silencer panels installed in the rear-wheel housings, and new sound-absorbing materials added to the trunk's interior side trim further reduce road noise from the tires and wheel housings.

Exceptional Handling and Ride

A rigid body structure, revised front suspension, redesigned rear suspension and aerodynamics all help to imbue the new-generation Camry with greater straight-line stability and crisper steering response, while also enhancing overall ride comfort.

The Camry body structure uses a greater amount of high tensile steel (440 Mpa or higher) than before and even stronger high tensile strength sheet steel (590 Mpa or higher), resulting in a stronger but lighter body than the previous model. A flared design on the doors and fenders enables the use of slimmer but stronger construction. High tensile aluminum bumper supports are lighter yet stronger than before. Newly developed plastic for the bumper covers and cowl louvers reduced weight, as well.

The front-suspension towers are directly connected through the cowl to increase rigidity, and the attachment method and reinforcement braces have been strengthened. The all-new rear underbody and rear subframe increase lateral force control and torsional rigidity.

The McPherson-strut front suspension now uses inversely wound coil springs that enhance straight-line stability. Shock-absorber damping and stabilizer-bar thickness have been optimized as well. The proven dual-link rear suspension was redesigned with new geometry (increased toe-in during cornering and braking) and retuned components to enhance cornering stability.

Inspired by Formula One racing technology, the rear-combination lamps and side-view mirrors on the new Camry incorporate aero stabilizing fins that create air vortexes on the body sides to contribute to handling stability. Underbody aerodynamic elements regulate airflow under the vehicle, also contributing to ride smoothness.

The Camry SE model features specific suspension components and tuning, including exclusive steering knuckles and lighter, stiffer lower front control arms. The front and rear springs are exclusive to this model, and the shock absorbers feature internal rebound springs for greater cornering roll resistance. The rear suspension No. 1 control

arm uses a pillow-ball bushing to further enhance handling agility.

Camry's electric power steering (EPS) control system regulates power-assist response based on vehicle speed and steering-input rate. The vehicle-speed sensing feature ensures light effort during low speeds, changing to moderate effort during higher speeds. A different power-assist ratio for the SE grade provides a more sporty feeling than the LE and XLE. With electric power steering, electricity is only consumed when assist is necessary, helping to improve fuel economy. Electric power steering is also more environment-friendly, as it does not require hydraulic fluid.

The LE grade features standard 16-inch wheels; the SE comes standard with five-spoke 17-inch alloy wheels, and the V6 SE offers the first 18-inch alloy wheels on a Camry. The latter feature is a unique twist-spoke design with 225/45R18 all-season tires. Camry SE models will also offer tires that have more grip. The Camry XLE comes standard with 17-inch alloy wheels featuring an elegant 10-spoke design.

Safety and Security

All 2013 Camry models are equipped with 10 standard airbags: dual-stage advanced SRS front airbags, front and rear seat-mounted side airbags, side curtain airbags and a driver's and front passenger's knee airbag.

The Camry's body structure is designed to help absorb collision-impact forces and help minimize impact deformation to the passenger cabin. High-strength steel is used for B-pillar and rocker panel reinforcements to help manage overall body deformation in the event of certain side collisions. The seat frames also are designed to help absorb side collision loads. The inner-hood structure and front-edge construction are designed to help reduce pedestrian injuries in a collision.

Toyota's Star Safety System™ includes Vehicle Stability Control (VSC), Traction Control (TRAC), Anti-lock Braking System (ABS), Electronic Brake-force Distribution (EBD) and Brake Assist. It also features the Smart Stop Technology brake-override system, and Camry is equipped with an electronic tire pressure monitoring system.

Another available safety system, Safety Connect, can access a call center with a live operator who can dispatch police and emergency vehicles. The system combines automatic collision notification and a stolen vehicle locator feature, which can track the location of the stolen vehicle via GPS and help guide police to recover it.

The available Blind Spot Monitor uses sub-millimeter wave radar to detect vehicles in the driver's blind spots. When the system detects a vehicle in the adjacent lane, it alerts the driver using indicators on the side mirrors. If the turn signal is on when there is a vehicle in the blind spot of the driver's intended lane, the indicator on the corresponding mirror will flash. New for 2013, the system incorporates a rear cross traffic alert, which can be especially helpful when backing out of a driveway or parking slot.

In vehicles equipped with one of the display audio systems and backup camera, when the vehicle is shifted into Reverse, the audio display screen shows the image of what the camera captures, along with an overlay of positioning lines representing the parking space and distance to obstacles.

Peace of Mind Warranty Protection

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 Camry will also 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.