

2010 TOYOTA PRIUS



Improvements to the third-generation Prius required the filing of more than 1,000 patent applications. Several concern the powertrain, which is 90% new and with an increase in engine displacement to 1.8 litres from 1.5 litres. The platform is all new, but apart from a 1.5-cm gain in overall length, the Prius is practically the same size as before, and it remains a four-door hatchback.

Interior and cargo area

The easily accessed front seats are comfortable but firm to a point that may not be to everyone's liking. Head- and legroom are relatively generous. Drivers obtain a good driving position thanks among other things to a telescoping steering column.

The backseat is comfortable for just two; the shape of the cushion and backrest discourages anyone from sitting in the middle section. Legroom is good, since there's a bit more room than before. Headroom is a bit tight for tall people. Rare for a hybrid, the seatback is split 60/40, and it folds flat to the floor.

Cargo capacity is good, with more space than before thanks to an improvement in the layout of the hybrid system's battery cooling unit. The floor is flat but a bit high. The hatch opens high out of the way.

Convenience and safety features

Cabin finish is very good though we could hear several rattles in our tester, and the quality of materials is adequate. Toyota uses ecological plastics that emit less CO₂ over their life cycle. Sound insulation is perfectible where road noise is concerned and deficient with respect to engine acceleration noise and the hiss of the transmission when slowing down and stopping. There are several good storage compartments including a deep centre console and two glove boxes.

Gauges and controls are well laid out. The radio volume button is a bit thin. The glove compartments and several controls are not lighted at night. The click of the turn signals is almost inaudible. The windshield washer nozzles are placed under the edge of the hood and can easily be blocked by snow and ice.

Photo: Toyota

The heating system is a bit slow, and it has to be set at 21°C, and even 22°C, to obtain the level of heat that other systems deliver when set at 20°C. An optional ventilation system powered by roof solar panels helps keep the interior cool.

Safety equipment includes seven airbags (two front, two side and two curtain, plus one to protect the driver's knees), five head restraints (two active ones in front), good headlights, four-wheel disc brakes with ABS, and stability control. Though visibility is good, the C-pillars are an obstruction on a three-quarter-rear angle, and the bar at the junction of the slanted and vertical sections of the rear hatch hinders the view when backing up. The double A-pillars can be a problem for some drivers. There are reflections in the windshield almost all the time, in daytime from the top of the dash and at night, from the lights in the instrument panel. We also noted that the rear wiper doesn't clear part of the right side of the hatch window.

In U.S. government crash tests, the Prius obtained four out of five stars for the protection of front occupants in a frontal impact and for rear-passenger protection in a side crash. It earned five stars for the protection of front occupants in a side crash, and four stars for rollover protection. The Insurance Institute for Highway Safety awarded the Prius a Good rating, its highest, for driver protection in a frontal offset collision and for all-occupants protection in a side or rear impact.

Engine and transmission

The hybrid system consists of a 1.8-litre Atkinson-cycle (delayed intake valve close) four-cylinder engine and an electric motor. The gasoline engine develops 98 horsepower and 105 pound-feet of torque; the electric motor produces 80 horsepower and 153 pound-feet of torque. Total combined power is 134 horsepower. The drive system offers three driving modes, ECO, PWR and EV. In ECO mode, initial acceleration is a bit slow, then performance becomes adequate. In PWR mode, performance is more normal. Passing requires planning in both modes. EV mode lets you drive up to 1.6 kilometres under electric power alone, as long as you go very easy on the throttle and drive under 45 km/h. The system is efficient and well adapted but noisy in ordinary acceleration. In normal driving, we registered an average fuel consumption of 5.5 L/100 km at temperatures varying between -15°C and -1°C.

The continuously variable electronically controlled transmission functions very smoothly at all times, but it emitted a whistling noise when slowing down and when coming to a stop.

On the road

The suspension is relatively firm but delivers a generally comfortable ride. Occasionally, some bumps are well felt, but the reaction is never harsh. Handling is decent but not outstanding.

The electric-assist power steering is well tuned, stable, precise and relatively fast. It provides very little road feedback. The turning radius is short. In ordinary driving, the four-wheel disc brakes are effective but emergency stops are long. The brakes resist well to fade.

Inspection

Our inspection at a CAA-Quebec technical inspection centre showed that the Prius is well built and relatively sturdy. The underside is not rust proofed, and several joints are not sealed. The electric wiring is well shielded. The overhead camshafts are chain driven.

Conclusion

The new Prius pushes the boundaries of the green car concept with a more efficient powertrain, plant-derived plastics and more environmentally friendly manufacturing processes. It is now a more mainstream vehicle that will meet the requirements of the environmentally sensitive. People hoping to conciliate eco-driving with a semblance of driving pleasure and overall quiet comfort will have to search elsewhere.

PROS: efficient powertrain, smooth transmission, roominess, cabin storage, handling, folding rear seatback

CONS: road noise, three-quarter rear and rearward visibility, engine noise, transmission hiss, long emergency stops, incomplete rustproofing

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Engine: 16-valve, 1.8-litre 4-cylinder; electric motor

Horsepower: 98 hp at 5,200 rpm; 80 hp

Torque: 105 lb-ft at 4,000 rpm; 153 lb-ft

Transmission: automatic continuously variable transmission

Suspension: independent/semi independent

Brakes: disc/disc

Wheelbase: 270 cm

Length: 446 cm

Width: 174.5 cm

Height: 148 cm

Weight: 1,380 kg

Tires: P195/65R15

Maximum towing capacity: not allowed

Airbags: dual front, plus two side, two curtain airbags, one for driver's knees

Fuel consumption:

Natural Resources Canada rating:

City: 3.7 L/100 km (76 mpg)

Test result: 5.5 L/100 km (51 mpg)

Highway: 4 L/100 km (71 mpg)

Test temperature: - 15°C to - 1°C

CO₂ emissions: 1,748 kg/20,000 km

Fuel tank capacity: 45 litres

Fuel requirement: regular grade gasoline

Acceleration:

0–100 km/h: 10.8 seconds

60–100 km/h: 6.7 seconds

Competition: Honda Civic Hybrid**Warranty:**

- Full basic coverage: 3 years/60,000 km
- Powertrain: 5 years/100,000 km
- Surface corrosion: 3 years/60,000 km
- Perforation damage: 5 years/unlimited km
- Emissions control system: 3 years/60,000 km (full coverage); 8 years/130,000 km (catalytic converter, electronic control module, onboard diagnostic system).

Factory replacement parts:

- Rear bumper: \$662
- Front brake disc: \$103
- Brake pads: \$84
- Muffler: \$198
- Front fender: \$261

Price according to trim level: \$27,800**Main options:**

- Premium package: \$2,245
- Premium package with solar panels: \$3,835
- Touring package: \$4,065
- Technology package: \$9,595

Price as tested: \$27,800**Freight and preparation:** \$1,420**Dealers:** Quebec: 71 Canada: 251

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