

TOYOTA PRIUS GT JOINS THE GOODWOOD FESTIVAL OF SPEED

HIGH-PERFORMANCE HYBRID IS AN OFFICIAL CAR OF THE EVENT

- UK debut for Toyota Prius GT sporting concept
- 143bhp from the electrically-boosted 1.5-litre petrol engine
- Accelerating to 62mph in 8.7 seconds
- Fuel economy at normal speeds virtually unaffected by performance potential

A new performance version of the Toyota Prius is to make its UK debut at the Goodwood Festival of Speed. The Prius GT has been developed to show that hybrid technology can have a sporting dimension, as well as delivering ultra-clean emissions and high fuel economy. It is strictly a concept car and Toyota has no current plans to put it into production or enter it in motor sport competition.

The Prius GT will be the first hybrid vehicle ever to take part in the Goodwood Festival of Speed. It will be used as an official car by the event's organisers throughout the three-day celebration of motoring history. In addition, another model will be on display at the Toyota Exhibition.

Other Toyota cars participating in the Festival of Speed include the Toyota TF104 F1 car, the 1993 World Rally Championship-winning Toyota Celica Turbo 4WD, the 1992 Toyota TS010 Group C sportscar and the 1968 Toyota 2000 GT from the American SCCA championship, prepared by Carroll Shelby.

Hybrid on the fast track

The Toyota Prius GT's Hybrid Synergy Drive powertrain has been specifically tuned to deliver sportscar performance. The standard Prius Atkinson-cycle petrol engine has been replaced by the 1.5-litre Yaris T Sport powerplant, which provides better response and increases power by 29 per cent, from 76 to 98bhp.

The electrical part of the hybrid system has also been updated. The High Voltage Power Circuit now develops 550V, a gain of 50V compared to the street version. This allows a more powerful electric motor to be installed, developing 81bhp on its own – an output similar to that of a conventional 1.4-litre petrol engine.

To cope with the extra power, the battery has been upgraded to develop 45bhp (a gain of 12bhp) and the generator's maximum speed has been boosted from 10,000 to 12,000rpm. The state-of-charge control has also been tuned to provide more rapid racecar-like response rather than to maximise the car's range.

The 1.5-litre engine, in conjunction with the electric motor (which can be compared to an electric supercharger), now returns 143bhp, a figure that beats every other 1.5-litre diesel or petrol unit currently on the market. In addition, specific power comes close to 100bhp per litre.

Improved body and chassis

To match the increased power output, the whole suspension system – shock absorbers, springs and anti-roll bars – has been tuned to provide sharper handling and improved grip. In addition, the hybrid battery has been positioned over the rear axle to provide near-perfect weight distribution – something that a conventional car would struggle to match.

The addition of a front spoiler and side skirts generates extra downforce and gives the Prius GT a more aggressive look.

For racing, the interior of the Prius has been stripped out to save weight and replaced by two sports seats, harnesses and a safety roll cage.

As a result the total weight of the car is just 1,120kg, 180kg less than the production version.

More power and less weight result in significant performance improvements, including nought to 62mph acceleration in 8.7 seconds. Surprisingly, when the Prius GT is driven at normal speeds fuel economy and emissions are virtually unchanged. This is because the effects of a more powerful petrol engine are counteracted by efficiency gains from the electric circuit and the overall weight reduction.

Prius GT Technical Specifications

		Toyota Prius GT	Toyota Prius
Engine	Type	1.5-litre petrol	
	Max. power (bhp/rpm)	98 @ 6,500	76 @ 5,000
	Max. torque (Nm/rpm)	115 @ 4,200	
Motor	Max. voltage (V)	550	500
	Max. power (bhp/rpm)	81 @ 1,200-1,540	67 @ 1,200-1,540
	Max. torque (Nm/rpm)	400 @ 0-1,200	
Battery	Type	Nickel-metal Hydride, 28-module	
	Max. power (bhp)	45	34
System	Max. power (bhp)	143	109
	Max. torque (Nm)	478	
Performance	0 – 62mph	8.7 seconds	10.9 seconds

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