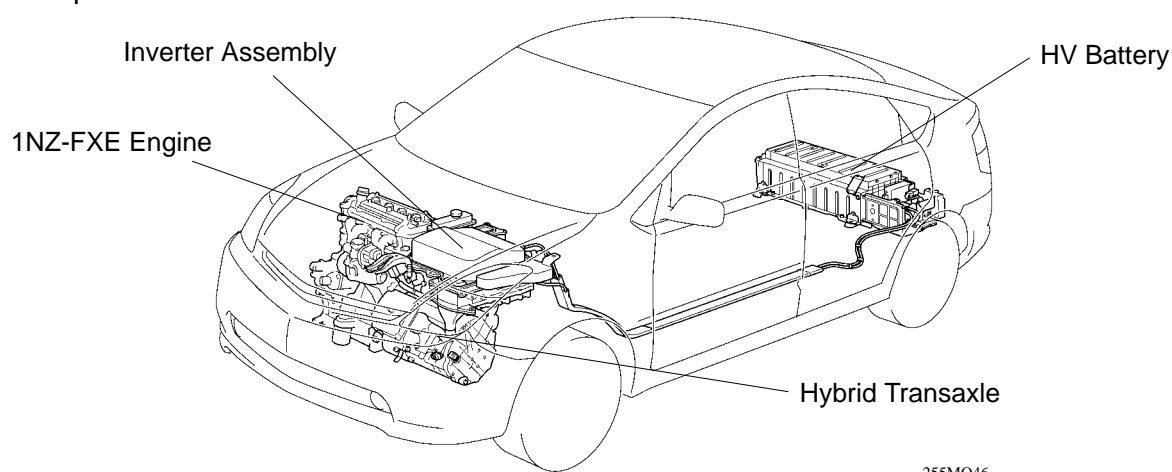


## **PERFORMANCE**

### **THS-II (TOYOTA HYBRID SYSTEM-II)**

- The hybrid system is a type of power-train that uses a combination of two types of motive forces, such as an engine and a motor [MG2 (Motor Generator No.2)]. This system is characterized by its skillful use of two types of motive forces according to the driving conditions. It complements weakness of motive forces each other to maximize the motive force of the vehicle.
- The '04 Prius is powered by a new-generation Toyota Hybrid System called "THS-II", which has been developed under a "Hybrid Synergy Drive" concept to pursue better environmental performance and to realize "fun to drive" feeling. Under this concept, the THS-II has achieved significant advances in control systems, which aim for synergy between the power of the electric motor and the power of the engine. By greatly boosting the power supply voltage, this system has achieved a high level of balance between environmental performance and power.



### **Engine**

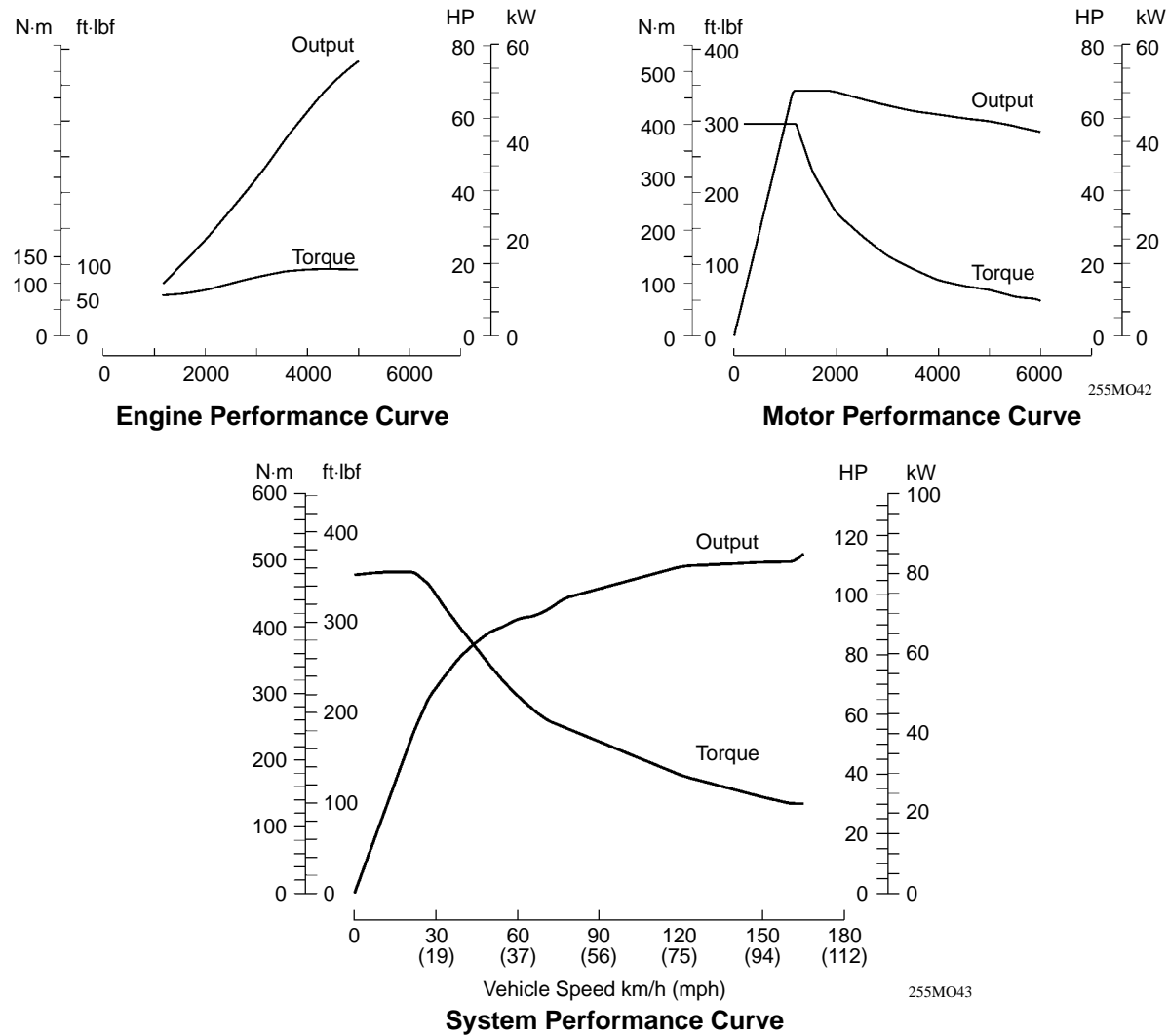
Model	'04 Prius	'03 Prius
Type	1NZ-FXE High Expansion Ratio Cycle Engine, Certified ATPZEV*1	1NZ-FXE High Expansion Ratio Cycle Engine, Certified SULEV*2
Displacement	1497 cm <sup>3</sup>	1497 cm <sup>3</sup>
Max. Output	57 Kw/5000 rpm (76 HP/5000 rpm)	52 Kw/4500 rpm (70 HP/4500 rpm)
Max. Torque	111 N·m/4200 rpm (82 ft·lbf/4200 rpm)	111 N·m/4200 rpm (82 ft·lbf/4200 rpm)

\*1: Advanced Technology Partial Zero Emission Vehicle

\*2: Super Ultra Low Emission Vehicle

### **Motor and Generator**

Item	MG1	MG2	
		'04 Prius	'03 Prius
Type	Permanent Magnet Motor	Permanent Magnet Motor	Permanent Magnet Motor
Function	Generate, Engine Starter	Generate, Drive Wheels	Generate, Drive Wheels
Max. Voltage [V]	AC 500	AC 500	AC 273.6
Max. Output kW (HP)/(rpm)	—	50 (68)/(1200 ~ 1540)	33 (45)/(1040 ~ 5600)
Max. Torque N·m (ft·lbf)/(rpm)	—	400 (295)/(0 ~ 1200)	350 (259)/(0 ~ 400)



## Fuel Economy

- The '04 Prius has achieved 15% reduction in fuel consumption, comparing with the '03 Prius, to be in top level of the world. It is due to the adoption of THS-II and load reduction on the vehicle.
- Improvement Items in THS-II:
  - (1) A high-voltage power circuit has been adopted between the motor and the generator, in order to greatly reduce the energy loss during power transmission and deliver optimal energy in an efficient manner.
  - (2) As a result of increasing the power output of the motor 1.5 times, the THS-II significantly increases the use of the electrical motor. Under conditions in which the efficiency level of the engine is low, this system stops the engine, allowing the vehicle to run using only the power provided by the electric motor.
  - (3) The amount of energy regenerated during deceleration and braking has been significantly increased in order to increase energy efficiency.
- Load Reduction Items on Vehicle:
  - (1) Reduction of air resistance
  - (2) Reduction of friction at various components: Examples: Engine, transaxle oil, etc.
  - (3) Reduction of electrical loads: Example: Adoption of LED stoplight
  - (4) Adoption of electric inverter air conditioning system

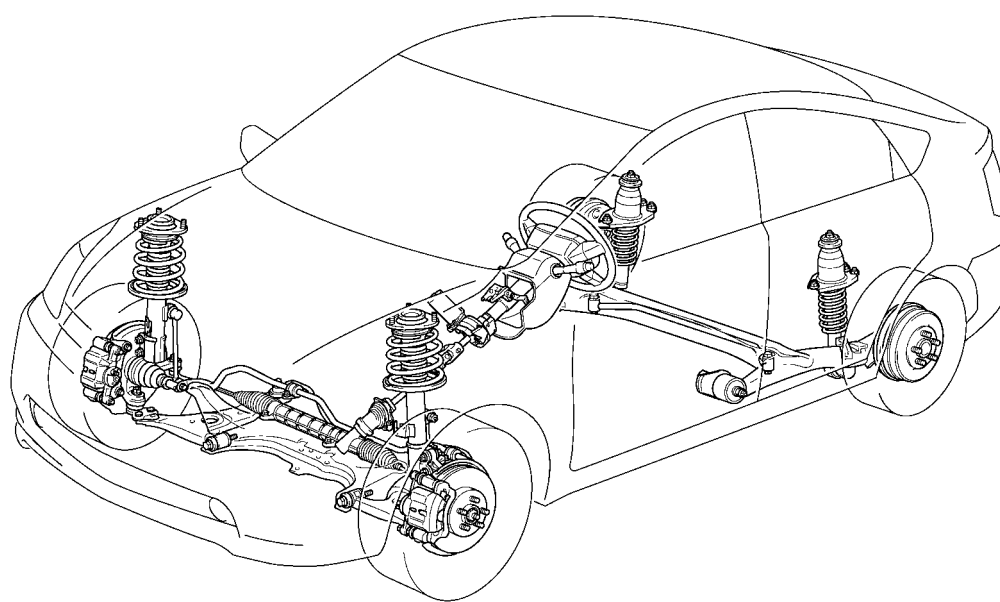
## Chassis

### Front Suspension

Type | MacPherson Strut Type  
Independent Suspension

### Rear Suspension

Type | Torsion Beam Type Suspension  
with Toe-correct Bushings

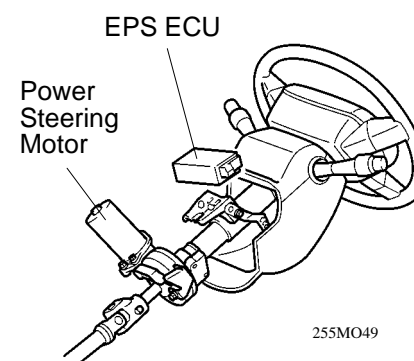


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### Steering

Type | EPS (Electric Power Steering)

- This system offers excellent fuel economy characteristics because this motor consumes energy only when power assist is required.
- On the '04 Prius, the motor has been relocated above the steering column.



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### Brake

Front Type | Ventilated Disc

Rear Type | Leading Trailing Drum

Brake Control System | ECB (Electronically Controlled Brake) System;

- Regenerative Cooperative Brake, ABS with EBD, Brake Assist
- Enhanced VSC (Vehicle Stability Control) (Optional)