

Hybrid saves fuel and can park on its own

Leading the race to wean motorists off the internal combustion engine, Toyota's latest *Prius* boasts a hybrid electric-petrol engine that switches its power source while driving to achieve greater fuel efficiency. The car is also able to park itself – a boon to hassled drivers worldwide

"Hybrid Synergy Drive" power cycle

Traction battery

38 sealed compact Nickel metal hydride (NiMH) modules.

Provides energy for electric motor

Electric motor

Operating voltage of 500v provides 67hp (50kW) output at high efficiency

Power-split device

Low speed: Draws power from electric motor.

Heavy load: Power from engine and electric motor – up to total 106hp (79kW)

Device also directs power from engine via generator to recharge battery

Generator: Converts mechanical power from power-split device into electrical energy.
Battery recharged automatically

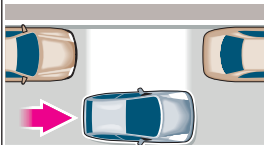
Regenerative braking: Kinetic energy of wheel rotation fed back into power-split device

Petrol engine
76hp (58kW),
16-valve power plant
Fuel saving up to 84mpg (36km/litre)

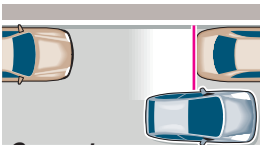
Parallel parking the easy way

Intelligent Park Assist (IPA) computer controlled by dashboard monitor

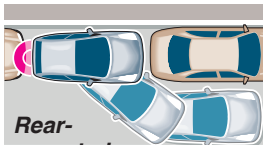
1. Pull up alongside parking space. **Inform IPA of location of space on-screen**
2. Pull forward until driver's shoulder in line with rear bumper of car in front
3. Move alongside front car. Initiate manoeuvre on-screen, put car into reverse, ease off brake



Parking space may be just one metre longer than car itself



Computer judges size of space and position of front car by distance moved



Rear-mounted camera judges position of car behind