

HOW HYBRIDS WORK

HEAVY LOADS



During full acceleration or while the car is pulling a heavy load, the gas engine stops running the generator and concentrates on driving the wheels. The electric motor pitches in, running off the battery.

RECHARGING THE BATTERY



When you hit the brakes, kinetic energy is transferred from the spinning wheels through the electric motor, which functions as a generator, to the battery. Also, the gas-driven generator routes power to the battery when it is running low.

STARTUP



An electric motor gets the car moving on its own, drawing power from the battery. The motor also runs the car when it's running at low speeds. Anytime the car is standing still, the gas engine shuts down.

CRUISING



The system controls the amount of gas or electric power to get the best mileage. Once up to normal speed, the gas engine kicks in more power. A special device splits that gas power between the wheels and a generator that runs the electric motor.

DATA: TOYOTA MOTOR CORP ILLUSTRATION BY JOE CALVIELLO.

