

A Quick Glance under the Bonnet

What makes your petrol-powered car go? It happens inside the engine, of course. But how? Just lots and lots of tiny explosions.

How the Internal Combustion Engine Works

The engine in a petrol-powered car is made up of four, six or eight cylinders. These contain a piston that moves up and down. Inside the cylinders, liquid fuel is burned, or combusts, and turns into gas. That is why the engine is called an “internal combustion engine”.

The **energy** that is released when the fuel in a cylinder burns creates an explosion. This drives down the piston, which is connected by a rod to the crankshaft. The crankshaft converts the piston’s up-and-down motion into round-and-round motion, which turns the car’s wheels.

Most cars have a “four-stroke engine”. This means, in each cylinder, four strokes of the piston are repeated.

The Four-stroke

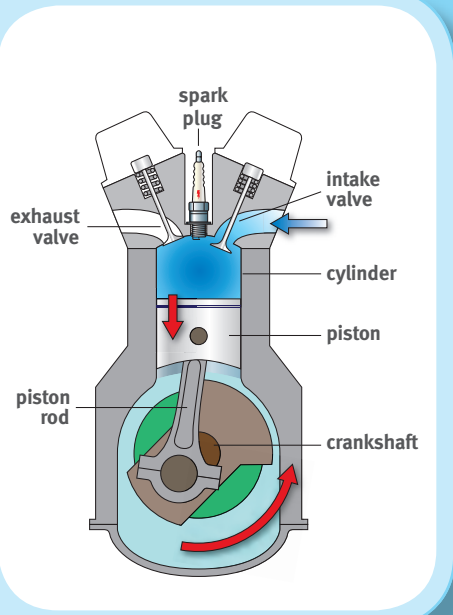
Stroke 1: Intake

The intake **valve** at the top of the cylinder opens and the cylinder fills with a mix of air and a drop of petrol. The piston moves down.

Stroke 3: Power

The explosion forces the piston down. The piston rod turns the crankshaft. This is what moves the pistons in the engine’s other cylinders and turns the wheels.

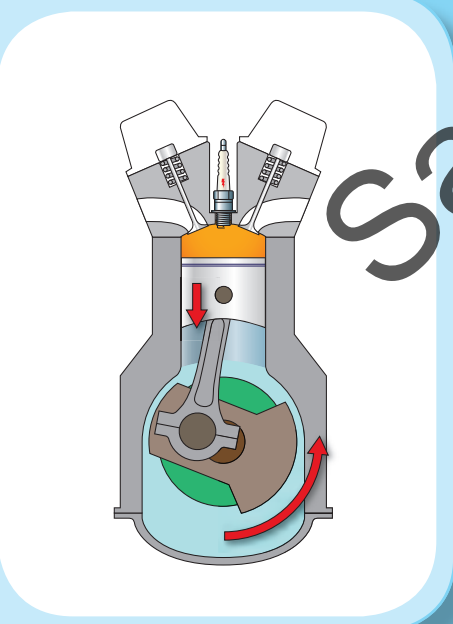
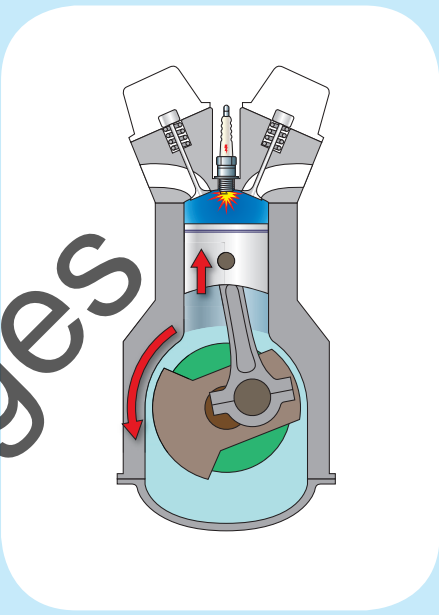
Engine Cycle



Stroke 2: Compression

The piston moves up. The air and petrol mix is crammed into a small space.

When the piston is at the top of the cylinder, a **spark plug** ignites the air and petrol mix, which burns (combusts) and explodes. At this point the liquid fuel turns into power for the car.



Stroke 4: Exhaust

The piston moves up as the exhaust valve opens and the leftover waste gas from the explosion (the **exhaust**) is pushed from the cylinder.

