

OXYGEN SENSOR



ITS FUNCTION



Located on the exhaust line, the oxygen sensor (also known as the lambda sensor) is responsible for **measuring the quantity of oxygen present in the exhaust gases**.

This data is transmitted to the ECU, which **optimises the quantity of fuel to be injected** so that the stoichiometric mixture (or lambda (λ)) remains close to the ideal ratio, i.e. **14.7g** of air for 1g of fuel for petrol engines and **14.5g** for diesel engines.

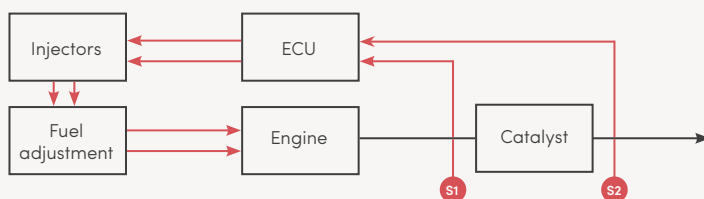
GOOD TO KNOW

On petrol-powered vehicles, lambda sensors became compulsory with the introduction of the **Euro 1** standard in 1992. On diesel-powered vehicles, they became essential from **Euro 4 and 5** onwards. Today, vehicles are fitted with 2 sensors:

- A **regulation probe**, positioned before the catalytic converter, which regulates the air/fuel ratio sent in the exhaust gases.
- A **diagnostic probe**, positioned after the catalytic converter, which checks whether the fuel adjustments that have been applied beforehand have been applied and enables a diagnosis to be made if the catalytic converter is malfunctioning.



ILLUSTRATION



- S1 Regulation probe
- S2 Diagnostic probe



TECHNOLOGIES

There are **several technologies** on the market: zirconium lambda sensors, titanium dioxide lambda sensors, wideband lambda sensors and wideband air/fuel ratio (AFR) lambda sensors.

Zirconium technology is the most common for petrol vehicles, while **wideband technology** is preferred for diesel vehicles.



TECHNICAL HOTLINE

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