

## Euro 5 engines

**Peugeot continues to roll out its Euro 5 engines throughout the range in anticipation of new environmental standards with the arrival of new 1.6 litre HDi FAP engines in the spring of 2010.**

A Peugeot is a car with an attractive style that combines driving pleasure with environmental performance. On this point the Marque intends to remain among the leaders and continue its commitment to reduce CO<sub>2</sub> emissions and fuel consumption.

With this in mind, the coming months will see the advent of new technologies at Peugeot, such as the electric car (iOn), the HYbrid4 (3008), and the development of "e-HDi" micro-hybrid engines (new generation Stop&Start).

As well as the appearance of these important new products, Peugeot continues to develop and optimise its HDi FAP diesel and VTi and THP petrol technologies – engines renowned for their performance and efficiency.

They now position the range very favourably in their respective segments (107 at 106 g/km of CO<sub>2</sub>, 207 from 99 g, 308 at 114 g, 3008 at 130 g, 5008 at 135 g).

- In the **207** range, we are pleased to announce the arrival of the following Euro 5 engines:
  - 1.6 litre HDi FAP 82 kW (112 bhp) coupled with a 6-speed manual gearbox;  
CO<sub>2</sub>: **117 g/km** for the hatchback,
  - 1.6 litre HDi FAP 68 kW (92 bhp); CO<sub>2</sub>: **110 g/km** for the hatchback,
  - 1.6 litre THP 115 kW (156 bhp) coupled with a 6-speed manual gearbox;  
CO<sub>2</sub>: 165 g/km for the hatchback,
  - 1.4 litre VTi 70 kW (95 bhp); CO<sub>2</sub>: 137 g/km for the hatchback.
  
- On the **308**, gradual deployment of Euro 5 engines:
  - 1.6 litre HDi FAP 82 kW (112 bhp) with the electronically-controlled 6-speed manual gearbox (BMP6); CO<sub>2</sub>: **114 g/km** on the hatchback,
  - 1.6 litre HDi FAP 68 kW (92 bhp); CO<sub>2</sub>: **115 g/km** for the hatchback,
  - 1.6 litre THP 115 kW (156 bhp) coupled with the 6-speed manual gearbox;  
CO<sub>2</sub>: 153 g/km for the hatchback,
  - 1.6 litre THP 115 kW (156 bhp) combined with a new 6-speed automatic gearbox;  
CO<sub>2</sub>: 171 g/km for the hatchback,
  - 1.4 litre VTi 72 kW (98 bhp); CO<sub>2</sub>: 144 g/km for the hatchback.
  
- The **3008 and 5008** see the launch of the following new engines:
  - 2.0 litre HDi FAP 120 kW (163 bhp) with a 6-speed automatic gearbox;  
CO<sub>2</sub>: 173 g/km on the 3008,
  - 1.6 litre THP 115 kW (156 bhp) with a new 6-speed automatic gearbox;  
CO<sub>2</sub>: 178 g/km on the 3008.



## NEW Euro5 ENGINES

### Driveability and environmental-friendliness

Following the example of the new 1.6 litre HDi FAP 82 kW (112 bhp) engine launched several weeks ago on the 308 CC and currently in deployment, the second quarter of 2010 sees the appearance of the 1.6 litre HDi FAP 68 kW (92 bhp) in Peugeot ranges.

These new Euro 5 engines are the fruit of a global development programme by the PSA Peugeot Citroën Group requiring an investment of €1.5 billion over nearly 4 years.

#### Driveability that just gets better

These new HDi FAP engines are designed to comply fully with the new **Euro 5** standards. At the same time they offer enhanced performance in terms of versatility and responsiveness and also in terms of **acoustic comfort**, while offering optimised **fuel consumption** and **CO<sub>2</sub> emissions** (gain of around **5 g/km** compared to earlier versions).

The challenge therefore was to solve this equation while at the same time keeping the price of these "core" Peugeot engines in check.

Also, thanks to their new engineering specification, these four cylinder 1560 cm<sup>3</sup> engines require only eight valves, yet at the same time offer improved levels of driveability and environmental performance.

For the **1.6 litre HDi FAP 82 kW (112 bhp)**, the maximum torque at 1750 rpm increases from 240 to 270 Nm (+ 12.5 %) while *overboost* rises from 260 to 285 Nm. Its maximum power is 82 kW (112 bhp) at 3600 rpm (compared to 80 kW at 4000 rpm).

The 1.6 litre HDi FAP 68 kW (92 bhp) for its part offers a maximum torque of 230 Nm (compared to 215 Nm for the old engine block) at 1750 rpm, with a maximum power of 68 kW (instead of 66 kW) at 4000 rpm.

#### New generation technologies

Numerous technologies derived from the PSA Peugeot Citroën Group's expertise in HDi FAP engines made it possible to rise to this engineering challenge. **Compared with their predecessors, more than 50% of components in these new HDi FAP engines have been entirely redesigned.**

For example, like the new V6 3.0 litre HDi FAP and 2.0 litre HDi FAP Euro 5 engines that appeared in 2009, and offering the same benefits, **ECCS technology** makes its appearance. This new-generation combustion chamber system offers:

- a lower compression ratio (16.0) benefiting performance and reducing emissions (including NOx);
- an increase in the chamber diameter (+ 10 %), helping to reduce the quantity of incompletely burnt fuel as a result of less contact with the walls;
- a reduction of SWIRL (air movement in the combustion chamber) of nearly 10 %, limiting heat loss against the walls.

This system is combined with a new common rail in which the injection pressure is now 1650 and 1700 bar respectively for the 1.6 litre HDi FAP 82 and 68 kW engines, as well as new 7-aperture



PEUGEOT

injectors (instead of six previously) – piezoelectric for the 1.6 litre HDi FAP 82 kW, solenoid for the 1.6 litre HDi FAP 68 kW.

The engine control software has also been entirely redesigned to give this unit more complete injection patterns (up to five injections per cycle), improved operating quality and even better servicing diagnostics.

All of this helps improve the homogeneity of the air/diesel blend for maximum performance, reduced fuel consumption, a reduction at source of emissions and **quieter combustion**.

Each engine also uses a turbocharger (variable geometry for the 1.6 litre HDi 82 kW, fixed for the 1.6 litre HDi FAP 68 kW), with optimised dimensions. Because it is smaller it has a lower inertia, meaning its response time is reduced to a minimum.

Lastly, the **use of an** optimised exhaust gas recirculation system (EGR valve) and **reduced friction are technologies that allow optimal improvement of engine efficiency while limiting potential energy losses**.

These HDi engine blocks are combined as standard with the particle emissions filter which now has a service interval of 180,000 km.

*September 2010*

### **Peugeot**

Peugeot is the only manufacturer to offer an integral mobility package complete with cars, light commercial vehicles, scooters, bicycles, and a wide range of services. Present in 160 countries with 10,000 contact points, Peugeot combines strong design and emotion throughout the world. In 2009, Peugeot sold 1,842,000 cars, becoming the leading French manufacturer [in terms of registrations] in the world and the 10<sup>th</sup> ranked car manufacturer. 50% of Peugeots sold around the world have a rate of emissions of less than 140 g of CO<sub>2</sub>. Backed by 200 years of inspiration, Peugeot is renewing its style and its visual identity in 2010, at the same time extending its mobility offer and affirming its international ambition. The Marque is continuing its development with the launches of the RCZ, a limited edition vehicle, the iOn, a 100% electric car, the 408 in China, plus three new models in Latin America and the deployment in Europe of its Mu by Peugeot à la carte mobility offer.