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Honda's greener, diesel engines

HONDA has just unveiled two new clean diesel engines at the 2007 Frankfurt Motor Show.

The engines belong to Honda's second generation diesel family, i-DTEC, which uses world first technology to reduce emissions to a level equal to a petrol engine.

By further improving the current award winning i-CTDi's superb performance, fuel economy and emission efficiencies, i-DTEC has achieved various stringent emission standards in the US, Japan and Europe.

The first engine on display on the Honda stand is a 2.2-litre, which uses a combination of the latest injection technology, more efficient exhaust gas recirculation and a diesel particulate filter to exceed Euro 5 requirements without compromising engine performance.

Both power and torque levels have been increased and fuel economy has been improved.

The second engine on display is a super-clean next generation diesel that achieves compliance with the stringent US Environmental Protection Agency (EPA). The Tier II Bin 5 engine meets requirements by using a Lean-burn NOx-reducing Catalyzer that uses ammonia to 'detoxify' NOx, turning it into harmless nitrogen. Unlike Selective Catalytic Reduction (SCR) systems that use Urea supplied from a storage tank, Honda's technology uses ammonia generated directly within the catalytic converter.

It works using a two-layer structure: one layer absorbs NOx from the exhaust gas which, during periodic rich burn controlled by the engine management system, reacts with hydrogen from the exhaust gas producing ammonia. This ammonia is then absorbed by the second layer.

The system also provides more efficient NOx reduction in the most critical temperature range of 200-300C for diesel engine exhaust systems.

Alongside developing exhaust gas cleaning technology, Honda also plans to address other technical challenges in developing clean diesel engines, like handling diesel fuels with different cetane numbers and meeting US on-board diagnostic system requirements.

i-DTEC engine Tier II Bin 5.