Emissions controls

In the past, the developers had to design emissions-control components for early response. As the efficiency of the TDI engines increases, exhaust gas temperatures are steadily falling. In the ECE cycle, temperatures measured downstream of the oxidation catalytic converter take 2.5 minutes to reach 150 degrees Celsius. Conversion does not take place below this threshold.

With the new 3.0 TDI, both catalytic converters – the enlarged oxi-cat and the diesel particulate filter with SCR coating – have been moved extremely close to the engine. The water-cooled SCR pump injects the AdBlue solution into the short, bent connecting pipe between the two. With the 160 kW (218 hp) version of the new V6 diesel, the new V6 biturbo and the 4.2 TDI, the oxi-cats are also electrically heated.

Audi's next step will come in 2015 with the 3.0 TDI. Instead of an oxidation catalytic converter, a new NO_x storage catalytic converter will be used. The NOC (NO_x Oxidation Catalyst) stores the oxides of nitrogen until it is completely full. Cleaning is by means of mixture enrichment in the engine. To keep fuel consumption as low as possible, the NOC is only active at low exhaust gas temperatures, i.e. following engine start and at low load. In all other situations, NOx conversion is handled by the diesel particulate filter with SCR coating. With the great potential harbored by these technologies, Audi is extremely well positioned to meet future emissions regulations.

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