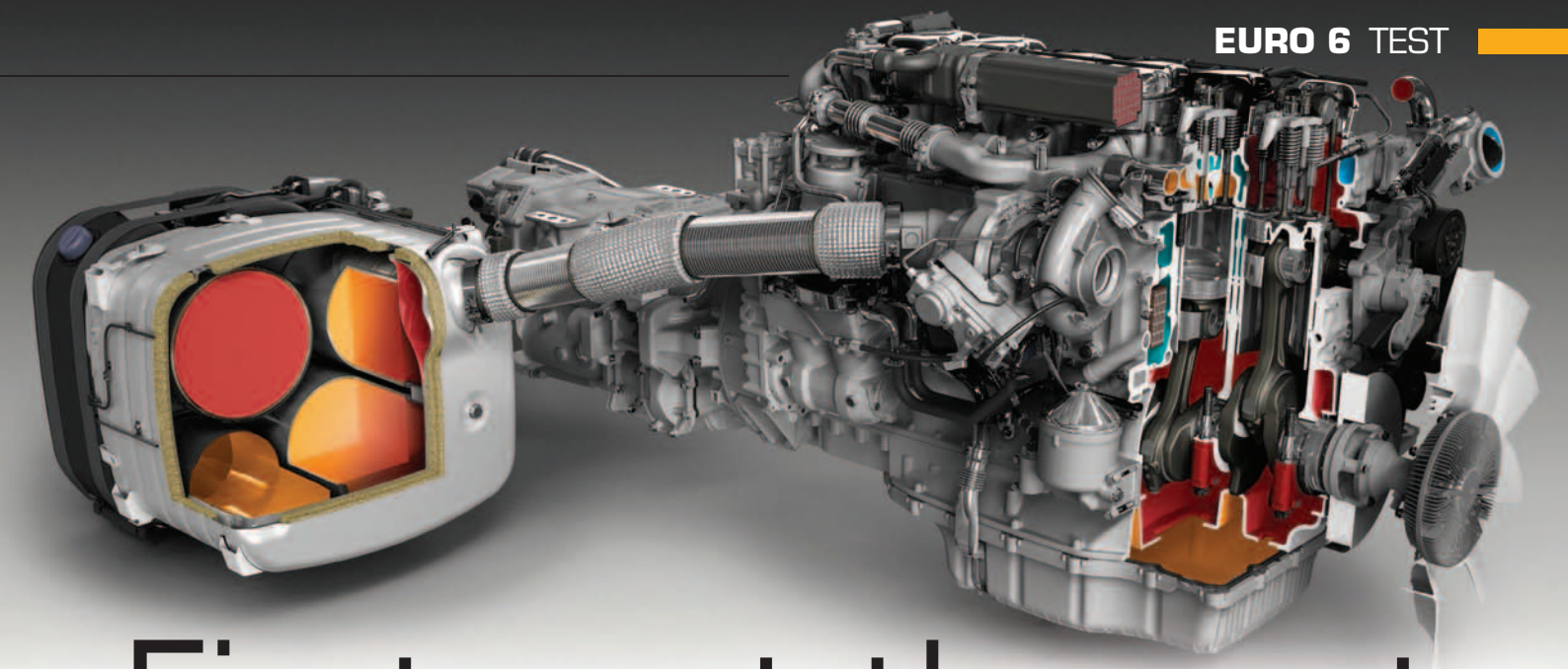

First past the post

Earlier this year, Scania and Mercedes-Benz unveiled their Euro 6 engines in rapid succession. Ian Norwell gets behind the wheel of a truck powered by the former truck OEM, and gives his analysis

The countdown to December 2013's Euro 6 deadline ticks away at the same pace for all the truck manufacturers. So quite why Mercedes-Benz and Scania decided to hit their 'go' buttons earlier this year is not entirely clear. Perhaps they considered the advantage of possible incentives for truck operators who choose to buy ahead of deadline?

As far as the UK goes, this must be in hope, rather than expectation. And early assumptions that Germany's LKW-Maut system will be extending discounts to Euro 6 have yet to be confirmed. Yes, there's time, but it will surely be only the deepest green hauliers who buy early, as the widely predicted on-cost will be around €12,000 per chassis.

The after-treatment alternatives of SCR (selective catalytic reduction) and EGR (exhaust gas recirculation) are well-aired and the journey up to Euro 5 left scope for choice. But Euro 6 has forced truck design engineers to employ more or less all available devices. Scania's previous adherence to EGR on its mainstream product has now been joined by a dose of AdBlue and the SCR kit. The extra equipment is impressive. An upstream NOx sensor, diesel oxidation catalyst (DOC), full-flow diesel particulate filter (DPF), AdBlue mixer, twin parallel SCR catalysts, ammonium slip catalysts (ASC) and downstream NOx sensor are all now integrated in one compact silencer unit.

Temperature is measured all the way up to the catalysts and pressure drop across the DPF is monitored for filter status. Here lies an alert for fleet engineers: the particulate filter needs to be cleaned at intervals corresponding to the truck's duty cycle. As has been found in some PSV (passenger service vehicle) applications, a stop-start regime, or any cycle that allows temperatures to drop, puts the system under pressure.

Care is needed to avoid a build-up of ash that can overtake the capacity of the continuous regeneration process. If ash residue is allowed to gather and progressively clog the filter, fuel economy will suffer. Intervals for changing the particulate filter will typically be around 240,000km in long-haul.

Generally, maintenance intervals are the same as for Scania's 13-litre Euro 5 EGR engines, as long as you use its LDF-3 long-drain lubrication oil. So engineers will be keen to see that all the complexity doesn't bring an unwelcome drop in reliability. The Euro 6 cycle, designed to mesh with the new world harmonised duty cycle (WHDC), is a tough one.

Fuel promise

And on fuel consumption, Jonas Hofstedt, senior vice president, powertrain development at Scania, says: "We have spared no effort to avoid fuel penalties on these engines. Operators will find that fuel economy, driveability and engine response are on a par with our Euro 5 engines."

This confident assertion apparently comes from the results of operator trials. Customer testing also generated the same declaration from Daimler's Georg Weiberg, head of truck product engineering, at that company's Euro 6 launch. Hoping that diesel usage does remain intact, there is more good news on AdBlue. Scania claims consumption rates drop from 5–6% on the Euro 5 SCR engines, to 3–4% on its Euro 6 units.

Scania's Euro 6 engines are also currently approved for running on typical mixes of up to 8% approved biodiesel – in other words, what you get from the pumps these days. Beyond that mix, Scania's Hofstedt will only say that "tests are ongoing to secure the long-term functioning of the aftertreatment system when running on up to 100% biodiesel." Watch that space.

As for the Euro 6 driving experience in an R480 6x2 tractor unit with the new DC13 engine, it was as impressive as ever, but unremarkable. The only clue to the extra £10,000-worth of engineering under your cab is the filter regeneration switch.