



The 6R 1500 six-cylinder diesel engine is one of seven new models that MTU will launch in 2014 for Tier 4 final compliance. The engines below 750 hp will be based on the new generation of Mercedes-Benz truck engines specifically engineered by MTU for off-highway applications. Depending on power output, the engines will feature exhaust gas recirculation (EGR), selective catalytic reduction (SCR) and a diesel particulate filter (DPF).

STAYING A STEP AHEAD

MTU showcases its Tier 4 final emissions strategy at Bauma, unveils first new Series 1500 and 1600 diesels

BY ROBERTA PRANDI

Over the last year or so, nearly every major engine manufacturer has detailed its Tier 4 interim/Stage 3b engine emissions strategy. Yet when the subject turned to Tier 4 final/EU Stage 4, things tended to become a lot more nebulous, with hints, suggestions and possibilities replacing definitive statements.

But at least one manufacturer — MTU — was anything but tentative at the recent Bauma 2010 exhibition in Munich, Germany. There, the Tognum Group subsidiary unveiled two engines designed to meet Tier 4 final/EU Stage 4 engine emissions standards.

Mike Brezonick contributed to this report.

“While other manufacturers are showing their Stage 3b engines, we are already displaying two engines compliant with Stage 4 and Tier 4 final and announcing our complete strategy with seven new engines,” said Rainer Breidenbach, Tognum’s COO, with responsibility for the Engines business unit. “We are already in a position to show our customers our solutions for 2014 and those solutions not only meet the targets, they do it on less fuel.

“That is a clear token of our commitment to our C&I business, and for our customers it confirms our status as a solid and reliable business partner.”

The fact that MTU has taken such a bold position should come as no sur-

prise. As far back as ConExpo in 2008, MTU separated itself from most of the global engine community by embracing selective catalytic reduction (SCR) as its emissions reduction technology for Tier 4 interim engines below 750 hp. The more recent announcement at Bauma that the Series 400, 500 and 900 diesels would all use SCR was little more than a reaffirmation of that position.

The primary benefit of its strategy, MTU said, was that no DPF is required since particulate formation is minimized in-cylinder. This combustion strategy results in higher levels of NO_x formation because of the higher cylinder temperatures brought about by a more complete fuel burn. But NO_x is eliminated by the SCR aftertreatment, with the primary beneficial byproduct being improved fuel economy.

The Series 400, 500 and 900 engines are part of an ongoing cooperation between Mercedes-Benz and MTU through which Mercedes supplies commercial vehicle engines that are adapted to industrial applications by MTU. Gerhard Kramer, director of MTU’s application center industrial, said this program has allowed MTU to leverage Mercedes-Benz’s experience with SCR systems in on-highway vehicles.

“SCR has been tried and tested hundreds of thousands of times with Mercedes trucks,” said Kramer. “For the construction and industrial applications, we combined the SCR catalytic converter and silencer into a single component.”

At Bauma, MTU also announced its continued engine cooperation with Mercedes-Benz, in the form of a new range of diesels that will debut in 2014. The five new Tier 4 engines below the Series 1600 will be designated as the 4R 1000, 6R 1000, 6R 1100, 6R 1300 and 6R 1500. The new engines are based on the coming generation of commercial vehicle engines from Mercedes-Benz and will be designed by MTU specifically to match the C&I profile, the company said.



MTU's Series 1600 engines in 10 V and 12 V configurations for construction, industrial and mining applications are rated from 750 to 979 hp and meet EPA Tier 4 requirements using EGR alone, MTU said. These configurations will be available beginning in 2014.

The Series 1000 to 1500 engines will meet EPA Tier 4 final and EPA Stage 4 emissions standards using EGR, DPFs and SCR. The new engine series will succeed the existing Series 400, 500 and 900 engines, MTU said.

For EU Stage 3b and EPA Tier 4 interim standards in 2011, MTU will supply engines up to 750 hp with an integrated SCR unit. This technology

was selected in cooperation with major customers and allows OEMs to convert their vehicles and equipment for 2011 emissions targets with the least possible outlay, the company said.

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"Some interesting technical features have been used to contribute to reaching the threshold of Tier 4 requirements," Kramer added. "The injection pressure is increased up to 36,000 psi, and we are using a two-stage turbocharger with intermediate cooling — a liquid-to-air charge cooling system. Also, the units have an EGR cooler on each bench.

"We also considered the maintenance aspect, ensuring that the units are easy to service and maintain. Thus, for example, the access to the oil filters is from the top, using standard tools, and is environmentally friendly as it avoids oil spills." **dp**

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