

# Sommer Konkurrenz von DC....

Beitrag von „Thanandon“ vom 3. Januar 2005 um 22:15

Hier ein paar Infos zum neuen V6 Motor. Leider nur in English gefunden:

=====

New V6 diesel engine by Mercedes-Benz

Mercedes-Benz is presenting a new V6 diesel engine which will replace the previous in-line five and six-cylinder engines from spring 2005. With an output of 165 kW/224 hp and a maximum torque of 510 Newton metres, the Mercedes six-cylinder is one of the most powerful units in its class. Thanks to the latest technology, the exhaust emissions meet the stringent EU4 limits; in addition Mercedes-Benz equips the V6 engine with a particulate filter as standard in Germany.

The concept of diesel driving pleasure achieves a new quality with the new CDI engine. As the successor to the five and six-cylinder in-line engines it offers an increase in output and torque of up to 38 percent, ensuring faster acceleration, brisk intermediate sprints and a higher top speed. The maximum torque of 510 Newton metres is already available from 1600 rpm, and remains constant up to 2800 rpm. Accordingly the new V6 has torque characteristics which are unsurpassed in this displacement class. In combination with the unique 7GTRONIC seven-speed automatic transmission, this ensures the best possible exploitation of the remarkable output and torque potential in any driving situation.

Despite a significantly higher output, the fuel consumption remains at the exemplary level of the previous five and six-cylinder diesel engines.

The choice of materials, design, fuel injection and engine management system reflect the state of the art. As a world first for a diesel engine in this displacement and output class, Mercedes-Benz has developed an aluminium crankcase with cast-in grey iron cylinder liners for this unit which makes a major contribution to weight reduction. As a result, the new V6 weighs a total of only approx. 208 kilograms (acc. to DIN) and is therefore only very slightly heavier than the previous five-cylinder engine. The power-to-weight ratio has increased by more than 20 percent to 0.79 kW/kg – a major contribution to the outstanding diesel agility offered by the new engine.

The engine block, components and ancillary units form a very compact entity, which means that in future the new V6 will also be installed in Mercedes model series and 4MATIC variants where no six-cylinder diesel engine was previously offered.

Fuel injection at 1600 bar and innovative piezo injectors

Mercedes engineers have refined the common-rail direct injection system, achieving further progress in fuel consumption, exhaust emissions and combustion noise with this third-generation technology. Newly developed piezo injectors operate much more rapidly and

precisely than the previous solenoid valves, and ensure a particularly finely metered fuel supply to the cylinders. This allows the fuel injection to be even more precisely adjusted to the current load and engine speed, and now makes five injections per power stroke possible at a peak pressure of up to 1600 bar.

Electrically controlled intake port shut-off modifies the turbulence of the intake air as it enters the cylinders, optimising the combustion process with the aim of further reducing the fuel consumption and exhaust emissions.

The likewise new electronic control unit manages all the engine functions - from the quick-start glow system and automatic start function to control of the highpressure pump. The VNT turbocharger (Variable Nozzle Turbine) with electrically adjustable turbine blades, exhaust gas recirculation with a control valve and intake air throttling are regulated as the situation requires on the basis of measured data. In addition the microprocessor exchanges data with the sevenspeed automatic transmission and the Electronic Stability Program.

Exhaust emissions at EU4 level, particulate filter as standard in Germany

Thanks to this precise engine management system, the nitrogen oxide and particulate emissions of the V6 engine are within the strict limits of the EU4 standard. Two oxidising catalytic converters are responsible for conversion of the carbon monoxide and hydrocarbons: a light-off converter located near the engine and a main converter in an underfloor location.

To reduce soot emissions even further, Mercedes-Benz offers a maintenance-free particulate filter system which is standard equipment for the V6 engine in Germany, Austria, Switzerland and the Netherlands. The filter is purged without the use of additives by selective adjustment of different engine functions. Depending on the operating parameters and filter condition, the variable thirdgeneration common-rail technology allows up to two precisely coordinated postinjections with the aim of specifically increasing the exhaust temperature. This means that the particulates trapped in the filter are burned off in a controlled manner.

New V6 engine continues the great diesel tradition of the Mercedes-Benz brand

- \* Successor to the previous in-line engines with five and six cylinders
- \* Output increased by up to 38 percent with exemplary fuel economy
- \* Best torque characteristics in this displacement class
- \* Third-generation common-rail injection with piezo injectors

When the world's first car diesel engine was successfully tested exactly 70 years ago, in November 1934 at the Gaggenau plant of Daimler-Motoren-Gesellschaft and when the Mercedes-Benz 260 D celebrated its world premiere in February 1936, only very few can have imagined the importance this drive technology would also achieve for passenger cars.

The diesel pioneer Mercedes-Benz resolutely continued to refine and improve diesel technology. Highlights in this process include the first car turbodiesel engine in the Mercedes-Benz 300 SD (1977), the first diesel saloon with particulate filter in the US state of California

(1985), the world premiere of fourvalve technology (1997), common-rail direct injection (1997), the most powerful car diesel engine in the S 400 CDI (2000) and the maintenance-free diesel particulate filter (2003), which is now available in 20 Mercedes models.

Mercedes-Benz is continuing this tradition-laden success story in spring 2005: after a development and testing period of approx. 40 months a new CDI sixcylinder unit is entering series production, combining all the current and trailblazing technologies in diesel engine development -- from the mechanical system and thermal/flow dynamics to the electronic engine management and emissions control. This guarantees outstanding results in terms of output and torque characteristics, economy, exhaust emissions and refinement.

As a further special feature, the new V6 CDI is the first and only diesel power unit to be available in combination with a seven-speed automatic transmission – an advantage which heralds further benefits with respect to agility and fuel consumption.

The most important features of the new Mercedes diesel engine in brief:

- \* Six cylinders in a V-arrangement
- \* Aluminium crankcase with cast-in grey iron cylinder liners
- \* Third-generation common-rail injection with piezo injectors
- \* Four-valve technology with two camshafts per cylinder bank
- \* Turbocharger with electrically adjustable turbine
- \* Peak combustion pressure of up to 180 bar
- \* Exhaust gas recirculation with electrically controlled valve
- \* Electrically controlled intake air throttling
- \* Swirl control by electrically controlled intake port shut-off
- \* Quick-start glow system

[Quelle](#)