

Mercedes-Benz Vario: enhanced technology and equipment

- Powerful, economical engines meeting the Euro 4 emissions standard
- Choice of six-speed manual or five-speed automatic transmission
- New colours and materials for cab

{mosgoogle rifgt} Stuttgart, Apr 25, 2006 The latest generation of the Mercedes-Benz Vario takes to the road having had both its technology and its equipment upgraded. At the heart of the advances made to this robust and versatile high-capacity van with a gross vehicle weight of between 6.0 and 7.5 tonnes are engines which fulfil the Euro 4 exhaust emissions standard, as well as new transmissions. These are complemented by a more sophisticated cab interior and new tipper bodies.

BlueTec for Euro 4: cleaner emissions, lower consumption

Clean-running BlueTec engines featuring SCR (Selective Catalytic Reduction) technology to meet Euro 4 emissions standards mark out the new generation of the Mercedes-Benz Vario. The first powerplants to showcase this new emission-control technology were unveiled by Mercedes-Benz two years ago at the IAA Commercial Vehicle Show. They were subsequently successfully introduced in each of the heavy-duty and medium-duty commercial vehicle model series in turn, starting with the heavy-duty, long-distance haulage Actros trucks.

Low-particulate combustion, reduced consumption

Extensive redevelopment of the Mercedes-Benz diesel engines has also played a key role in the advent of BlueTec technology and the excellent fuel economy it promises. The priority here was a further reduction in untreated emissions, with the emphasis clearly placed on achieving a combustion process that produces as little particulate matter as possible whilst also reducing fuel consumption compared to other methods. The familiar high standards of reliability and durability have not been compromised in any way.

Innovative and economical technology

The new BlueTec diesel technology from DaimlerChrysler is essentially based on re-engineered engines as well as aftertreatment of the exhaust gases. The highly efficient combustion process keeps emissions so low that levels of soot and fine particulate matter are no higher than those normally measured in exhaust gases that have already been filtered. This removes the need for fitting a particulate filter downstream. Using the integral exhaust gas aftertreatment facility based on the SCR operating principle, the aqueous reducing agent AdBlue is then added to selectively convert the nitrogen oxides into harmless nitrogen and water vapour in a catalytic converter. Controlled by the engine's electronics, AdBlue from a separate tank is injected into the hot stream of exhaust gas in carefully metered quantities, where it hydrolyses to form ammonia. It is the ammonia that triggers the desired chemical reaction. Not only does this method ensure compliance with the Euro 4 limits, it also paves the way for meeting the Euro 5 limits which are due to come into force in 2008/2009, giving it a guaranteed future.

Supply of AdBlue ensured

An infrastructure for making AdBlue available at public filling stations is currently being set up across Europe. An adequate supply of AdBlue is guaranteed by the petroleum and chemical industries. It is already easily obtainable at works filling stations or special AdBlue filling stations. The vehicle is refilled with AdBlue via a second filler neck which is immediately adjacent to the fuel filler neck. While the driver is refuelling with diesel, AdBlue is pumped into the SCR tank through a second nozzle without any loss of time. Consumption of AdBlue in the new Euro 4 engines with BlueTec diesel technology is equivalent to 4 % of diesel consumption. The AdBlue reservoir is located underneath the bonnet where it is easily accessible. Its capacity of 18 litres ensures that the AdBlue only requires topping up on approximately every third visit to the filling station to refuel with diesel. AdBlue is currently available at around 1500 service points throughout Europe, thereby ensuring its supply (www.findadblue.com).

And this is how the SCR system works: an aqueous urea solution (trade name AdBlue) is injected into the stream of exhaust gas from the engine. In the oxidising catalytic converter which is located downstream, the nitrogen oxides are broken down into harmless components found naturally in the air - water vapour and nitrogen. The beneficial side effect of the SCR technology is that engine combustion can be made even more efficient, resulting in a significant reduction in fuel consumption and drastically cutting particulate emissions even further. Not only do the BlueTec engines undercut all of the Euro 4 emissions limits which come into effect from October 2006, they also run even more economically than previously. And Mercedes-Benz is not restricting its use of SCR technology to the heavy-duty and medium-duty commercial vehicle model series: the presentation of an S-Class with an emission-control system based on this very same technology serves to underline its tremendous potential.

Powerful and economical engines

The Vario continues to be driven by powerful, flexible four-cylinder turbodiesel engines taken from the OM 904 LA series. The state-of-the-art powerplants with a capacity of 4.25 litres feature fully electronic engine management, three valves per cylinder and pump-line-nozzle injection technology with dedicated unit pumps for each cylinder. The new output and maximum torque data for the BlueTec generation of engines fitted in the Vario are as follows:

- 95 kW (129 hp) at 2200 rpm, 500 Nm at 1200-1600 rpm,
- 115 kW (156 hp) at 2200 rpm, 610 Nm at 1200-1600 rpm,
- 130 kW (177 hp) at 2200 rpm, 675 Nm at 1200-1600 rpm.

Extra gears for manual and automatic transmissions

Changes have also been made to the power transmission in the Vario. Whereas the engine's two lower output variants were previously partnered by a five-speed manual transmission as standard, all of the Vario models now come with a six-speed manual transmission as part of the standard specification. Even greater comfort is available by opting for the new five-speed automatic transmission with lockup clutch (previously four-speed), which is now available in conjunction with all output ratings. The close ratio spacing in both of the new Vario transmissions results in superior tractive power and greater economy.

New colours and fabrics inside the cab

The latest generation of the Vario sports a new cab design that is more attractive than ever. The new elegant door trim with integrated stowage pocket immediately stands out, as do the restyled wheel arch covers. The instrument panel with its new two-tone black and grey finish is just as eye-catching. Also new are the interior trims, the roof liner as well as the upholstery fabrics.

The Mercedes-Benz Vario continues to excel at what it has always done best: it is exceedingly robust and dependable, it has a high payload and is available in a large number of variants, comprising panel van, chassis with cab, pickup, tipper and crewcab. Last but not least, the Vario boasts a cab which is both very spacious and extremely practically equipped.