

4WD BUYERS GUIDE

MERCEDES-BENZ M-CLASS

MEDIUM WAGON

The M-Class, fitted with the optional off-road package that includes height-adjustable air suspension and low-range gearing, is very useful on and off road. The diesel V6 is a knockout and couples to a seven-speed auto.



This Mercedes-Benz three-litre six-potter - the world's first all-aluminium-casting V6 diesel - powers the pre-2011 Jeep Grand Cherokee CRDV6 and the Mercedes-Benz ML300 CDI and ML350 CDI models. The move to the V6 followed the successful sharing these then-Daimler-Chrysler companies had with the now-superseded, five-cylinder 2.7-litre CDI that powered the previous ML270.

The three-litre V6 diesel has an aluminium block with cast-in, grey-iron cylinder liners. Aluminium is also used for the cylinder heads, cylinder head covers, pistons, coolant pump, sump and charge pressure distributor. Components in the fresh and charge air ducting systems, silencer and engine shrouding are plastic.

The claimed weight of the new engine is almost the same as that of the outgoing five-cylinder unit and gives the V6 engine a power to weight ratio of 0.8kW/kg.

The 24 intake and exhaust valves are operated by a chain-driven overhead camshaft on each cylinder bank, via roller rocker arms with hydraulic valve clearance. The same chain drives the balance shaft and the high-pressure pump for the fuel injection system. A separate roller chain is used to drive the oil pump.

The V6 features exhaust gas recirculation, third-generation common-rail direct injection, piezo injectors, a variable-nozzle turbocharger and an intercooler. It delivers claimed outputs of 140kW and 440Nm in the ML300 CDI and 165kW and 510Nm in the ML350 CDI. Buyer confusion is caused by the petrol V6 model's designation as ML350. The petrol engine has outputs of 200kW and 350Nm, while the range-topping petrol V8 ML500 has 285kW and 530Nm. For those who just can't have enough grunt the AMG V8 puts out 375kW and 630Nm!

One of the best features of the ML is its 7G-TRONIC transmission. All our testers loved the almost-seamless shift quality of the box, but all detested the DIRECT SELECT control lever. A selector stalk on the steering column replaces the conventional automatic selector lever in the centre console. It's slower to use than a central-tunnel lever and is easily mistaken for an indicator stalk by drivers accustomed to right-side blinker wands: a right-turn indicator action on the 'Benz lever sends the transmission into neutral.

That was tricky enough, but buttons behind the steering-wheel spokes perform manual shifts, unless you happen to be turning the wheel at the time and your fingers can't reach the buttons! If 'Benz had to use that shift method why didn't the designers put in gearshift 'paddles' that stay in the quarter-to-three position on the column? A very nice transmission spoiled by complicated controls.

The Mercedes-Benz AIRMATIC air suspension we evaluated was part of the optional Off-Road Pro engineering package that includes a 2.93:1 low range gear set in the transfer case, electronically lockable front, centre and rear differentials, with manually lockable centre and rear override, and underbody protection.

AIRMATIC enables the vehicle level to be raised in three stages, by 30, 80 and 110mm. It works with an adaptive damping system (ADS) that controls damper response, via solenoid valves in the shock absorbers.



A so-called 'skyhook' algorithm controls the damping forces at each wheel, so that, for example, the two front wheels can be damped more heavily than the rear wheels to reduce 'dive' when braking. The driving conditions are worked out by the suspension electronic control unit, with inputs from a steering angle sensor, three body-mounted acceleration sensors, the speedometer, the electronic stability program (ESP) and the brake pedal switch. The ECU calculates the most appropriate damping forces and dials up one of four bump and rebound settings in the shock absorbers. There are also two shocker control buttons, allowing the driver to select damper forces and air spring rates manually.

Although the ML300 could be raised to a ground clearance level that let it follow a Range Rover Sport off road, the 'Benz never felt at home in difficult off-road terrain. The air springs rode very harshly on the highest setting, giving the vehicle a rough ride and making the traction control and hill descent systems work overtime.

Previous Models

A well-serviced five-cylinder ML270 makes a good used purchase.

Bush Modifications

There are not many after-market bits for the current model M-Class, but the previous ML270 can benefit from a suspension height increase.



MERCEDES-BENZ GL MEDIUM WAGON

The same dynamics as the ML, but in a bigger package, the GL will suit the well heeled who need heaps of interior space and every electronic gadget.

Previous Models

Probably the Grosser sedan.

Bush Modifications

You wouldn't, would you?



**"New HELLA LUMINATOR
LED driving lights.
Brilliant!"**

