

The Logical choice



Regular readers will no doubt have spotted editorial pieces we have run in the past on Diagnos's Autologic diagnostic tools, indeed, last month we ran a news item on how Diagnos had been named the Best Automotive Solutions provider by the Institute of Transport Management for an unprecedented fourth consecutive year. For those not au fait with Autologic, it's an excellent piece of kit that's been designed to replicate the functionality of the tools used by BMW dealers. It enables independent specialists to provide comprehensive BMW diagnostic skills without having to rely on the services of franchised dealers. Diagnos's boffins write all the software for Autologic and it covers just about any BMW (and MINI) you'd care to mention from the E32 onwards.

So, without a doubt it's invaluable for the specialists that you entrust your car to, but why should it be of more interest to you? Well, Diagnos is now offering performance upgrades for BMWs via its Autologic box of tricks, and the gains that can be made are pretty impressive, especially on the diesel models. We went

to the company's Oxfordshire HQ to see what's involved in an Autologic remap on an E60 535d M Sport.

In order to really gauge the difference that the upgrade can make, we drove Diagnos's 535d in its standard tune first and then returned to HQ to see what was involved in the upgrade. On the first driving leg the 535d impressed with its refinement, speed and economy – if you've not driven one of these for a while it's easy to forget just what an accomplished piece of kit it is.

Seeing the performance tune carried out on the 535d is actually rather underwhelming for the simple reason that there's very little to see! As all Diagnos's Autologic BMW upgrades are done through the OBD diagnostic port, there's no removal of the ECU or anything like that required – simply plug the Autologic box of tricks into the port, attach a battery charger to

ensure that the car maintains a steady current supply during the performance upgrade and then it's a relatively straightforward matter of following the instructions on the Autologic's large touch-screen.

Prior to the performance upgrade being installed, a diagnostic report on the vehicle's systems is required, as if there are any problems with the car (like a coil that's past its best, for example) it will adversely affect the performance upgrade. The next stage is to read



the software that's fitted to the vehicle, as within each model line-up there are differences which will dictate which performance upgrade will be uploaded. The BMW specialist that will be carrying out your car's upgrade will read the software and contact Diagnos via its website and then Diagnos will upload the correct version of the software for your car. In the unlikely event that it doesn't have a program for the specific car, it will write one and upload it to its site within 24 hours. Naturally enough, Diagnos knew exactly which software was on its own demonstrator and once the vehicle has been given a clean bill of health the software was uploaded to the car.

Once this has been done the fault memory has to be checked and cleared once again, as during the upgrade process the car's other control units will not be able to communicate with the ECU, meaning that faults will be stored in the system.

The tuning process itself takes a matter of minutes and once the 535d's unplugged, I'm keen to take it out for another drive to see how obvious the changes are. It takes a scant few yards to feel the extra grunt available, particularly in the mid-range, and hammering down a short stretch of dual carriageway on the way to joining the M40 sees some ridiculous speeds being achieved without even burying the throttle deep into

the carpet. Specific gains for this 535d are an extra 48bhp at 3750rpm and an additional 67lb ft of torque, again at 3750rpm. However, the raw figures don't really tell the full story, but have a look at the torque gains through the rev range and you can see that the Autologic-tuned car beats the standard example's maximum output at just 2500rpm and from there the torque mountain just keeps building.

Following the same test route in the tuned car as I did when it was in standard tune is pretty revealing – keep the engine in the 2000-4000rpm band and it is incredibly potent, and the only downside is that if you press too hard on the throttle the gearbox wants to kick down rather than just riding the wave of torque. That applies equally to the standard car though, and Autologic's Engineering Project Manager, Andrew Betteley, who's sitting beside me, and I, both wonder how the car would be with a six-speed manual instead of the auto.

There's one particular section of the test-drive which really shows the mid-range improvement, and that's a long climb up the edge of the Chiltern hills. The standard machine isn't exactly lacking, but in the post-tune version it positively romps up the slope as if it wasn't there with the DSC light flickering every now and then demonstrating just how much grunt the rear

wheels are having to deal with. Which is about the only downside to upgrading a 535d – the rear wheels really do struggle to put down 441lb ft of torque!

Autologic upgrades are available for just about any BMW, petrol or diesel, but it's with the derv-burners that the best gains can be made. Petrol outputs are less impressive figures-wise, but Andrew reckons that Autologic performance upgrades on petrol models are still worth it as they can smooth out dips and troughs in the power and torque curves to significantly improve drivability. While power and torque gains are very welcome whatever you drive, like most performance software upgrades you get a win-win situation in that economy improves too, and this was borne out in our 535d drive which returned 32.8mpg in untuned form and 34.0 once it had been upgraded.

If you'd like to find your nearest specialist who can carry out an Autologic upgrade on your car you can get in touch with Diagnos, who can let you know who to call ●

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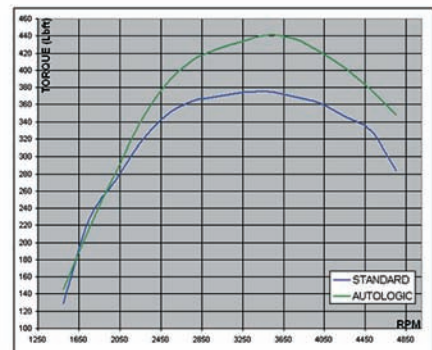
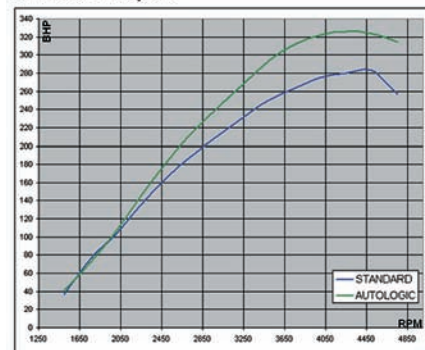
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AUTOLOGIC PERFORMANCE TUNE

BMW 535d M Sport



Autologic attaches simply via the diagnostic port – the ECU doesn't need to be physically removed. Graphs show big gains – power on the left and torque on the right