



The market for tuning devices for the Volkswagen and Audi TDI engines has really taken off in the UK. Several years ago, remapping the ECU was the only way to achieve significant power increases, but more recently the idea of a separate module inserted into the wiring loom between the ECU and the injection pump, has caught on in a big way.

Not only are substantial power increases achieved, through modulation of the fuel pressure and injection timing, but these kits are an easy installation, often taking little more than 20 minutes in the workshop and well within the scope of the average DIY enthusiast.

More importantly, the device can just as easily be removed, either temporarily or permanently, whenever the owner sees fit. The implications in terms of servicing schedules and warranties are obvious, and the device can also be easily transferred from car to car with the same engine.

The latest device to appear on the market, comes from the tuning company Tunit, and is one of the neatest and most discreet applications yet. About the size of a cigarette packet, the Tunit module simply plugs into the supply socket for the fuel

Beetle boost

A new adjustable, TDI tuning device provides an impressive increase in performance ...

pump, in-line with the existing eight or ten-pole plug connector for the wiring harness. A single black power supply wire is connected to a live ignition source, usually the solenoid switch at the injection pump.

While gaining access in some installations is awkward, the fitting procedure itself is straightforward, requiring only a simple adjustment and subsequent road-testing to achieve the desired

power increase. The special feature of the Tunit module is that the potentiometer is externally adjustable, via a small screw in the side of the unit. You can literally adjust the amount of power increase by turning the screw, although normal procedure is to turn the screw until the idle speed falters, indicating overfuelling, then adjust it back a turn, for maximum power.

Above: Beetle TDI has been boosted to 123bhp by a simple bolt-on



The Tunit V-VP for the 90bhp TDI engine is extremely compact and neat

to Volkswagen enthusiast Graham Pearce, from Lincolnshire, who only recently acquired the car as a private import.

Graham is already the owner of a classic Beetle Cabriolet and a Mk 2 Golf GTI, and the new Beetle appealed to him because of the style, but having test-driven several petrol-engined examples he was unhappy about the high fuel consumption. The combination of economical 90bhp TDI engine and the fashionable New Beetle seemed perfect, but the only downside – particularly compared to the GTI – was its rather leisurely performance. An instant upgrade, courtesy of the Tunit module, was the ideal solution.

‘It sounds easy enough to fit, but does it work?’

Fitting and adjustment takes just 20 minutes

We met up with Graham at the premises of Bromleys Tuning, in Chorley Lancashire. After removing the engine coverplate, the Tunit unit was fitted in a matter of minutes by technician Eric Cann. Literally, all that is required is to plug it in, connect the feed wire and tweak the adjustment screw. The engine started cleanly and ticked over as smoothly as before, but as Graham drove to the rolling road at the nearby Bosch service centre, Weldbank Garage it was obvious that the difference in response could already be felt.

Below: Installed on the engine, the Tunit is very discrete, even more so if the ignition feed wire is trimmed to length



The fitting instructions also note that, on cars manufactured after June 1997, the ECU has a function which checks the maximum additional power of the engine. If this point is exceeded, the glow plug indicator will light up. A simple procedure of readjustment will overcome this.

It sounds easy enough to fit, but does it work? To find out, we arranged an installation on a 90bhp TDI engine. The subject of the test was rather unusual, though, because the new Beetle TDI is a model not yet imported. This example belongs



OWNERS IMPRESSIONS

'Before fitting the Tunit module, the Beetle required too many gear changes to keep the power up; there was no power low down in the rev range, there were flat spots at various points on the power curve, and performance was generally not as good as I had expected from my first diesel daily-driver. Fuel economy was very good though – around 52 mpg.

Now it is a completely different car altogether, more power low down and it will pull away in top gear from 30 mph, feeling strong right away. Acceleration is incredible, when using the gearbox to its maximum and there are no flat spots.

The transformation is unbelievable, it has made the Beetle into a very fast car, and the mpg is now starting to improve as I get used to the different driving technique. It must be the easiest way to get extra bhp (in this case, an additional 23bhp) and the magic box takes only 20 minutes to fit and dial in.'



The rolling road measures power at the wheels and then records transmission losses on the overrun, before computing a figure for power at the flywheel.

The maximum figure, 123.8bhp at 82.7 mph, was impressive, well in excess of our expectations and also more than the figure claimed by Bromleys for this device, so we decided to do a baseline check. With the Tunit device disconnected, we ran the car on the rolling road again, recording a standard figure of 101.0bhp at 82.8 mph. This is above the 90bhp claimed for the 1.9 litre TDI engine, but not totally unusual for a TDI engine which has been well run in. Nevertheless, it qualifies the improvement still greater than a 20 per cent improvement in maximum power.

A subsequent extended road test also showed that the car was much more enjoyable to drive. Graham had previously reported a few flat spots, but it was now pulling strongly throughout the rev-range and there was no sign

of the smoking or the uneven idle sometimes incurred with modified diesel engines.

A Tunit unit is available to fit virtually all the current Volkswagen and Audi diesel engines. For example, the V-PD unit is claimed to increase the power of the three-cylinder 1.4 TDI from 75 to 90bhp; the 115bhp TDI PD to 136, the 130bhp TDI PD to 155 and the 150bhp V6 TDI to 180, although greater gains have already been found in many individual cases.

There are also plans afoot for similar devices for the petrol-engined cars.

Rolling-road tests showed improvement in power from 100 to 123bhp

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