



BMW – ONE FOR THE ROAD

How much does a horsepower cost? It depends on where you might choose to get it from! In a Ford Mondeo it will cost you around £750 to upgrade from a 113bhp TDCi 115 to a 128bhp TDCi 130 – or around £30 per horsepower, or in a Saab 9-3 TiD exactly £1,000 for a 30bhp upgrade from 120bhp to 150bhp. Shop elsewhere for extra performance alone – trim variations excluded – and it might cost you anything from around £20 to £60 for each added horsepower.

But you would expect a premium product to cost a premium price and maybe the exquisite quality of the added 41bhp of a 163bhp BMW 1-Series 120d over the 122bhp 118d accounts for the somewhat elevated £1,500 that it costs. That is, if you can get your hands on one at all before 2005! Lucky (and astute) David Willis from West Yorkshire was determined to get his hands on a diesel 1-Series and leaned heavily on his previous history of spending money at his local BMW dealer to persuade them to part with their pristine 118d demonstrator. There was no immediate prospect of a 120d and, anyway, he had been well impressed on a test run with the performance of the 122bhp car –

“They also employed a huge cooling fan to replicate road conditions by providing an adequate cooling blast for the intercooler, after which the engine finally clocked 158bhp of power and 258 lb ft of torque. That near enough matched the factory figures for the top-of-the range 120d.”

even after previous ownership of a 330d tuned to well over 200bhp and with a Boxster already in his garage!

But with barely 25 miles behind the wheel, David crossed the Pennine “border” and headed straight for Tunit’s HQ at Chorley in Lancashire to see what extra urge they could coax from the almost turbine-smooth 2litre BMW four-cylinder engine. First job at Tunit was to establish the baseline with a few runs on the rolling-road dynamometer, which reported that the motor was producing a

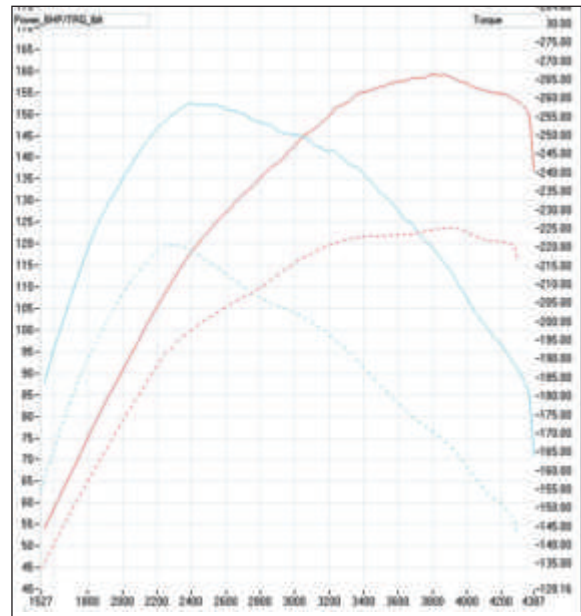
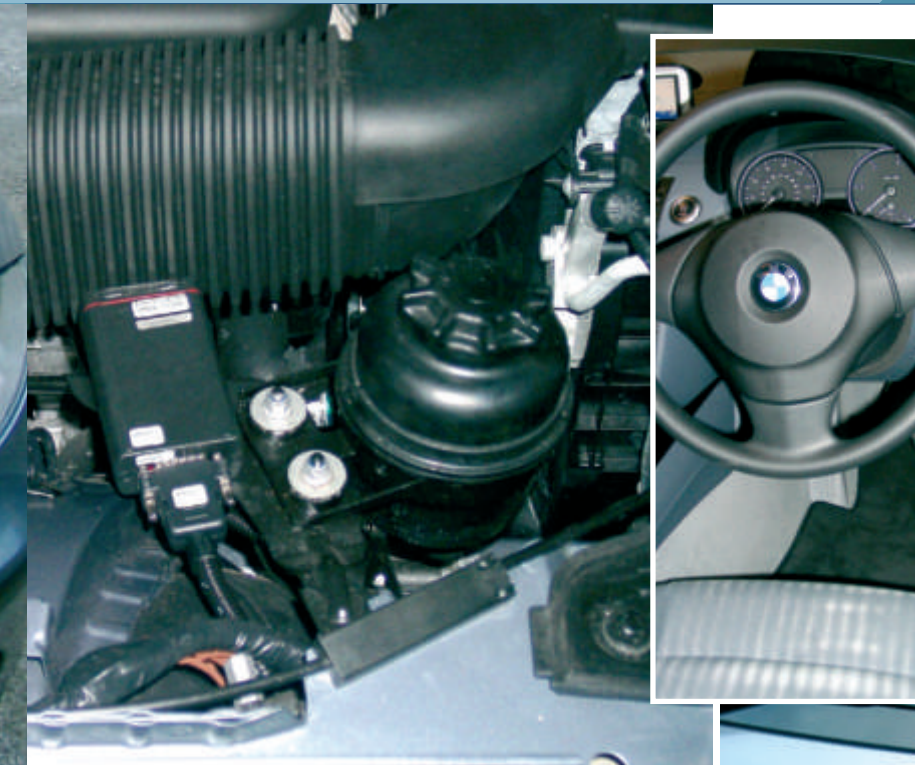
fairly healthy 120bhp and 225 lb ft of torque – pretty much in line with the factory figures, if a touch down on power, but well up on torque. Not bad at all!

AND... THEY'RE OFF!

Installation of the Tunit ‘magic box’ and wiring harness took a matter of mere minutes – truly a DIY plug-in job – and an early test run produced a promising figure of 148.5bhp. Drawing on their considerable experience, the Tunit technical boys then progressively



BMW engines respond well – an extra 30bhp was achieved in minutes!



Above: 158bhp puts the 118d engine level with the 120d – for £475!

adjusted a number of parameters in the ECU's fuel injection programming. They also employed a huge cooling fan to replicate road conditions by providing an adequate cooling blast for the intercooler, after which the engine finally clocked 158bhp of power and 258 lb ft of torque. That near enough matched (down 5bhp but up 7-lb ft) the factory figures for the top-of-the range 120d. We might just add that this outscores the 2litre petrol 120's engine by 8bhp – and a massive 100 lb ft odd of torque!

We'll come back again to the cost factors later – as first impressions on the part of the owner were of primary importance. Well 4.30pm on a weekday was hardly the best time to evaluate performance, when the school run was still in action and early finishers were anxiously heading for home – but why are they all doing only 35mph? Even in such road conditions David was immediately taken with the silky-smooth power delivery and added potency of the elegant little BMW which, he said, now reminded him somewhat of his old 330d! Yes, the 2litre BMW engine is certainly a fine piece of engineering – but for its owner to liken its smoothness after the Tunit treatment to a "six" was flattery indeed! It's by no means the first time that owners have remarked on the added refinement after a Tunit conversion. In fact it's testament to the fact that well-developed electronic tuning represents a whole different world from past times, when tuned engines behaved like absolute beasts in traffic and often refused to fire evenly on anything but full throttle! So David was more than satisfied after just a short run and was looking forward eagerly to a longer spin out in the hills that evening to sample it

to the full – and there was no chance that he was going to come back with anything but a wide grin on his face!

So back to the pounds, shillings, and sense! David drove away with another 38bhp under his bonnet for just £475 – meaning a cost of well under £15 per horsepower gained. That makes the 120d badge at around £1,000 something of a luxury, and one that David will be well happy to live without. In fact it will probably give a small dose of extra pleasure when he sees a few surprised faces disappearing in his rear view mirror!

THE LAST WORD

Final conclusions? The facts speak for themselves. Factory engines are produced with huge in-built strength reserves and these are particularly large in this BMW 118d, and many models from other manufacturers, where the



The BMW 1 easily handles the extra power.



The 118d will surprise many a 120d driver, leaving many looking at its pert bottom.

“Installation of the Tunit “magic box” and wiring harness took a matter of mere minutes – truly a DIY plug-in job – and an early test run produced a promising figure of 148.5bhp.”

engine is the lower power option of two otherwise similar, or often identical, engines in a model range. An experienced and reputable electronic tuning company like Tunit can release this untapped potential in the engine at a modest cost whilst maintaining every confidence in its continued reliability. Their long hands-on experience is an assurance of a well-researched and professional conversion that can add enormously to your driving enjoyment and, as owners regularly testify, even the bonus of improved economy.



Details of this and a huge range of similar conversions for most diesels can be found at www.tunit.co.uk or a call to 01257 274100 or any Tunit distributor will reach an experienced technical sales person who will be pleased to describe the full features and benefits of Tunit conversions and answer any of your questions.