



UP IN SMOKE!

by Tunit

Tunit® the tuning people run comparison fuel tests on three popular tuned cars, with the newest premium fuel against lower-cost formulations.....

Rarely do we have the opportunity to see three tuned cars in action in just one day. But this was no normal day – it was one of the nastiest days weather-wise that even Lancashire can offer, which left not even the slimmest opportunity to road test the cars in question due to dense fog and driving rain – or even to take any pretty pictures framed with blue skies, puffy clouds, and sunshine! But there was plenty of lively action on the Tunit rolling road dynamometer! So read on and follow the gripping story of what happened when the BMW, the Focus, and the Golf all strutted their stuff on the Tunit dynamometer – and then went off to the Filling Station! Tunit, like any engine manufacturer, need to test its products fully to ensure that they work with different conditions and other variables, and that means things like fuel quality – a subject about which there's plenty of discussion and strong opinion. In this case we



were invited along to witness some eye-opening comparison tests using premium and non-premium fuels and to observe the results as effectively independent witnesses. Tunit are very conscious as a company that motoring costs have a high impact on owners and that many potential purchasers have reservations as to whether a Tunit modified car

may gobble fuel when used enthusiastically, or maybe that the engine (like some tuned petrol cars) will be sensitive to fuel quality – and thus be forced to exclusively use more expensive premium quality fuel. Questions that might thus arise regarding any possible effects of fuel quality on power and torque output were to be addressed, and hopefully answered, by





BMW: A tuned 318 really is a sheep in wolf's clothing.

taking comparative dynamometer figures on three tuned cars, in the same conditions, but with two different fuels in their tanks. This was not a day for a ham salad and a can of coke, but a big bowl of Lancashire hot pot and a giant enamel mug of hot, sugary, tea – and the transformation of our three test cars after installing Tunit conversions showed very much the same sort of contrasts. It's no difficult or lengthy job to install a Tunit conversion, available through Tunit distributors nationwide or by mail order from Tunit on a DIY fitting basis, with thousands of satisfied customers.

VW GOLF 2.0 TDI

No wonder – when a standard 138bhp Golf 2.0 GT TDI turns in such impressive post-conversion figures as those that we clocked. Volkswagen is traditionally modest in its power and torque claims, and many standard 2.0 TDI engines return dynamometer figures of over 150bhp.

“Given the Tunit treatment, and again running on the same standard Texaco ULSD, the outputs zoomed, up to 154.2bhp and 266 lb ft.”

But the example in question, with the Tunit at out-of-the-box standard settings, delivered a particularly muscular 188.1bhp and 306.8 lb ft of torque – making for a very swift and satisfying driving machine. These figures were recorded with the Golf running on ordinary Texaco ULSD diesel – a quality brand of fuel, sold at standard price, and with no special claims other than of quick starting, smoke control, reduced engine deposits, and protection from injection system wear. You'll read later what happened when we carefully re-ran these dynamometer tests, but using a different and more exotic juice!

BMW 318d

Next in line on the dynamometer was a pristine 2004 old-model BMW 318d, whose standard specified output figures are 115bhp and 206 lb ft of torque. Given the Tunit treatment, and again running on the same standard Texaco ULSD, the outputs zoomed, up to 154.2bhp and 266 lb ft. Quite remarkable figures that outgun the 150bhp and 243 lb ft of the

equivalent standard 320d, and enough to give one of them a very good run for its money and even offer a pretty interesting option for any 318d owner out there looking for wolf-in-sheep's clothing performance!

FORD FOCUS 1.6 TDCi

Final car of the Tunit tuned trio was a new Focus 1.6 TDCi 108bhp hatchback – an engine that traditionally gives up to 120bhp in standard form. With very little effort from the Tunit technicians – a little tweak or two to the variable settings of the Tunit – it recorded impressive figures of 147.0bhp and 230.1 lb ft – the power exceeding the specified output of the 2.0 TDCi engine! Stirring stuff – particularly since the fuel in the tank was some real economy-grade stuff from a local supermarket's pumps – and you'd have to say that, given these excellent figures, there could be little suggestion that the cheap fuel had displayed any negative effects on this engine's power output!

Now onto the second phase of the exercise:



Ford Focus: A tuned 1.6 TDCi can outgun any standard 2.0-litre Ford diesel lump.



The Golf 2.0TDI engine tunes beautifully.



Tunit had prearranged to run the three test cars virtually dry of fuel and then fill them up with a premium quality diesel, in this case BP's Ultimate ULSD selling for a few pence a litre more than standard branded fuels, and a bigger premium to supermarket diesel. They were looking to see if the cheaper fuels used in the earlier runs were in any way likely to have hindered full development of the tuned engine's power potential, and also whether suggestions that you can feel an 'immediate difference' and get 'improved performance' with premium quality fuels, such as that in question, might actually be confirmed by a quick run on the dynamometer. I was as anxious as Tunit were to see some cold, hard figures, even if there are inevitably some reservations in such tests – for we know that many benefits of premium fuels are claimed by their manufacturers to take some miles to show in full. But were there any immediate and measurable benefits to be seen on these three test cars, as suggested by the words in the advertising?

FUEL QUALITY TEST RESULTS

First up was the Golf, with the best of a number of runs to be compared with the best figure from the first series running on standard fuel. After trying pretty hard to squeeze a smidgen more output from the engine the power still topped out at just 187.5bhp, down 0.6bhp, with the peak torque up a touch at 308 lb ft. Try though they might, the Tunit boys could not match that 188.1bhp figure from the standard fuel tests! Conclusions were reserved for the present, and note was taken of the interesting small lower-rpm torque bonus evident when using the premium BP fuel. Next on the rollers was the BMW, whose 154.2bhp on standard fuel was the yardstick. Guess what? The maximum power that could be coaxed out of the 318d's tuned engine was around 4bhp plus down on the standard fuel target figure, with the peak torque figure marginally down at 260 lb ft. We were a touch unhappy with the traces, and rejected dynamometer figures, on one marginally better

run, but evidence was beginning to build that would suggest that any differences from the fuel change were pretty insignificant.

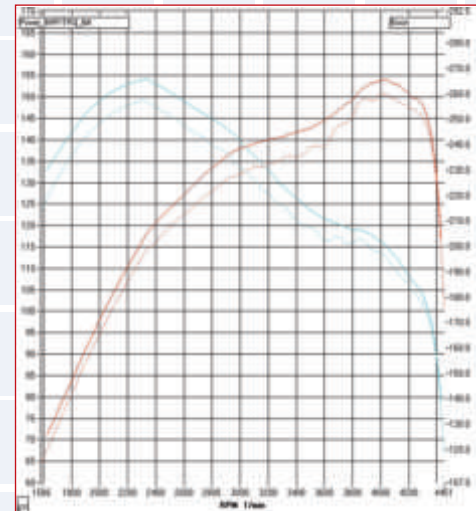
Final car on the dyno was the flying Focus, its highly impressive 147.0bhp the target in this case, and one achieved with some of the cheapest fuel in Britain in its tank. Surely the BP premium stuff would have some impact on the results? Well they tried damned hard again, but the 147.1bhp and 230.3 lb ft best figures showed a negligible gain – and let's make it clear now that the body behind the wheel in the test runs was strictly independent in his views. In fact he possibly leaned towards being a "believer" – as he felt that the Golf (that low-down torque bonus showing?) and the Focus felt a touch livelier on the road with the premium fuels! So much for the seat of pants impressions!

THE RESULTS?

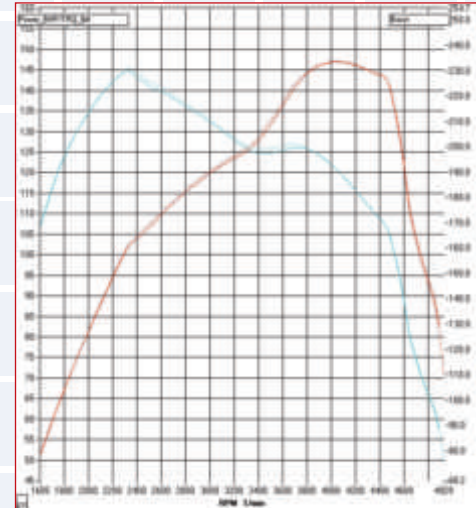
So what might we conclude from these tests, aside from observing the impressive results, whatever the fuel, from the Tunit modified engines? We know that engines can suffer from getting clogged up with combustion deposits, particularly with lots of cold running and short runs. The cars in question were all very briskly driven prior to the tests and, as one might also conclude from the power figures, generally in pretty fine fettle. Could that mean that, whilst measurable benefits may be delivered in dirty, below-par engines, such premium fuels offer insignificant performance benefits in engines in peak condition? That certainly might be one possible conclusion – and one that's a bit of a surprise!

But these tests were obviously unable to evaluate the claimed long-term benefits of premium diesel fuels – superior injection system lubrication, better cold starting, lower emissions, and better fuel economy. On economy, whilst Tunit are also currently looking closely at this, we can only say that owners of Tunit modified cars frequently report solid improvements in fuel consumption of up to ten per cent, irrespective of fuel. So it's a

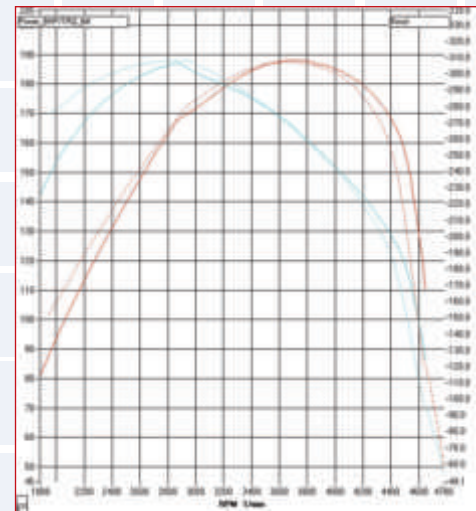
BMW 318D



FORD FOCUS 1.6 TDCi



VW GOLF 2.0 TDI



story with no absolute conclusion – because the tests don't claim to provide all the answers, and we wouldn't argue against those who still choose to buy premium quality fuel on the basis of those longer-term benefits. But we were impressed that Tunit are looking into such subjects and took the time and effort to add to their knowledge, and ours, by undertaking such a series of comprehensive dynamometer tests.