

# Fine tuning to cut fuel costs

Dave King takes up a challenge and gets a pretty good result

**"WE need to cut our motoring costs," my wife told me. "With the increase in the cost of diesel per litre, road tax, insurance and servicing, how can we cut back?" It was echoed by our accountant. Retire to France where fuel is cheaper was the obvious answer.**

But what can be done to cut costs? Leaving aside the obvious, this was a challenge to be taken seriously as the increases apply to all forms of transport like the tractors used on parks, delivery vehicles, as well as motorhomes and cars.

I was despatched to my study to consider the matter in detail. With several long journeys ahead towing a caravan with a Kia Sorento 2.5, I knew I had to come up with a suitable answer fairly pronto to meet the brief set by senior management.

There are many different fuel-saving products and systems available via specialist suppliers, with fuel additives, engine mapping, chipping and external tuning modules/equipment the most common. All these are designed to improve the efficiency of the fuel burn in the combustion chamber.

For example, BCA Leisure uses fuel additives in its delivery vehicles which have increased the miles per gallon. Engine mapping involves reprogramming the manufacturer's electronic control unit (ECU) fitted to the vehicle; chipping is a general term that refers to replacing the eeprom chip in the ECU – and both of these methods may affect the warranty.

An external tuning module is a unit that is fitted between the ECU and the fuel injectors and doesn't usually impact on the vehicle's warranty. Some performance-enhancing products have the potential to cause overheating and excessive wear on the engine if they are incorrectly programmed.

## Retro-fit unit for diesel engines

I researched many products and finally found the Tunit, an external tuning module that has been designed to improve the fuel economy and performance of diesel engines. This product appeared to meet the parameters that were important to me, which included: it involved no change to the manufacturer's original ECU specification; it had to be easy to install, as a retro-fit; it had to be transferable to another vehicle; it had to be cost-effective.

Tunit is retro-fit and in most cases comes with OEM plugs for ease of installation. There is no opening of the ECU or physical alteration of any equipment. As every vehicle has different characteristics, Tunit can be adjusted manually or altered electronically by a Tunit agent using a laptop. It has a three-year comprehensive product warranty and after-sales support and a one-year Engine and Driveline warranty is free with every Tunit.

I have now had a Tunit on my Kia Sorento for over a year and overall there is an improvement of around 11% in fuel economy and a noticeable power increase, particularly when towing. The engine is smoother, the handling has improved and by increasing the torque the performance of the automatic gearbox

has also improved.

It was easy to fit at the company's head office in Lancashire and took just 10 minutes. First the car went onto the rolling road to test the BHP without the Tunit which was 163.8 Bhp. Then the unit was fitted by disconnecting one plug from the ECU and fitting the Tunit between the ECU and the injectors using the corresponding plugs. The car was then tuned using a laptop and re-tested; the Bhp was 185.8.

An investigation into the effects of increased fuel delivery undertaken at Harper Adams University College on modern electronically-controlled diesel tractor engines as part of a thesis submitted in 2008 for a BSc (Hons) degree in agriculture with mechanisation compared Tunit with two other similar devices.

The results of the tests demonstrated that the Tunit was superior in most of the test protocols. However, in the diesel particulates emission tests, after fitting the Tunit there was a reduction of 27% whereas results for the other units showed an increase in particulates. So fuel economy, power, torque and green credentials were verified in that exhaustive test.

We tow in excess of 5,000 miles a year but to really put the unit to the test I asked other users to test a Tunit.

Nick Howard, MD of Bailey Caravans, has a Tunit fitted to a Ford Ranger and comments: "We are getting around 12% better fuel economy, but the most notable aspect is how much smoother the engine is and subsequently easier to drive."

Forest of Dean Caravans, which delivers most of Bailey's caravans from the factory to the dealers, has the Tunit fitted to one of its large trailer units that has an average annual mileage of 75,000. It normally returns around 8mpg, according to weather and traffic conditions, and can have up to four caravans on the lorry and trailer.

It is difficult to determine whether the engine is any smoother or notice a particular increase in power as (a) it is not the latest model and has covered many thousands of miles and (b) it is in fact overpowered for the weight of the load. What we can establish is that there is an increase in the miles per gallon of between a half and one mile, taking the performance up to 8.5-9mpg.

With a mileage of 75,000 @ 8mpg = 9,375 gallons of diesel; at 8.5mpg = 8,823 gallons, and at 9mpg = 8,333 gallons there is a potential saving of 1,042 gallons per year (approximately 4,689 litres). As diesel is now at around £1.20 per litre, this can show a saving of up to £5,626 (less VAT reclaimed).

I think you'll agree that the figures speak for themselves, and fitting a Tunit is a cost-effective way of cutting motoring costs for commercial and domestic use. A unit costs from £460 and research and development is continuing to improve the fuel-saving aspect as prices of road transport continue to rise.

So I met my brief, I was allowed out of my study and Liz is happy. She's just asked me what other cost reductions we can make. Ah, well, back to my study, again.

For more information, contact Tunit on 0845 838 1405 or see the website [www.tunit.com](http://www.tunit.com).



The unit can be programmed by a Tunit engineer using a laptop