



ON THE MAP

In the current economic climate most businesses are looking to save money, and with the spiralling cost of fuel, it's little wonder that reducing fuel costs is high on the list of priorities. With such a high demand for better fuel economy BHP UK have conducted research and development of economy ECU remapping.

When most people think about remapping for economy, they imagine that we would reduce the amount of fuel supplied to the engine, by effectively leaning the air-fuel mixture. However, as most technicians are aware, leaning the air-fuel mixture is very likely to cause damage to the engine so, in practice, this is not an option.

To understand how to improve fuel economy we have to consider the various factors that can degrade fuel economy, these include:

- Flat spots in the power delivery – any flat spot in power delivery results in the driver having to open the throttle further to 'pull through' the flat spot.
- Low torque output at low RPM – this will usually mean that the driver will have to stay in lower gears for longer especially in conditions when load is increased for example when travelling up hills or when towing a fully laden trailer.
- An engine running over rich at the top end of the RPM.
- Fuelling maps that have been made lean by the manufacturer to lower the tax banding of a vehicle (a practice that is more common than most people would imagine or manufacturers would accept).

- Very often manufacturers will release the same vehicle with different power outputs, the only difference will be in the program on the ECU.

BHP UK will run a series of tests to establish the vehicles standard parameters and settings, from the data acquired it can establish how much power and torque is being produced, how the vehicle is fuelling, where any flat spots lie, what the cause of the flat spot is, and a whole array of other information needed about what the engine is doing. Once the data has been compiled it's just a simple case of reading the data from the engine ECU, finding the relevant maps and fine tuning them for economy!

Counter intuitively, better fuel economy is often achieved by increasing fuelling to eliminate flat spots and by increasing torque in the lower half of the RPM range.

Road tests have shown that improvements in economy on most heavy commercial vehicles can range from seven to 11%, whilst light commercial vehicles can expect a gain of 10-15%.

Remapping Dangers

As the remapping market grows, there has been a proliferation of mapping companies that use very basic testing and

equipment to remap vehicles, on many occasions they may use the same map on a number of different vehicles, and this can often result in problematic running.

For a map to be written correctly, it must be based on data that has been acquired from vehicle testing. Different vehicle manufacturers will use different mapping methods for different models and will often issue update software, as such testing is required for each make, model and software version. The gains achieved from a correctly tuned vehicle will be evident in the data acquired during testing.

Adding remapping

ECU remapping has become a multi-million pound industry, but until now getting a piece of the 'remapping pie' would involve a huge capital investment and much specialised knowledge. However, with a BHP UK dealership it is now possible to capitalise on this opportunity at a very reasonable cost.

For more information on BHP UK ECU remapping circle 061 on the readerlink card