

## ENGINE SYSTEMS

ECU Remapping

ON THE  
REMAP

BHP UK is a company at the forefront of ECU remapping; it has in-house map writers and full test facilities at its HQ in Lancashire. We asked the company to answer some questions about remapping.

**T**he engine ECU has evolved from a simple circuit that controlled electronic ignition to a very sophisticated computer that controls every variable of engine function. It receives data from all engine sensors and from that data it calculates how the engine is to be controlled.

Engine 'chipping' was born in the mid 1980s and was the domain of the petrol head trying to extract a little more power from his car. As ECUs evolved, chipping evolved into ECU Remapping, a multi-million pound industry that involves, tuning not just for power but also for economy.

The benefits of remapping are no longer limited to the private car sector. With the nature of commercial vehicles and the fact that many manufacturers offer the same engine with various power outputs, remapping is well and truly here for the commercial vehicle sector.

#### Q How does an ECU control the engine and why is it so important?

**A** Modern commercial vehicles are much more reliable, more efficient, develop more power, last longer and require less servicing than their older counterparts. Much of this is down to improvements in manufacturing but the biggest improvement has come from the fact that modern vehicles are now computer controlled. This computer is

called the engine control unit or ECU. The ECU controls all aspects of engine function, including the amount of fuel injected, the time of injection, the pressure that it's injected at and the amount of boost the turbo will produce. The ECU will continually monitor what the engine is doing to ensure that it's running as it should be. Remarkably the ECU will also monitor the ambient environmental conditions to compensate for changes in air density.

#### Q What is ECU remapping?

**A** ECU Remapping is quite simply altering the parameter in the engine ECU which in turn can make the vehicle run more efficiently.

#### Q What is remapping used for?

**A** Remapping can be tailored for more power, better fuel economy or a blend of both. The best remapping strategies will produce a vehicle that still retains a factory feel but will produce more power or better economy. With the spiralling cost of fuel, the haulage industry is always looking for ways to reduce fuel costs. Tests have shown that remapping for economy can reduce fuel consumption by up to 12%.

#### Q Why is remapping so effective and why aren't the manufacturers doing it?

**A** The short answer is that manufacturers are doing it! With modern manufacturing techniques and strategies it is much more efficient to manufacture the same engine unit and alter the output by altering the program that is uploaded to the ECU at the end of the production line. Because of this the same engine unit can be manufactured, with various power outputs, in a more cost effective manner.

#### Q What does this mean for the average independent garage?

**A** ECU remapping as an industry has grown to become very lucrative. In fact some claim it's vital as part of the full spectrum of services offered by the modern independent garage. With a BHP UK dealership, adding ECU remapping becomes as simple as using any other diagnostic equipment, as all of the modifications to the ECU programs are done by the map writers at the head office. The company charge no on-going royalties or fees; as a consequence its success is based on the success of its dealer network.

**For more information on BHP UK and ECU remapping circle 067 on the readerlink card**