

Tuning a Citroen C4 engine

Getting the most from your car

Dave_Retired., 05 February 2007

Why? to increase the flexibility and Drive-ability.

When a manufacturer releases a car into a world market it has to be able to cope with many different demands in many different environments by many different users all "from the box". For example, the car has to cope with poor fuel quality, dusty environments, poor services and at the same time provide reliability and economy. This has meant that the manufacturers have in essence de-tuned the engines to cater for all this.

So, there is scope to change them. This is what Angel Tuning and others are doing for customers across the UK. You can go to them or they will come to your home.

The engine is 'tuned' by 'Mapping' the ECU (on-board Electronic control unit)

The combined data of the fuel mixture and ignition timing of "open loop" digital systems are held on a chip within your Electronic Control Unit (ECU). This data is then used by the ECU programme to set ignition and fuel supply to the engine as required.

ECU re-mapping, quite simply changes the data in various areas to provide a different 'map' so that areas such as the fuel supply, ignition timing, injector opening times etc are altered to provide a more efficient combustion.

This means that for a normally aspirated petrol and diesel engine you can expect to gain 10% increase in BHP and torque taking the C4 1.6i Petrol engine up by 12 BHP to around 122 BHP For a Diesel turbo derivative you can expect bigger increases, around 35 BHP on a C4 1.6 HD1 110 or C4 2.0 HDi 138 engines.

I have had my car 'Mapped' by Angel Tuning and it's a 1.6 110 HDi

[shadowbox=<http://c4owners.org/images/c4/service/complink.jpg> C4 ECU Access point|right]



[/shadowbox]Angel Tuning hooked up to the central access point behind the ashtray in the centre console and downloaded the existing ECU data and test drove the car with me to perform some basic tests to

ascertain if there are any issues that will affect the work.

(If your car has any issues that will negate the affects of the work and render it pointless they will tell you straight away and will not charge you for the tuning, clearly stating why.)

[shadowbox=http://c4owners.org/images/c4/service/angel_comp.jpg]C4 ECU Accessed to Remap the profile||left]



[/shadowbox]Once it had been ascertained that everything was OK to proceed then the ECU programme was manually altered and saved to the Cars ECU

Then the car required a post 'Mapping' test drive. The post test drive time is up to you. If you wish to drive around for two hours in the locality you are more than welcome to do so as Angel Tuning want to know that you are happy with the results but for me the whole process was 2 hours.

With my car the Turbo Boost still comes in around 1800 RPM but it is smooth and progressive and the engine spins freely up past the original 3,000 RPM area (where it previously sort of died off) through to 4000 RPM

Acceleration is much smoother and quicker and feels far more like a petrol engine than a Diesel. I can't wait to get the car out on a good run to check it out thoroughly.

Am I happy and was it money well spent? so far you bet it is and I can't recommend it more highly. Andy from Angel Tuning was brilliant at explaining the process and what to expect afterwards.