

Punchy Peugeot

Increased performance apart, **Ivor Carroll** samples a modified car with an interesting side effect

What impressed me most was the look of astonishment on the faces of a couple of other 406 HDi owners as they took to the helm of Greg Coker's silver HDi 110. He had just had it Superchipped by the boys at Buckingham, and a couple of 406-loving colleagues of Greg's were waiting to sample the delights when he and I returned to his house.

Was it transformed? Indeed it was, yet you couldn't really accept just how much of a performance improvement it had undergone just by looking at the bare before-and-after torque and power figures.

It is testimony to Superchips' inherent duty of care that they don't blindly believe that an off-the-shelf remap which worked a

treat for car A will work every bit as effectively for car B, even if those cars are supposedly identical. And when the off-the-shelf remap for Greg's 110 proved to be more than a little smutty at the tailpipe as the car was hoofed to full-bore on the rolling-road dyno, there was no head-scratching or looks of embarrassment... simply a 'sorry about that', we'll load a modified version of that file to the ECU.

Not every car of the same make, model and exact type has exactly the same engine characteristics, and many small, mostly undisclosed modifications are made to engine management systems throughout a car's

production life. That's why it would be arrogant for Superchips to blithely say "This chip fits all..." because they know much better than that. Besides which, arrogant they are not.

The very first dyno run, unmodified, revealed the 406 to be producing a rather sad 103bhp, but a jolly happy 202 lb ft (against the specified 184 lb ft). Clearly, this wasn't a peaky-inclined engine. When the first upgrade file was loaded to the ECU (that's the one that achieves most and works best with the majority of HDi 110s) the result was 125bhp and 229 lb ft.

We tried it out, and it went fantastically well, with hugely enhanced low-speed flexibility and colossal in-gear urgency. Let's face it, that's the exact torque output of a 2.5-litre V6 TDI VAG engine, or indeed of the rampant TDI PD 130 unit. But at full bore or very high revs our HDi would emit sooty sneezes of such density that they'd still be there, hovering some feet above the road, after we'd done a U-turn further up the lane, and returned the way we'd come.

The chip-chaps had seen this before. Satisfying themselves that there wasn't a problem with a congested air filter, or a fault

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with the common-rail injection system, they fed file 2 (incidentally, via the car's fascia-mounted diagnostic port – no removal of ECUs or chips needed) into the system. File 2, interestingly, is tailored to reduce maximum fuelling slightly, particularly towards peak engine revs, and it's only a relatively subtle reduction.

The next dyno run revealed about 60% less smoke at full thrash – measured accurately by eyeball - but still a fair bit of the stuff. However, treat any turbodiesel in the way that the Superchips dyno-meister was doing, and it will produce black smoke, period. But fortunately, this isn't the way an engine is used out on the highway.

The Superchips prediction was that remap number 2, which revealed 118bhp and 226 lb ft, would result in a resolved smoke

problem, but would feel no less satisfying to drive.

The proof, of course, was in the pudding, and Greg and I both sampled the delights of map2 out on the highway, agreeing that the 406 felt no less sprightly, displayed no smoke in the rear-view mirror, and revealed an acceptable amount of the stuff under full acceleration, witnessed by me when I followed the 406 in our long-term SEAT Ibiza TDI.

Incidentally, the Ibiza is one heck of a quick car (turn to page 68 for more on that) but on the off-highway test-track later, the revamped 406 gave it a darned good run for its money, which it certainly couldn't have done prior to our visit to Buckingham.

What had started the day as a civilised, relaxed and leggy, but rather sedate diesel saloon, had ended it as a muscular, perky

and anything but soft performer. Interestingly, Greg and I both noticed that the engine sounded mellower post-tuning, and also ran more smoothly. That's the first time I've been aware of a chipping exercise altering either the sound or smoothness of a diesel engine, and fortunately it altered it for the better. Even more curious is the fact that at part-load at a particular engine speed, the pre-chipped HDi had always made a transient, harsh, metallic sound, which had begun to irritate young Greg even though he'd only owned the car for ten days. Post-modification, though, it was gone.

Before conversations via its diagnostic port, we had timed the 406: 0-60mph in 12.6 seconds, 30-50 (4th gear) in 6.3, and 50-70mph (5th gear) in 9.6 seconds. Not at all bad, and actually quicker on paper than

the car felt when measured by seat-of-pants.

Afterwards though, matters were considerably livelier: 0-60mph in 10.3 seconds, 30-50mph in 4.9 seconds, and 50-70mph in 8.0 seconds dead.

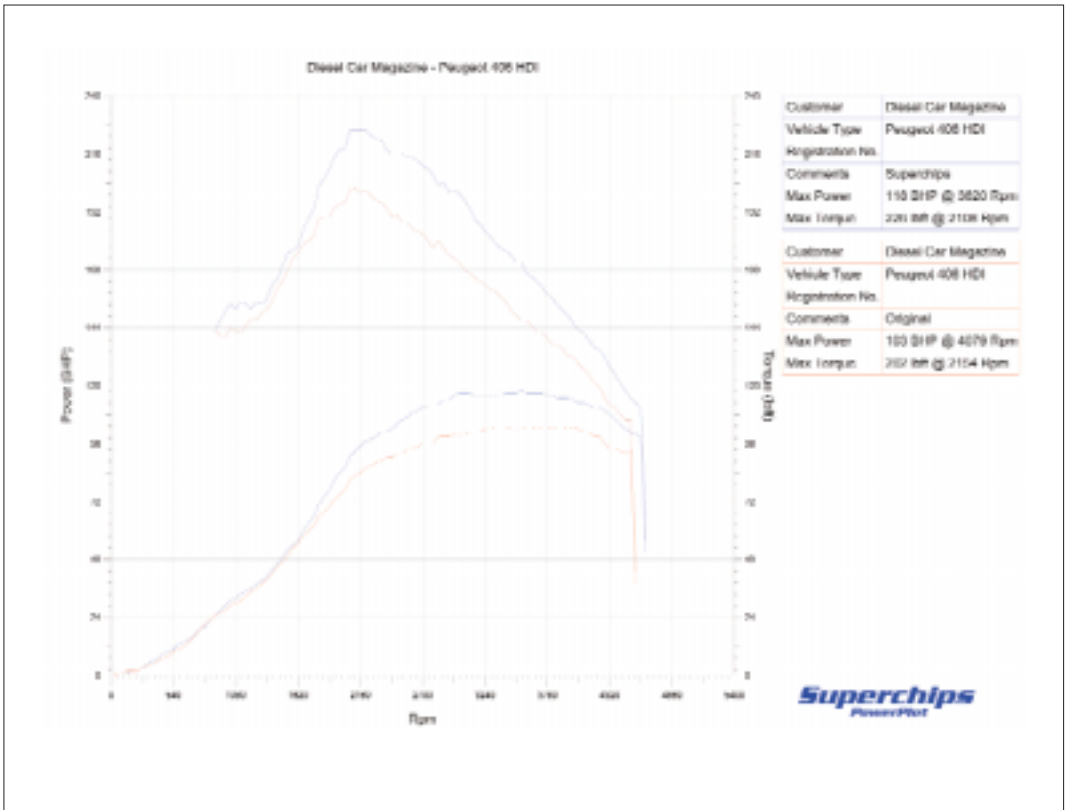
Which takes me back to what I was saying earlier: that the increase from 103bhp to 118bhp, and 202 lb ft to 226 lb ft doesn't sound like a great deal. Yet our driving experience, and those final stopwatch times testify to the fact that bare numbers obviously don't mean too much in isolation.

Superchips' reprogramming system does the job so subtly that the modification is invisible to technicians when the time comes round for a service. Not only that, but the £511 all-inclusive reprogramming fee includes a peace-of-mind warranty. To see if your car is on the list for a cost-effective performance boost, call Superchips on 01280 81678, or visit www.superchips.co.uk.



Pre-tuning, the 406 produced 103bhp and 202 lb ft. The result of some subtle remapping was 118bhp and a healthy 226 lb ft

Although the power and torque gains may not look that impressive on a graph, they certainly make a difference on the open road



The original mapping details are written to this 'customer key' which the car owner takes home with him, just in case

Superchips tailor all their modifications to your own requirements and to those of your engine. Black smoke on this example was quickly tackled

