



# Mighty Mouse!

Neil Birkitt samples the Superchipped Golf 1.4 TSI

**THE TRADITIONAL** idea that there's no substitute for cubic capacity when it comes to producing high performance has now been turned well on its head. Modern technology means that downsizing is the current theme, with even Formula 1 racing engines now reduced to a mere 1.6 litres in displacement.

We've also seen several good examples within the Volkswagen model range recently, with the Golf R now running a 2.0-litre four-cylinder turbo unit instead of the 3.2 V6, the T5 using 2.0-litre four-cylinder TDIs instead of 2.5 fives, and the 1.4-litre TSI petrol engines are now widespread, powering everything from

the Polo to the Touran, with outputs ranging from 122 to 180 PS.

There is even a 1.2-litre TSI (turbo-only) which develops a healthy 105 PS, sufficient to provide sprightly performance in the new Touran which we drove in the January issue. Who would ever have thought, only a few years ago, that a 7-seater MPV would ever be powered by a mere 1197 cc?!

But don't think for a moment that these factory figures are close to the limit of the power output which can be achieved by these miniature motors. We remember talking to the engineers who developed the original 1.4 TSI engine, and while they wouldn't be drawn on exact numbers

it was clear that the twincharged engine could produce considerably greater power outputs, without any real worries about reliability or longevity.

The key to this is that these small displacement engines have smaller and lighter components, reducing the stresses and strains which are incurred when running at high engine speeds. Far from being weaker, they are actually less likely to suffer stress-induced failures than a larger displacement engine, with bigger, heavier components, producing much the same power output.

So, suitably reassured that the 1.2 and 1.4 TSI engines can take the strain, and



**'SUPERCHIPS WAS ABLE TO SAFELY INCREASE THE POWER OUTPUT TO 155 BHP AND IMPROVE THE TORQUE FROM 215 NM TO 248 NM...'**

now that they are much more widely accepted by the buying public, the tuning companies have been turning their attention to improving the power outputs still further, by re-mapping the engine management system.

But it's only when you've sampled one of these conversions that you can believe how good they really are, so we recently took up an invitation by Superchips to drive their Mk 6 Golf 1.4 TSI. This has the turbo-only 1.4-litre engine, rather than the twincharged unit, and it is rated at 122 PS as standard. In conjunction with the optional 7-speed DSG transmission, it is claimed to be capable of 0-62 in 9.5 seconds and a top speed of 124 mph, with a combined fuel consumption of 45.6 mpg.

What became clear, though, when Superchips dyno-tested the standard car, to establish a baseline before re-mapping it, is that it was already a good deal healthier than Volkswagen claims. The official figures are 122 PS at 5000 rpm and 200 Nm at 1500-4000 rpm, but Superchips recorded 131 bhp at 4975 rpm

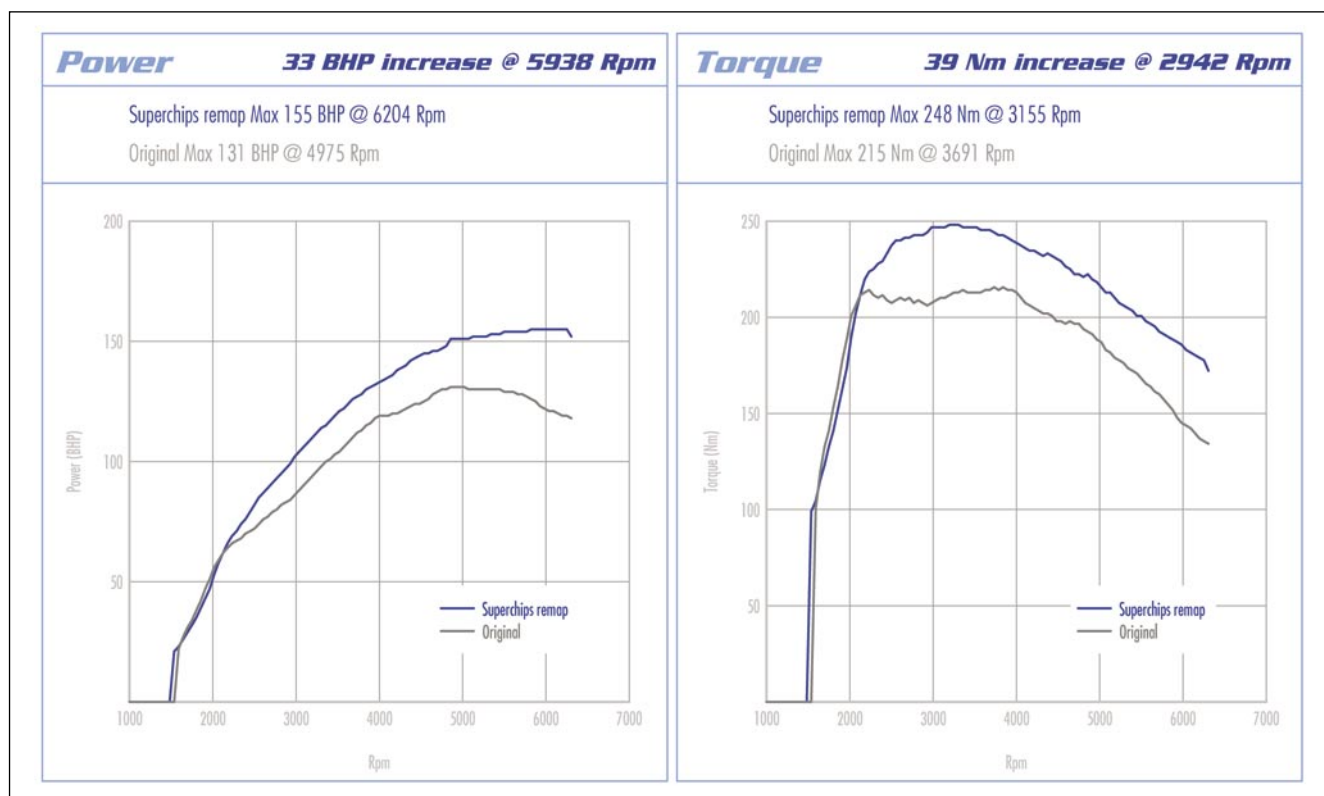


and 215 Nm which, even allowing for the slight difference in values between PS and bhp, is already well up before they'd even started.

After manipulating the mapping, optimising the fuelling, ignition and turbo boost, Superchips was able to safely increase the power output to 155 bhp at 6204 rpm and improve the torque from 215 Nm at 3691 rpm to 248 Nm at 3155 rpm. All credit to Superchips that they only claim the 33 bhp measured improvement in power, whereas many re-mapping companies quote the standard official figure and compare their measurements with that, inferring an even greater increase.

Even more important, though, is that a close look at the graphs show that it's not a peaky power plot or a spikey torque curve. Indeed, while maximum power is produced at a much higher engine speed, it's still well up throughout the rev range and the torque figure is not only much improved but also produced at lower engine speed and over a greater range than the standard engine. It all adds up to a powerplant which is not only more potent, but also much more flexible and potentially just as fuel-efficient, if not more so, than the standard engine.

The Superchips power plots certainly seemed impressive but, armed with our VI Monitor performance tester, we





were also interested to see how the extra power translated into real-life performance figures. The 7-speed DSG gearbox certainly helps here, making it easier to record consistent times despite the cold and wet conditions, and we were able to click off several sets of 0-60 times in the low nines, with a very best of 8.9 seconds recorded. That's not bad when you consider that Volkswagen claims 9.5 for the 0-62 mph figure, recorded in perfect conditions.

Making the comparative testing even easier was that the Superchips re-map was applied using the Bluefin system. We've featured this on several occasions previously but, for anyone unfamiliar with it, the Bluefin system uses a handheld module which is plugged in to the OBD port to enable the mapping to be swapped between standard and high-performance versions.

Not just a simple switching module, it takes about 20 minutes to make the data transfer, following the simple menu instructions which appear in the digital screen, but it means that the owner can

decide whether to run the car as standard or load up the high-performance map themselves.

The standard car was sprightly enough, but with the revised mapping downloaded via the Bluefin it was time to switch back on and evaluate that extra 33 bhp. Not only was the car instantly much more eager in its power delivery, but it was smoother too and much more flexible than before. This time we clocked the

0-60 dash at 7.9 seconds, a full second faster than standard, while the 0-80 time was nearly two seconds quicker. We tend not to venture into the higher speed range, but later analysis of the VI Monitor

### Performance comparison

	Standard (122 PS)	Superchipped 1.4 TSI
Power:	131 bhp @ 4975 rpm	155 bhp @ 6204 rpm
Torque:	215 Nm @ 3691 rpm	248 Nm @ 3155 rpm
Acceleration (secs)		
0-30 mph:	3.5	3.2
0-40 mph:	4.8	4.4
0-50 mph:	6.8	6.1
0-60 mph:	8.9	7.9
0-70 mph:	11.7	10.4
0-80 mph:	15.0	13.2
0-90 mph:	20.6	16.9



log showed that we'd stretched to 90 mph on some runs in both modes, with over 3 seconds difference between them.

While we couldn't borrow the car for long enough to run our usual exhaustive fuel consumption tests, a 20-mile circuit of the Buckinghamshire countryside, while the Bluefin was enabled, still recorded an average figure of 46.6 mpg. This is very creditable, considering the additional power and performance which could also be available, and is actually slightly better than the official combined figure. We'd need to run a long-term brim-to-brim check to be sure, but it shows that the extra power and performance can also be allied to good economy, depending on how you drive it.

The Superchips conversion doesn't transform the lowly 1.4 TSI into a GTI-beater, but it does endow it with a very healthy improvement in both performance and driveability, without turning it into a thirsty or temperamental beast. In fact it was quite civilised to drive, discernibly smoother and more tractable than the car in its standard form.

Obviously, the standard suspension isn't quite up to the task of the superior performance if exploited to the full, but a set of uprated dampers and anti-roll bars are all that would be needed to turn this Superchipped Golf TSI into a very



satisfying road car, with truly sporting performance and handling, without damaging the ride comfort to any great extent.

When you consider that the standard Golf Sport 1.4 TSI DSG with 160 PS costs £22,885, but you can buy an 'S' spec 1.4 TSI DSG for £18,990 and then spend a few hundred on the Superchips mapping, the conversion suddenly makes a lot of sense. Even allowing, say, another thousand for suspension mods, you're still looking at a substantial saving. And for anyone worried about warranty, Superchips offers a lifetime guarantee on the Bluefin product and a supplementary warranty covering the parts deemed

to be excluded from the manufacturer's cover, as well as comprehensive insurance cover options.

Of course, Superchips can also provide a Bluefin upgrade for the twincharged 1.4 TSI, which takes the 160 PS engine up to over 200 bhp, but that's another story... 🇩🇪

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**'THE SUPERCHIPS CONVERSION PROVIDES A VERY HEALTHY IMPROVEMENT IN BOTH PERFORMANCE AND DRIVEABILITY, SMOOTHER AND MORE TRACTABLE THAN THE CAR IN ITS STANDARD FORM'**

