

GT PORSCHHE

THE PURELY PORSCHE MAGAZINE

DECEMBER 2007 £4.35

964 DRIVING THE LEGENDARY LIGHTWEIGHT TURBO S

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GONE IN 7.9

Ever wondered just how quick a 600bhp 997 Turbo accelerates? Us too, which is why we took SpeedART BTR-XL to a runway to find out. **Words: Chris Knapman Photography: Max Earey**

Back in issue 69 (August 2007) we strapped our timing gear to the four most potent Porsche 911s on sale today. It was an essential test to carry out, an empirical judgement of just what you get for your money, and it had us thinking.

What we wanted to know was, firstly, if you would ever really need to travel more rapidly than the stupidly fast 480bhp 997 Turbo is capable of, and secondly, whether any of the tuners would let us find out how much quicker their cars would be if put to the same test. Conveniently, at about this time SpeedART announced its 600bhp 997 Turbo-based BTR-XL

and dropped us an email inviting us to come and drive it. As such, we found an airfield, packed the timing gear and headed for SpeedART's base a few miles northwest of Stuttgart.

The BTR-XL is the latest addition to SpeedART's tuning programme for the 997 Turbo, offering up 50bhp more than it previously could – because 550bhp is sometimes not enough. Actually that last comment is only said half in jest, because for people after the ultimate 997, 550bhp will only be enough until a more powerful upgrade becomes available. But today that's all a bit of a moot point anyway – the demand for this conversion isn't why we're here, and nor is the success of SpeedART's aerodynamic appendages, so we'll let you make up your own mind about

those too. What we want are bare statistics, and thankfully SpeedART's boss, Björn Striening, has given us permission to obtain them.

As with our tests of the 997s back in August, the timing will be carried out with a full tank of fuel and two occupants on board. Figures will be taken from an average of two runs completed in opposite directions on the runway, and with 5241km on the clock, this 997's engine should have loosened up enough to give something close to its best, although an ambient temperature of 20 degrees celsius is a little higher than is ideal. Also not ideal is that the only runway we could find to use is just one kilometre long, meaning that unfortunately, big speed runs are out of the question. However, a kilometre should still be enough distance for the Speed yellow 997's additional 120bhp and 89lb ft of torque over a

SECONDS*

**THAT'S TO 100MPH!*

standard 911 turbo to prove itself.

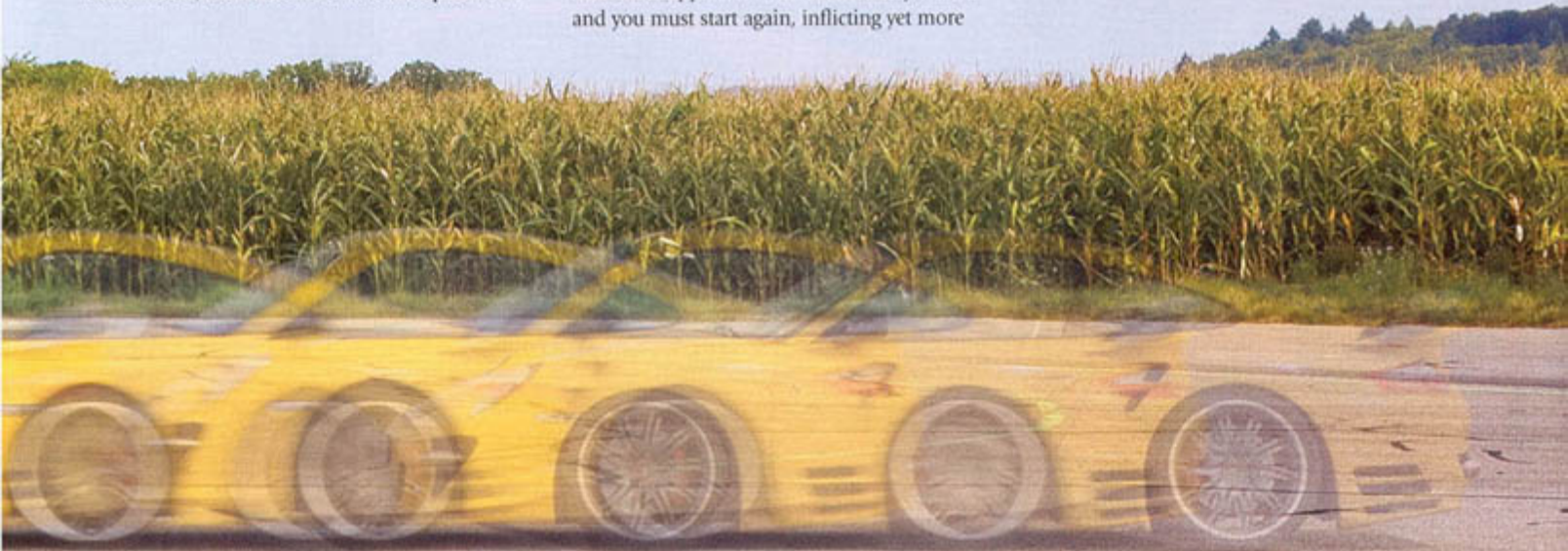
Before we line the car up for its first run, a quick bit of info on how that extra power has been found. Primarily it's the fitment of two new turbochargers, which, like those of the standard 997 Turbo, are built by KKK and operate using Variable Turbine Geometry technology. They use the same housing as the standard turbochargers, but have modified internals to create more boost. The intercoolers are standard for the 600bhp car, but with bigger items in place, SpeedART's Björn Striëning says that 620bhp is achievable. In addition to the modified turbos, a complete sports exhaust system with 200 cell cats, sports air filter and remapped ECU are also present. A stronger Sachs clutch is needed to transmit the power through the standard six-speed, all-drive transmission, and customers have the option of a

single- or dual mass flywheel (this car has the former to help the engine rev more easily).

A couple of quick sighting runs up and down the runway help to pick out suitable braking points, then it's just a case of getting on with things. Figuring cars is a brutal business and not something many would subject their own motor to. Ultimate launches are achieved by lifting the clutch to the point where you can feel it just start to bite, then building revs (in this case to around 5000rpm) and jumping off the clutch and on to full power in a split, transmission-torturing moment. Get it just right and there's a small degree of wheel slip and savage forward motion. Make a mistake and, while the 997's clever traction management will prevent axle tramp, it can't stop the engine from bogging down. Each time this happens the run is effectively wasted and you must start again, inflicting yet more

punishment on the drivetrain.

For our first attempt we set off with cold tyres (regular Michelin Pilot Sports measuring 245/30 ZR20 front and 325/25 ZR20 rear) and immediately bag a 0-60mph time of 3.6 seconds, hitting 30mph after 1.4 seconds along the way. 100mph arrives in 8.1 and by 11.4 seconds we're doing 120mph before standing hard on the brakes. It's a measure of this car's speed that we managed to hit 120mph from a standing start in less than a kilometre, but also frustrating because it felt like there was a lot more to come. For the second run we head the opposite way up the runway and pick up identical times from 0-30mph and 0-60mph, but there must be a slight tailwind because by 100mph we've picked up four tenths over the first run, reaching the ton in





It seems abundantly clear that this engine houses every one of the 600bhp that SpeedART claims

an incredible 7.7 seconds. We hit 120mph in an equally as impressive 10.8 seconds. So how do these figures compare with the standard 997 Turbo? Well, to 60mph it's identical, and by 70mph it's a tenth slower. This, says Björn, is because although the new turbochargers deliver more boost (peak is 1.3bar), it arrives slightly higher up in the rev range. For 0-60mph sprints therefore, he says that SpeedART's 550bhp kit (which used standard 997 turbochargers) is the quicker car.

It's once you get to 80mph that the extra power makes itself known though: the BTR-XL suddenly gaining a tenth of a second, then by 90mph, three tenths. By 100mph its lead is half a second, and by 110mph it's 0.6 of a second, which it

holds until the runway runs out at 120mph. It's clear that the extra power makes a difference once the turbochargers are delivering full boost and it's frankly astonishing that this car can pull out a half a second lead over a regular Turbo to 100mph. To put that further into perspective; from 0-100mph SpeedART's BTR-XL is 1.7 seconds quicker than a GT3 RS, which in this kind of test is an age. Of the cars that we've figured, only a Carrera GT and DMS Automotive's 650bhp 996 Turbo have been faster, clocking from rest to three figures in 7.5- and 7.6 seconds respectively.

I attempt to trim a couple more tenths from the 0-60mph time (on a colder day Björn has figured the 600bhp BTR-XL at 3.3 seconds) but

with the tyres now very hot and sticky it's impossible to get the required slip off the line to get the best time. I try again later in the day but 3.6 remains the fastest we can go – not that such a figure is to be sniffed at.

Next up are the in-gear times, regarded by most in the industry as being the sign of how quick a car is on account of reflecting normal driving conditions more realistically than a full bore standing start run. From what we've seen in the outright acceleration runs I have an inkling of what to expect, that being for the SpeedART car to display a bit more turbo lag and only show its best once fully into its stride. This indeed proves to be the case, although just how drastic the difference would be nobody could have guessed.





Once again the runway's length restricted what we could do in terms of speed (it made sixth gear runs all but pointless) but couldn't hide how much quicker this car is than standard. Let's take fifth gear for example, which illustrates most clearly how the BTR-XL's performance differs from a regular 997 Turbo. From 30-50mph the standard car has more boost available and pulls out an immediate seven tenths of a second advantage. The gap is identical from 40-60mph but then, nose bloodied, the SpeedART car hits back, and hits back hard. The standard Turbo's grip is slipping by the 50-70mph increment, now holding just a tenth of a second lead, and then it's all over. The SpeedART's power delivery picks up strongly from a whisker below 3000rpm and

then kicks hard not once, but twice as the needle sweeps past 4000- and then 5000rpm. The figures show this. From being a tenth behind from 50-70mph, the BTR-XL has, from nowhere, pulled out half a second from 60-80mph in fifth. It maintains the gap between 70-90mph and then adds another tenth between 80-100mph and a further tenth again between 90-110mph. To be 0.7 seconds quicker than the standard car between 90-110mph in fifth gear is impressive, but to also accelerate from 80-100mph in fourth gear a tenth of a second quicker than the standard Turbo manages in third is remarkable. Take a look at all of the in-gear times recorded and you'll see a similar trend emerging throughout. It seems abundantly clear that this

engine houses every one of the 600bhp that SpeedART claims. At speeds above 120mph it would simply romp off into the distance.

Outright performance aside, there are a couple of other points worthy of note, the first of which is the exhaust, which manages to free up more power without succumbing to tiresome boom in normal driving. This is the sixth version of the system, so insistent was SpeedART on perfecting its design, and it works incredibly well. It also features a switch to the side of the driver's footwell to open and close a valve in the exhaust, effectively mimicking Porsche's factory Sports system. The second point worthy of a mention is that the BTR-XL marks SpeedART's first tie in with suspension manufacturer Sachs, whose adjustable





997 TURBO

0-20: 0.9
0-30: 1.4
0-40: 2.1
0-50: 2.9
0-60: 3.6
0-70: 4.7
0-80: 5.8
0-90: 6.9
0-100: 8.4
0-110: 9.9
0-120: 11.6

IN-GEAR 2ND:

20-40: 1.9
30-50: 1.5
40-60: 1.5
50-70: 1.6

IN-GEAR 3RD:

20-40: 3.4
30-50: 2.4
40-60: 2.0
50-70: 2.1
60-80: 2.1
70-90: 2.2
80-100: 2.4

IN-GEAR 4TH:

20-40: 4.6
30-50: 3.5
40-60: 2.7
50-70: 2.4
60-80: 2.6
70-90: 2.7
80-100: 2.8
90-110: 2.9
100-120: 3.0

IN-GEAR 5TH: (AVG/BEST)

20-40: 6.3
30-50: 4.9
40-60: 3.7
50-70: 3.1
60-80: 3.2
70-90: 3.3
80-100: 3.4
90-110: 3.5

BTR-XL

0-20: 0.9
0-30: 1.4
0-40: 2.1
0-50: 3.0
0-60: 3.6
0-70: 4.8
0-80: 5.7
0-90: 6.6
0-100: 7.9
0-110: 9.3
0-120: 11.1

IN-GEAR 2ND:

20-40: 2.0
30-50: 1.4
40-60: 1.3
50-70: 1.3

IN-GEAR 3RD:

20-40: 3.5
30-50: 2.5
40-60: 1.9
50-70: 1.8
60-80: 1.8
70-90: 1.8
80-100: 1.9

IN-GEAR 4TH:

20-40: 5.0
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50-70: 2.4
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70-90: 2.3
80-100: 2.3
90-110: 2.4
100-120: 2.5

IN-GEAR 5TH: (AVG/BEST)

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40-60: 4.3
50-70: 3.2
60-80: 2.7
70-90: 2.8
80-100: 2.8
90-110: 2.8

SPECIFICATION – SpeedART BTR-XL

ENGINE

Power-unit: 3600cc flat-six, water-cooled, twin VTG turbochargers with modified internals

Power: 600bhp@6100rpm

Torque: 590lb ft@4700rpm

Transmission: Six-speed manual, four-wheel drive, Porsche Traction Management

SUSPENSION

Front: McPherson struts, adjustable Sachs dampers and coil springs

Rear: Multi-link, Adjustable Sachs dampers

and coil springs

BRAKES

Front: 350mm discs, six-piston calipers

Rear: 350mm discs, four-piston calipers

WHEELS

Front: 8.5x20 forged Monobloc SpeedART Challenge twin-spoke

Rear: 11x20 forged Monobloc SpeedART Challenge twin-spoke

TYRES

Front: 245/30 ZR20 Michelin Pilot Sport

Rear: 245/30 ZR20 Michelin Pilot Sport

shock absorbers feature on this car. Designed for drivers keen to take their cars on track, the Sachs setup also felt well accustomed in an admittedly brief test-drive on the road. What it doesn't do is tie in with the PASM suspension, so you don't have the option of switching between Normal and Sport settings, although if you do require this from a suspension upgrade then SpeedART also offers Bilstein's proven B16 coilover kit.

You will also want to take on either ceramic PCCB brakes or SpeedART's Brembo brake kit, for the standard steel setup isn't designed to consistently slow a 600bhp, 1585kg car. And you had may as well get fifth and sixth gear

ratios extended to maximise top speed, which Björn says is an entirely believable 208mph.

So would I recommend the 600bhp conversion? Well, if you genuinely don't find that a 997 Turbo is quick enough to meet your requirements then yes, the BTR-XL is a very competent package. The power delivery is smooth and although there is slightly more turbo lag than in a regular 997 Turbo, the way the BTR-XL picks up its heels once you've lit the blue touch paper is guaranteed to thrill. Personally I can't ever imagine driving a 997 Turbo and wishing that it had a bit more mid-range punch, but that could just be me. There are plenty of people out there for whom the standard car will never be enough, people who want to push the barriers of what's possible and get the ultimate performance from their Porsche. The figures we have been able to extract from the BTR-XL prove that SpeedART is more than capable of satisfying such demands ○