



Big Boost

It looks innocent enough, but Paul Smith's 944 Turbo has been stretched to 3.2-litres and features contemporary turbo technology with 911 Turbo-busting power-to-weight. Just hold on tight

Words: Richard Aucock Photography: Antony Fraser



I'm travelling at 50mph in second gear, on a damp dual carriageway. A second ago, I gave the throttle a blip, and now the rear end is trying to overtake the front – sideways. Woo hoo! Owner Paul Smith has gone very quiet, though. 'Don't worry, I'm a motoring journalist.' I see now why he wasn't reassured. Particularly when, two minutes later, we do it again. Only now

we're in third gear – doing nearly 70. Blimey.

Paul, I'll admit it now – that was a new one on me. People look at your 944 and think, well, 'Turbo'. But both you and I know it's far from ordinary. So much so that, when I was dialling on the opposite lock as we Walter Rohrl'd up the dual carriageway by Silverstone, part of me was trying to remember if I'd ever previously

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got a supercar out of shape...

We got through, though. Thank a beautifully balanced 944 for that – the recently-rebuilt stock suspension is a credit to the factory. And, when he regained the ability to speak, Paul sat me down and told me just how it all came about. I was all ears. How had he produced a 944 as potent as a 996 Turbo?

It all began with a nut. No, not in the figurative sense – an actual nut from the air filter box. 'My original engine started belching clouds of blue smoke when on boost. Believing the oil seals in the turbocharger had failed, I took it down to Jon

Mitchell in Bournemouth for a new turbocharger.'

It wasn't the reason. Instead, 'A nut had come loose in the air filter box and got sucked into the turbocharger, destroying the blades and (just for good measure) scoring the bore in cylinder number 1.' Ouch! 'I have that damned nut on my mantelpiece...'


This is where the story starts. That scored block demanded a rebore. 'But, at the time, there were no oversize pistons available, either from Porsche or anywhere else.' So the scoring couldn't be simply removed, and Paul told me he didn't want to fit an unknown secondhand

engine from a breaker.


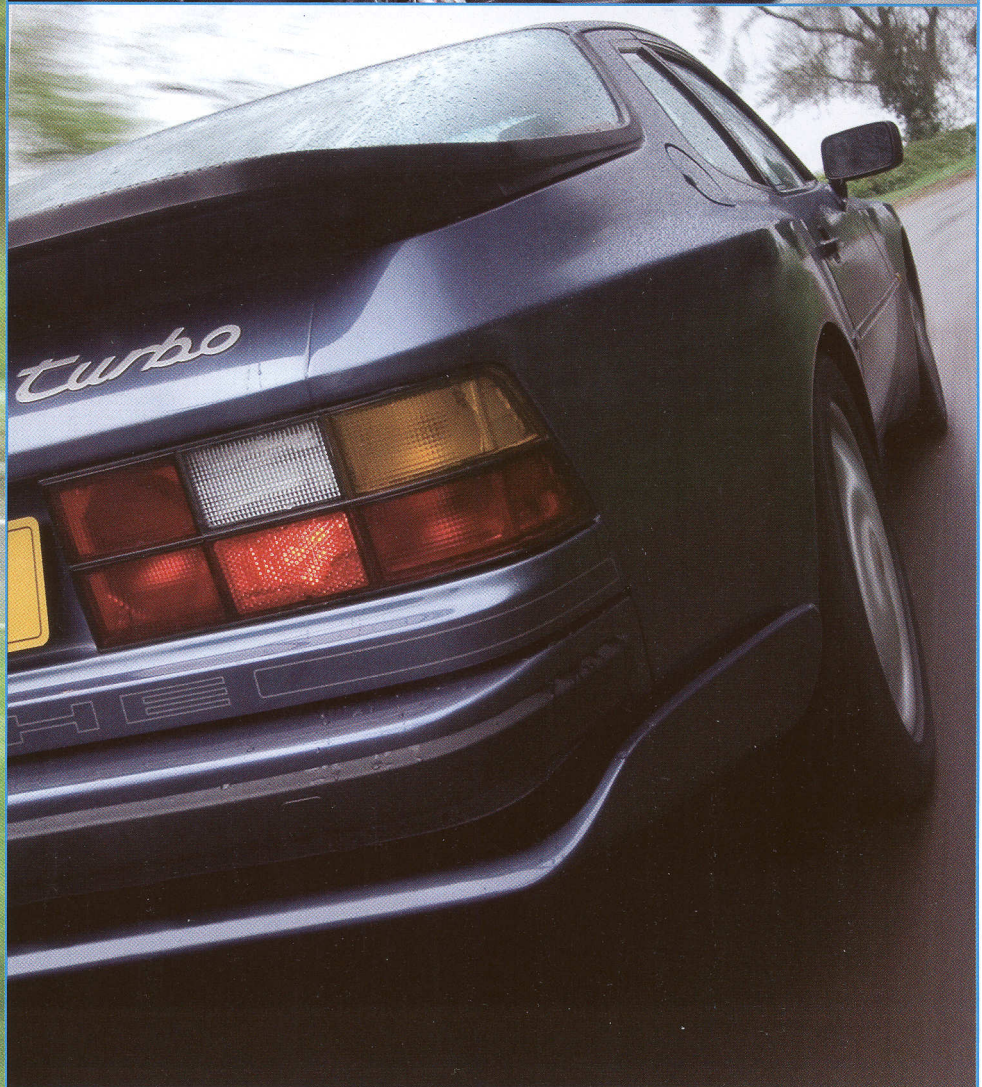
So, one popped Porsche engine and no easy solution – no wonder Paul deliberated. Hard. He had his wife's S2 to muse in – was it that which gave him ideas? 'I decided to fit a 3.0-litre engine from an S2 or 968,' he reveals, before adding the innocuous-sounding intention of 'making something a little bit more special'. Keep this claim in your mind as you read on.

Sourcing the right donor engine took a little time. Enough, it turned out, for Jon to announce something new that he'd been working on. Machining away the original bores and replacing

3.2-LITRE 944 TURBO



Man and machine: Paul Smith (no not that one) at the wheel of his really rather fast 944 Turbo



them with very strong liners (stronger than the original 2.5-litre, he reckons), Jon had found a way of pushing the base 3.0 litres up to 3.4 litres. A 3.4-litre four-pot? Very nice – a really decent blend of speed and sensibility.

A colleague of Jon's, Simon Peckham, built the engine. He fitted JE pistons, Carillo conrods, a balanced crank (noteworthy, this) and a rebuilt large-valve head from a 2.7 engine. 'Then, they surprised me,' says Paul. Oh yeah...

'They said they could build a hybrid KKK/Garrett turbocharger with a quick-spooling ball-race bearing. It would deliver much more

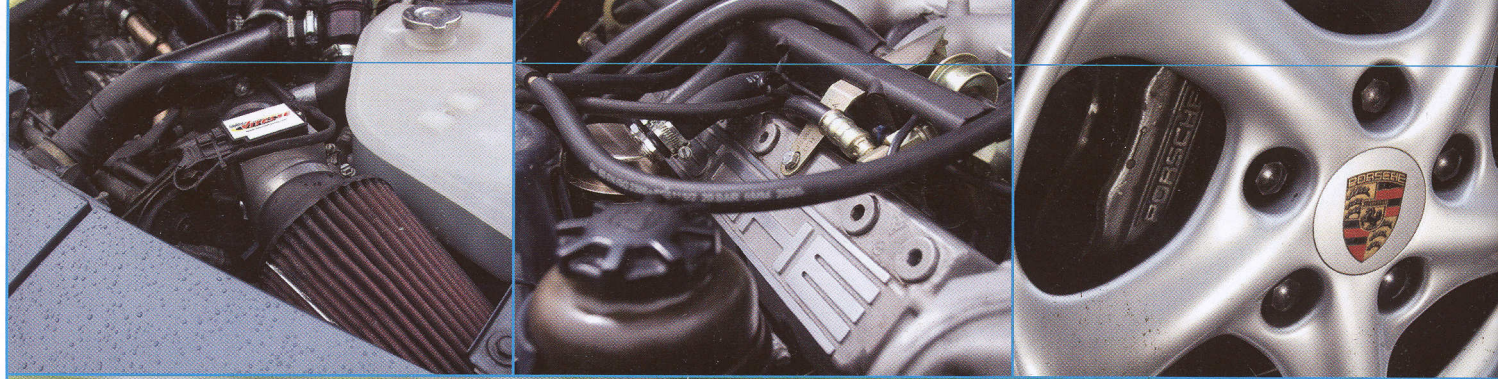
torque than standard, but also much reduce any lag.' Oh, lordy. So we've got a 3.2-litre 944 – already fast enough – and not only is the plan to turbocharge it, but to do so with a virtually race-spec blower? At this stage, I got on my knees and bowed down before Paul.

'I didn't want huge power at the top end,' he quickly adds, as if the missus was in earshot. 'I was after lots of low-down torque to make the car very easy to drive, without the on/off power of the original turbo.' Yeah, right... THIS MAN IS A POWER FIEND!

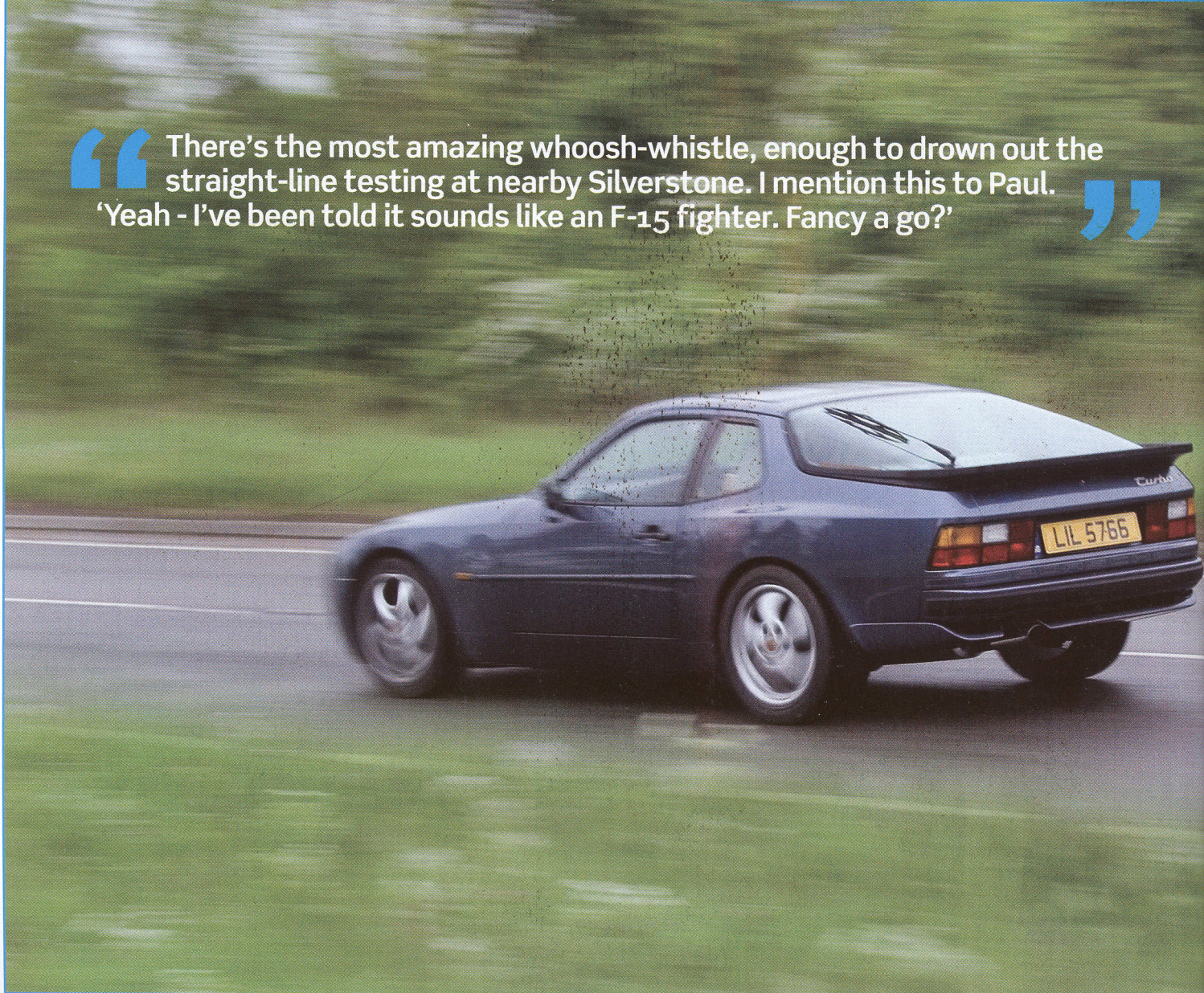
'When I got the car back and finished running

it in, I was allowed to use up to 1bar of boost with the original '80s barn-door airflow meter and Jon's base engine map. It would be safe, but not perfectly matched to the car.' Guess what, though? 'The car already felt like a rocket ship'. I bloody bet it did.

So what does she do, mister? Ready for this? 'I had it dyno'd at Weltmeister in Silverstone. It recorded 350bhp and (wait for it) 450lb/ft of torque.' Holy cow – from a base setting? 'I've since fitted a Vitesse mass air flow meter in place of the original air flow meter, and a piggy-back computer that's allowed us to custom-tune a



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fuel map perfect for this set-up, and allow me to safely run 1.2bar of boost.’ Apparently, Paul did all the calibration himself, via a laptop on the passenger seat and an air/fuel ratio dial – it’s that easy. ‘It’s not absolutely perfect, but it’s pretty close. It only took me a morning.’

This morning, Paul had been enjoying the fruits of his hard work for snapper Ant’s benefit. It sounds just like a regular 944 Turbo – until the turbo cuts in. Then there’s the most amazing whoosh-whistle, enough to drown out the straight-line testing at nearby Silverstone. I mention this to Paul when he stops. ‘Yeah – I’ve been told it sounds like an F-15 fighter. Fancy a go?’ What, in this jet car? For sure...

I’m excited. Save for a few extra dials on the

centre console (a lag-free turbo boost – 18psi has been and gone before the dash gauge registers it! – and that air/fuel ratio dial), the interior is like any other 944 Turbo. The starter motor has that familiar 944 chugga-chugga. The tickover is normal and there are simply no outward signs of the very special litres under the bonnet.

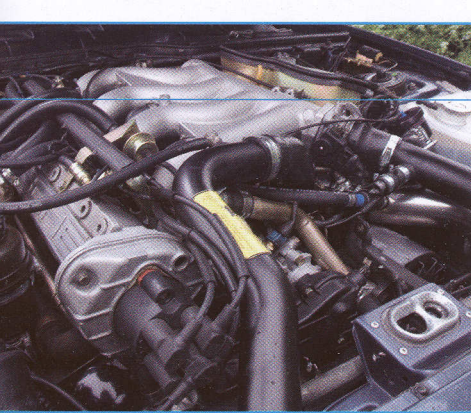
I go for first. Grr-eargh. Is it broken? ‘Jon fitted a short-shifter,’ says Paul. ‘It’s quite a bit heavier than normal.’ You can say that again – it’s very precise, but I’m not sure that the force required is fitting. Neither is Paul.

Still, we pull away, turbo sleeping. The engine is beautifully smooth: the extra capacity has done nothing to upset the 944’s trademark

smoothness (Jon has done a cracking job in balancing it). She lugs, she behaves and she doesn’t pop or bang. Excellent.

I press a little harder, expecting to mentally note: ‘Yeah, but I bet the turbo lag is a damn site more intrusive.’ I get as far as ‘Yeah, but I bet...’ before the turbo comes to the party. This is amazing. I flex my right foot, there’s a semi-audible switch sound, and almost instantaneous shove. ‘The lag is virtually gone,’ I vaguely hear Paul say. And boy, he’s right. So it’s time to stop all this experimentation and boot it.

It’s colossal. A flood of torque and power gushing with the revs. Then, suddenly, it’s over: I hit ‘a’ speed, and back off. Slow down and do the same again. It takes just a few seconds and



THE CREATOR

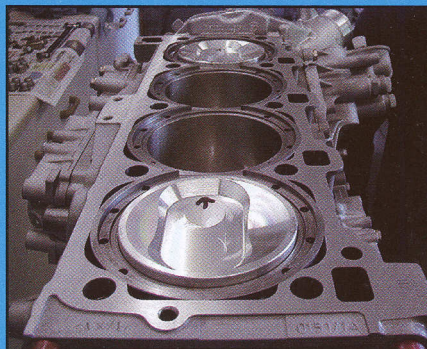
'I've had the idea to do this engine for years,' says creator of the power demon, Jon Mitchell. 'I knew the engineers at the factory when the 968 was in production – and they were aware that a 108mm bore was possible. I always wanted to try and recreate that. With modern materials and methods, I've been able to.'

'There's lots of stuff we can't discuss,' he says, mischievously, when I ask him the secrets within Paul's amazing engine. 'But it's only got 15 per cent stock Porsche parts.' These are the block, cylinder head and sump. The internals are completely modified and include ceramic-coated steel wet liners that facilitated the rebore. Custom-made pistons and conrods are rather special, says Jon, but it's the turbo that really fires his enthusiasm. 'It allows amazing torque figures and is virtually lag-free – it's "this decade" technology, rather than harking back to the '70s and '80s.'

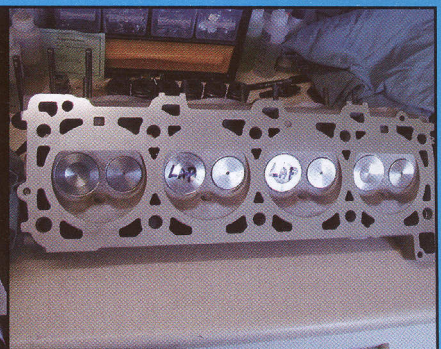
So how much is it, now that the Christchurch-based independent is releasing it as a genuine upgrade? £10,500 for the capacity increase, £1600 to add a turbo. That buys you a ready-to-go 'crate' engine – with your choice of capacity, from 2.8 to 3.2 litres. Two more engines are in Jon's workshop as we speak, and if they don't beat Paul's ultimate ballpark figures of 485lbs/ft of torque and 'just short of 500bhp', Porsche caps will be eaten.

'The chassis copes with it fine,' Jon adds. 'During testing, we thought the clutch was slipping, as we were getting rev spikes. But it was just a bit of wheelspin, which the car happily soaked up.' This was during a full-chat gearchange from fourth to fifth, he adds – at 125mph!

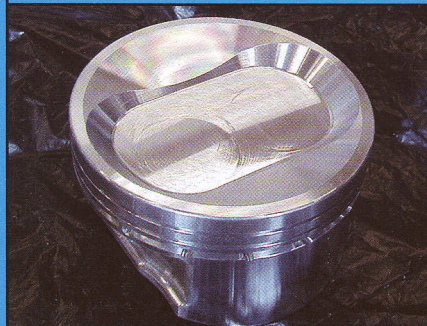
Far left: Vitesse mass air flow meter replaces the standard air flow meter. A piggy-back ECU runs a custom fuel map and allows 1.2bar boost to be used. Otherwise, engine looks fairly stock – with all the expensive stuff hidden inside



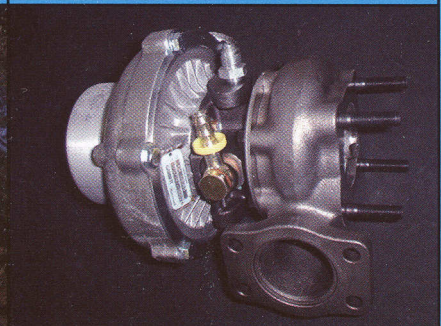
The block is standard, but the ceramic-coated steel liners are obviously new. Steel Carillo rods connect to a balanced crank



Cylinder head is from the 2.7-litre 8-valve 944. Porsche decided that eight valves were plenty for the 944 Turbo. Looks like they were right



Custom JE pistons do look the part, it has to be said. Attached to Carillo rods and a balanced crank, they ensure a smooth-running bottom end



Engine builder Jon Mitchell describes the turbo as featuring 'this decade technology', rather than original '70s/'80s turbo design

I haven't had to change from third. It so doesn't look it, but this thing is a demon.

The noise is pretty special, too. All that whizzing and banging from outside can't be heard in the cockpit – you only get a techy whiz – that's just enough to sound purposeful, to say that this isn't as 'standard' as you think.

As the miles click up, it's the combination of effortlessness and sheer brute force that amazes me. The speedo is doing an impression of the rev counter – you're having to pick dots in the distance as reference points, yet the 944 simply isn't under any duress. You're not having to wring its neck – just press and go.

It's as smooth at 6000rpm as it is at a third of that, but there's no need to hunt the red line.

Just change up and, after a tiny switch delay, you've plugged into those monstrous reserves of torque and are flying with undimmed effervescence. The petrolheaded motorists on the A43 must be rubbing their eyes in disbelief: a 944 Turbo, going that fast?

I mentally do the sums – this car: 1250kg and 350bhp, 996 911 Turbo: 1600kg and 420bhp. But, unlike the 944, that doesn't have 4WD, which is why things can be instantly exciting with the flex of a right ankle.

We cruise for a bit to cool down. It does so impeccably. Even during everyday motoring, gobfuls of torque can be tapped into to enable you to take advantage of gaps, but it's so easily manageable. 'Before I got a van for business, it

was my everyday car,' says Paul.

I later confirm the power-to-weight ratios – 944: 0.24bhp/kg, 996 Turbo: 0.26bhp/kg. Paul also later tells me he's found an eBay bargain – a set of 17-inch alloys with semi-slick 275-17s. 'There's almost as much grip as power now!' What's the chance of another shot, Paul?

Don't let anybody tell you that the 944 story is over. What Paul and Jon have created here is among the most exciting cars we've driven this year – because of the speed, because of its innocuous looks, because of how, while it's still sweet and predictable, it's just so flipping fast. Modern 911 Turbo fast. 'It's one I'm keeping for life,' says Paul. We wonder how much more power Jon will have released by then... [P]