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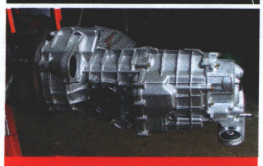
When Peter Bell was growing up the impact bumper Porsche 911 produced between 1974 and 1989 was his dream car. Eventually back in 1988, when he was about twenty-two years old, he gathered enough dosh together to buy a white 1974 2.7-litre Porsche 911. Since then he's systematically modified his car to a point where he feels that for him it's pretty much the perfect Porsche.

Originally Peter had no intention of modifying his car, he just wanted to own and drive the classic icon he'd grown up admiring. However, after a few years of ownership he began thinking about a restoration and then the germ of an idea began whereby instead of rebuilding the car back to standard, he'd utilise the opportunity to upgrade the 911 with all the best classic Porsche components available. He wanted the best handling and performing air-cooled Porsche possible.

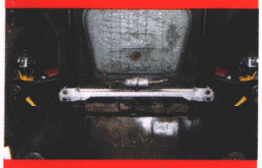
Peter started out by stripping the car to bare metal and then replaced various panels as necessary, including both front wings and the sills. He also took the opportunity to fit a refurbished fuel tank at the front and oil tank at the rear. Peter then fitted a brand new wiring loom before sending the car off

THE BUILD



Peter rebuilt a later G50 gearbox to handle the power from his tuned...

...engine. Then fitted a Quaife limited slip diff to improve traction.



Coil-over units all round replace the original torsion bar suspension system.

Massive discs and Brembo calipers deal with the 330bhp from Peter's...

...rebuilt, tuned 3.5-litre engine. I'd like this in my living room.

to be repainted in Porsche A1 Black. A whale tail from an 80s turbo car was then added as it allows better airflow through the engine bay as well as providing negative lift.

As an afterthought, Peter also fitted some door mirrors from a 911/993 car as these are more aerodynamic and being plastic, much lighter than the original Porsche 'flag' mirrors which are cast metal. He got Halfords to mix him an aerosol can of Porsche A1 Black and sprayed them himself.

The car's standard suspension was originally a torsion bar set up so Peter has removed the rear spring plates and torsion bars and fitted Porsche RSR spring plates and Bilstein coil-over dampers all round, rear trailing arms and heavier Turbo front and rear anti-roll bars. This set up allows him to adjust the geometry in every way, including camber, caster and toe, as well as also stiffening the car up dramatically.

The next item on Peter's agenda was the engine. Taking the bull by the horns, he removed the original 2.7 flat six and bought a second-hand 1985 3.2 Carrera engine as a donor unit. He then stripped and gas flowed the engine cases, had them line-bored and honed, and also shuffle pinned in order

ON THE ROAD

According to the spec', on paper Peter's 911 will do nearly 190mph but in reality its aerodynamics wouldn't let it – its true top speed is around 175mph. However, on the public road you're not bothered about that.

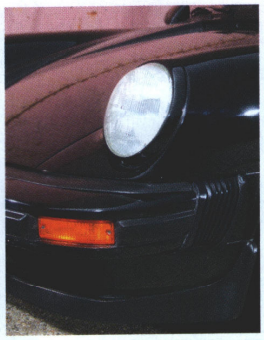
Peter has done a superb job with this engine; throttle response is excellent with no hesitation or snatch; it pulls like a train and is smooth throughout the rev range. The G50 gear change is a delight with the pedals perfectly placed to heel and toe when you're really going for it. The induction noise from the throttle bodies, combined with the cam growl and deep exhaust really gets the adrenalin coursing through your veins. The GT2 cams actually allows the power to come on quite early from about 3000rpm but remains linear throughout the range with the tacho needle storming round the dial till you grab the next cog just before the cut out point at seven-three.

The car feels taught and completely stable at high speeds in a straight line, under harsh acceleration and heavy braking. This is a proper driver's car without pansy power steering or ABS, but those whopping Brembos do a brilliant job with perfect response and plenty of pedal feel.

Generally the car handles very well with very little roll on corners but although the Quaife diff will do its stuff getting the power down when you want to set the car up early, it doesn't do the driver any favours cornering quickly unless you've got the nerve to keep your foot in. If you don't turn in early enough the diff will send you straight on.

But the way Peter has his car currently set up is pretty forgiving. So at road speeds if you go in too fast, find yourself understeering and then chicken out and lift off, you'll simply get that typical 911 lift off oversteer that will bring the nose back leaving you to correct with a flick of the wheel. Just so long as you have the space and the bottle you won't get into trouble.

Like Peter, I don't enjoy the delay normally associated with turbo engines, so by sticking to natural aspiration on his 911, increasing the power from 165bhp to 330bhp and decreasing the weight to 1185kg, perhaps Peter has truly built the perfect road going Porsche.



to stop the cases from moving at high torque loads – just like the Porsche racers.

The crankshaft was checked for straightness, knife edged so that it cut through the oil better and balanced and polished, as were the conrods. Peter increased the capacity to 3.5-litre utilising original Mahle pistons and barrels; the pistons are matched to the cylinder heads and boat tailed to help with gas movement around the case and barrels. The ignition system was upgraded to twin spark and run by a twin distributor system from a Porsche 964, which was a pretty straightforward swap.

Having done all this work there was no way Peter was going to settle for carbs and instead opted for Jenvey throttle bodies plus a Motec M48 PRO engine management system.

TECH SPEC

Engine
1985 Carrera 3506cc flat six, 3.5 litre pistons and barrels. Jenvey throttle bodies. Dry sump.

Power
330bhp@6659rpm max (limited at 7300.)

Torque
264lb/ft@6149rpm

Gearbox
1987 G50 5-speed.

Suspension
Heavier 911Turbo spec anti-roll bars front and rear. RSR coil-overs all round.

Brakes
Servo assisted Brembo GTPL calipers, cross-drilled and vented discs all round.

Steering
Rack and pinion.

Weight
1185kg

0-60mph
4.5 seconds

Top speed
175mph

This has allowed him to fit GT2 high lift cams and and retain tame running characteristics. An exhaust system was made up by Haywood and Scott in stainless steel and is completely different from the standard arrangement. Special attention has been paid to ensuring that all the branches are of equal length to achieve the best gas flow. The system has changed the sound of the car, so that it has a far deeper bellow.

To take advantage of the anticipated power gain the original Porsche type 915 five speed gearbox was replaced with a G50 'box out of a 1987 car. This is driving through a Quaife limited slip differential and is a much stronger unit with ratios better suited to the higher speeds that the car's now capable of.

Next Peter set about the brakes. The car originally had a very simple braking system with no vacuum assistance so Peter's fitted a servo and master cylinder from a Porsche Turbo and mounted cross drilled and vented Brembos which were specifically for this year of Porsche. But then he had a problem finding wheels with the correct offset to accommodate those larger brakes.

Eventually, after much searching he finally found some special 8x16 and 9x16 Fuchs alloy wheels. He then spent weeks stripping all the old paint from them and repolishing them using various grades of wet and dry paper from 800 through to 1800. He achived the final gleam with a polishing wheel and then painted the backs in satin black.

After spending seven hours on each wheel he now has the task of keeping them well waxed at all times just to keep the brake dust off. A side gain of fitting these wheels has been

911 EVOLUTION

The Porsche 911 was the all-new replacement for the Porsche 356, which was built up to 1965.

Original the car was to be called the Porsche 901, but the Peugeot Company argued they had the rights to sell cars in France with three digit names with a zero in the middle. Porsche relented and changed the nomenclature and the legendary 911 was born.

Although the Porsche factory changes the headings for its models, all 911 models were and are currently sold as a 911. The basic 911 ethos was a rear-engined, rear-wheel-drive 2-door configuration with air-cooled boxer engines.

The first Porsche 911 model was built from 1964 to 1989, while the 911/930-turbo version of that original car ran from 1975 to 1989. The 911/964 series cars were manufactured from 1989 to 1993, and the last air-cooled Porsche 911s, the 911/993 was available with two or four wheel drive, and with or without a turbo. Many say that the turbo four-wheel drive 911/993 was the greatest air-cooled road Porsche ever.

From 1999 an all-new body was utilised and all the cars were water-cooled from this point on.

Engine variations along the way:

- 2.0 1964 to 1969
- 2.2 1969 to 1971
- 2.4 1971 to 1973
- Carrera RS 1973 and 1974
- 2.7 1973 to 1976
- Turbo 930 1974 to 1989
- 3.2 Carrera 1983 to 1989
- 3.6 1989 to 1994

Check out Peter's websites. myporsche911.co.uk and p101tv.com

the increase in track that they give which combined with the Bridgestone S01s 205/55x16 on the front and 245/45x16 rears, has decidedly helped the handling.

Finally, he added an interior from a late 87 car with new carpets, together with some leather door panels and seats. All the gauges are 911S items but the speedometer required altering from mechanical drive to accept the electronic feed from the later gearbox and it was also recalibrated to 180mph.

After initial testing Peter found that the car was getting light at high speed so he had the geometry re-checked and reset the suspension heighst to give the car 1 degree of negative rake; i.e. the front end lower than the rear. That sorted it.

There was another minor problem – with big-bore 3.5 engines there is quite high crank pressure so an aluminium oil catchment tank with little baffle plates to condense the oil vapour had to be fitted. Peter finds that he empties about a cupful of oil from it every few thousand miles; any accompanying fumes are vented into the engine bay where they dissipate.

The car looks looks tremendous, is marvellously understated and is exactly twice as powerful as it was when it left the factory. Not only that, apart from the bodywork and paint, Peter did all the work himself with help from friends. Proof that it is possible to have your dream car – it just takes a lot of time and effort.

THANKS TO:
Daren Goodie, Airfield Manager at North Weald Airfield and to Neal Bechtal at Becro Engineering