

BELOW The Tuthill Porsche 997 RGT
in full flight on Rallye Deutschland



Group RGT is designed to open up the World Rally Championship to a spectacular breed of cars usually found only on the racetrack. **Anthony Peacock** witnessed the WRC debut of the Tuthill Porsche 997 RGT

RALLY cars: fire-breathing, stone-spitting, garishly painted monsters, right, ripping up the gravel with turbocharged four-wheel drive? Not always. There's been a stealthy movement in place for some time now to open up rallying to a different type of car, which many would say is a lot more spectacular than the standard 1.6-litre turbo B-segment hatchback that characterises the current World Rally Car format.

In fact, the World Rally Championship has on occasions looked to be in danger of becoming a one-make formula: M-Sport equipped more than half the field with Ford Fiestas, for example, on Rally Poland this year – and fair play to Malcolm Wilson for providing such an appealing offering to his clients. But let's be honest, even in the case of reigning champions Volkswagen, a VW Polo is not what dreams are made of.

Instead, it's the supercars that are the stuff of fantasy: Ferrari, Porsche, Aston Martin. Cars that were until quite recently confined to the racetrack. But the new RGT rules in world rallying are looking to address that issue.

it wants to see. Namely, a flavour of the halcyon days of Group B, when rally cars both looked dramatic and sounded like nothing on earth.

One of the companies to first take advantage of these new regulations – call it technical glasnost – has been Tuthill Porsche, which fielded a 997-model RGT on Rallye Deutschland in August. It proved to be one of the most popular cars on the rally, running the Hyundai's debut victory close for the accolade of most talked-about news story to come out of the event.

TECHNICAL CROSSOVER

Ultra-modern cars are not, of course, what you automatically associate Tuthill Porsche with. Founded in 1972, the company has enjoyed plenty of success at international level in historic rallying with some of the biggest names in the sport, including Markku Alen, Stig Blomqvist, Michele Mouton and the recently departed, much-missed Bjorn Waldegard.

Building a modern Porsche to the latest RGT rules may seem like a complete change of direction. But it was less of a departure than most people assume, as project engineer Graham Moore explains. Moore knows his stuff when it comes to the cutting edge of technology on rally cars, having previously engineered Subaru's factory World Rally Cars.

"There's quite a lot of technical crossover with the classic Porsches, because while the historic cars look old, some of the technology, on certain events where freedoms are given, are very modern, particularly when it comes to suspension and damping," he points out. "The fundamental vehicle dynamics are the same too – although of course everything happens a lot faster in the RGT car."

Tuthill Porsche used the 997 Carrera Cup race car as the base model to build its first Porsche RGT. It was a decision that the company felt would best fit the regulations at the time. This methodology might have to be revised in future, according to Moore.

"It's not really a straightforward process – it probably took around three months from start to finish," he points out. "The car needed to be entirely rebuilt to cope with the rigours of rallying. The roll cage, for example, was removed and replaced with a roll cage specifically designed for rallying, to the latest 2014 homologation. ▶

NEW ERA OF DREAM MACHINES

These regulations essentially allow privateers to build homologated versions of road-going sports cars for rallying, which are eligible to take part in international events providing they gain their FIA 'technical passport' – a certificate (or to be accurate, sticker) that confirms the cars have met the requisite standards of safety and performance to compete on equal terms with their direct rivals.

The idea sounds beautifully simple in theory; with the objective of giving the public a taste of what

ABOVE Buoyed by the RGT's first competitive outing, Tuthill is considering producing a gravel specification Porsche – a ground-breaking project – for Rally GB

The engine is the same, but fitted with an FIA restrictor as mandated by the RGT regulations, while fans have been added to the radiators to keep the engine cool at low speed. The suspension is replaced to suit rallying rather than racing, with greater travel and different spring rates, and a handbrake is fitted.

"The car had to be made road-legal, with lights, a horn and so on, and a spare wheel well was fitted too: no easy task when a racing car has no spare wheel, and the original road car only uses a space saver. A heated windscreen goes in; then an extra seat, and finally all the co-driver's equipment was installed. There were also many other jobs that appeared to be straightforward but weren't – such as fitting the required level of side impact protection for the crew. Underbody protection was also fitted which involves re-routing a number of pipes and wiring harnesses that were fitted directly to the underside of the racing car, as a racing car will not normally come into contact with the ground. The rally environment is a lot harsher."

STEALING THE SHOW

And that, essentially, is why sports cars are rarely seen out on the world's rally stages (with notable exceptions from the past: Jean-Claude Andruet, for example, put a Ferrari 308 on the podium of the Tour de Corse in 1982).

The difficulty for the rule-makers, of course, is ensuring that these cars don't eclipse – both in terms of power and mass appeal – the main show.

To do that, there's a basic balance of performance, which is currently ensured

by an air restrictor. Fitted with its 36 mm restrictor, the Tuthill Porsche is mustering about 320 of the original 425 horses the 3.8-litre engine made available. With the amount of wheelspin the car generates and two fewer driven wheels than the established rally cars, it's clearly not going to trouble the frontrunners in terms of raw pace – on paper.

And yet company director Richard Tuthill – who drove the car himself in Germany, co-driven by Stephane Prevot – firmly believes that in the right hands (he excludes his own) the car could give the four-wheel drive R5 competitors a run for their money on certain events.

But a lot of the ultimate pace of the car will come down to fine-tuning in the end. There are notable, but not necessarily obvious, constraints on what you can do to the car, as

Moore explains once again.

"It's been very interesting actually, because there are some areas where you have to think laterally, while there are other areas that you're not really allowed to touch, due to the regulations. The most important thing is to start off with a good base car, so in that respect it's like Group N, but there are also some solutions we have that are bespoke."

Most notably, that's in the area of suspension: Tuthill Porsche runs dampers from Exe TC: a small British firm that also supplied Citroen during its championship- ▶



ABOVE Equipping the RGT with a spare wheel well was no mean feat, given that the original road car only uses a space saver

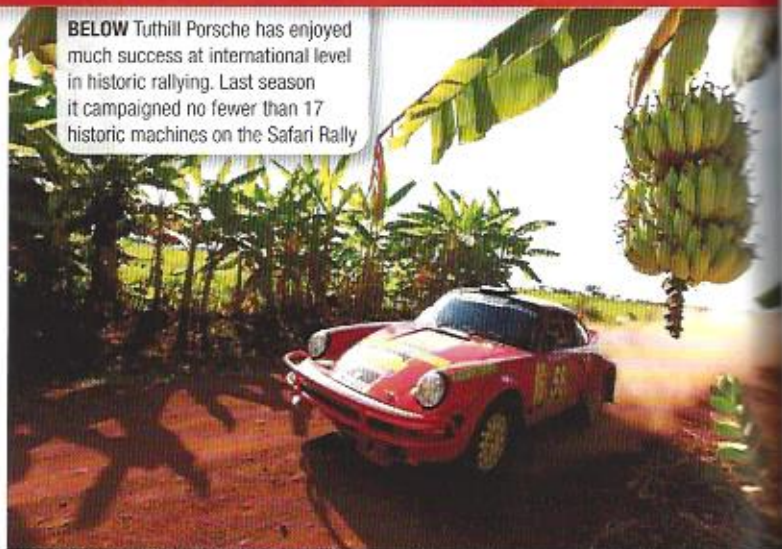
winning heyday. The rest is mostly Porsche standard equipment, as a result of which the car didn't encounter a single mechanical glitch during its competition debut, a state of affairs that is mostly unheard-of in any new car.

But the biggest ingredient that Tuthill Porsche wants to put into the car is passion. As Richard Tuthill explains: "The most important thing we want to get across is just the pure enjoyment of driving such a car. At the heart of this diversification for us is the desire to provide something that looks, sounds and feels amazing: a car that people will want to drive the minute they see it. We've always been very excited by the new RGT regulations, because we believe people will love the idea of seeing something different on the stages. And we know from over the years that there's no car more exciting to drive than a Porsche, so entering this category was a logical progression."

The Porsche is still at the bottom of its learning curve. The gear ratios for Rallye Deutschland were too long once the restrictor was fitted, having been selected for places like the Nürburgring, rather than the tight and twisty uphill hairpin bends of vineyard roads around Trier: typical territory for Rallye Deutschland (although being rear-engined, the Porsche is surprisingly good at finding traction out of hairpins). Having said that, the current gear ratios were just an interim specification until the restrictor size was set in stone.

For Rally GB at the end of the year, Tuthill is working on bringing the car out in gravel specification. "Nobody has ever done that before, so it's a genuinely ground-breaking prospect," concludes Richard Tuthill. "We really believe that there's going to be a big appetite for this type of car in the future. And perhaps the best thing about it is that it's not at all intimidating to drive. It's challenging, but easy at the same time. Most of all, it's just a lot of fun..." **LT**

BELOW Tuthill Porsche has enjoyed much success at international level in historic rallying. Last season it campaigned no fewer than 17 historic machines on the Safari Rally



Technical Specification

Tuthill Porsche 997 RGT

- Aluminium six-cylinder rear-mounted boxer engine, 3800 cc, with 36 mm FIA restrictor
- Max power: approximately 320 horsepower (with restrictor)
- Max rpm: 8500 rpm
- Single-mass flywheel
- Sequential multi-point fuel injection
- Electronic engine management (Bosch)
- Rally exhaust system with silencer and regulated catalytic converter
- Cable-operated accelerator pedal
- Porsche six-speed sequential dog-type gearbox
- Suspension: Exe TC
- Front axle: McPherson suspension strut, adjustable in height, wheel camber and track
- Rear axle: Multilink rear suspension, adjustable in height, wheel camber and track
- Power steering with electro-hydraulic pressure feed
- Two independent brake circuits for front and rear axle, adjustable by the driver via a brake balance system
- Lightweight bodywork with smart aluminium-steel composite construction
- Welded-in bespoke roll cage
- Rally bucket seats; homologated to latest FIA requirements with six-point seat belts
- 85-litre fuel cell (to RGT specification)
- 18-inch wheels (standard Porsche)
- Michelin track day tyres

ABOVE A Carrera Cup racecar was used as the base model for the company's first RGT. The challenges posed by a rallying environment mean it might opt for a different route next time

