Duel purpose

Anyone with an early-1960s' 911 who fancies a back-to-back standoff with one of Duel's creations had better think very carefully. Ed Poland, proprietor of Dutch Engine Laboratories – Duel for short – has the tuning and race-preparation of these classic Porsches down to a fine art

Story by Johnny Tipler; photographs by Peter Robain

No hint of double Dutch here. Duel - short for Dutch Engine Laboratories - puts its money where its mouth is, preparing Porsche 911s for C&C Motorsport (class winners in the Dutch Classic Touring Car series in 2004), while Duel's boss, Ed Poland, and his colleagues campaign a pair of early 911s in European classic endurance events.

Duel is based on an industrial estate at Heerhugoward, 20 minutes north of Amsterdam, and specialises in Porsche engines, and flat-sixes in particular. It's not easy to miss: on arrival, a startling psychedelic mixture of colours greeted photographer Robain and your correspondent, with a bright-orange 914-6 and a silver 911S rally car staged in front of the firm's bright-yellow and mirror-glass façade.

Ed Poland started Duel in 1990, and has spent the last 10 years of the 15 years since then concentrating on 911s. 'I like the old-time Porsches,' he enthuses. 'They're works of art.' Before that he worked for a company that built racing engines for Formula Vee racing cars. He takes a thorough approach to car preparation. 'I prefer to do the complete package,' he said. 'If you just build the engine and the car crashes,

maybe the engine doesn't emerge intact, and that's a waste. That doesn't work for me. If I prepare the whole car and something goes wrong, I can say it's my own fault.'

Poland studied mechanical engineering to NTSC level at technical college. Everything else he's learned from practical experience, and he's upbeat about mechanical innovation. 'If I want to try something new, I'm thinking about it day and night figuring out how to make it better.'

The company grew out of Ed's passion for motorsport. 'I started with Formula Vee cars - real racing cars,' he says. 'Then I began to work on Porsches. They performed well in the Dutch championships, and many customers expressed interest in having a similar car, so we started to prepare cars for them, too.'

Many of Duel's clients come from outside the Netherlands, particularly Scandinavia. In fact, the first customer came from Finland via the website, and went on to win no fewer than 30 rallies in a row using Duel-built engines. The car was sponsored by Porsche Finland, so logically when the time to restore a particularly special car it was transported to Holland for Duel to handle the restoration.

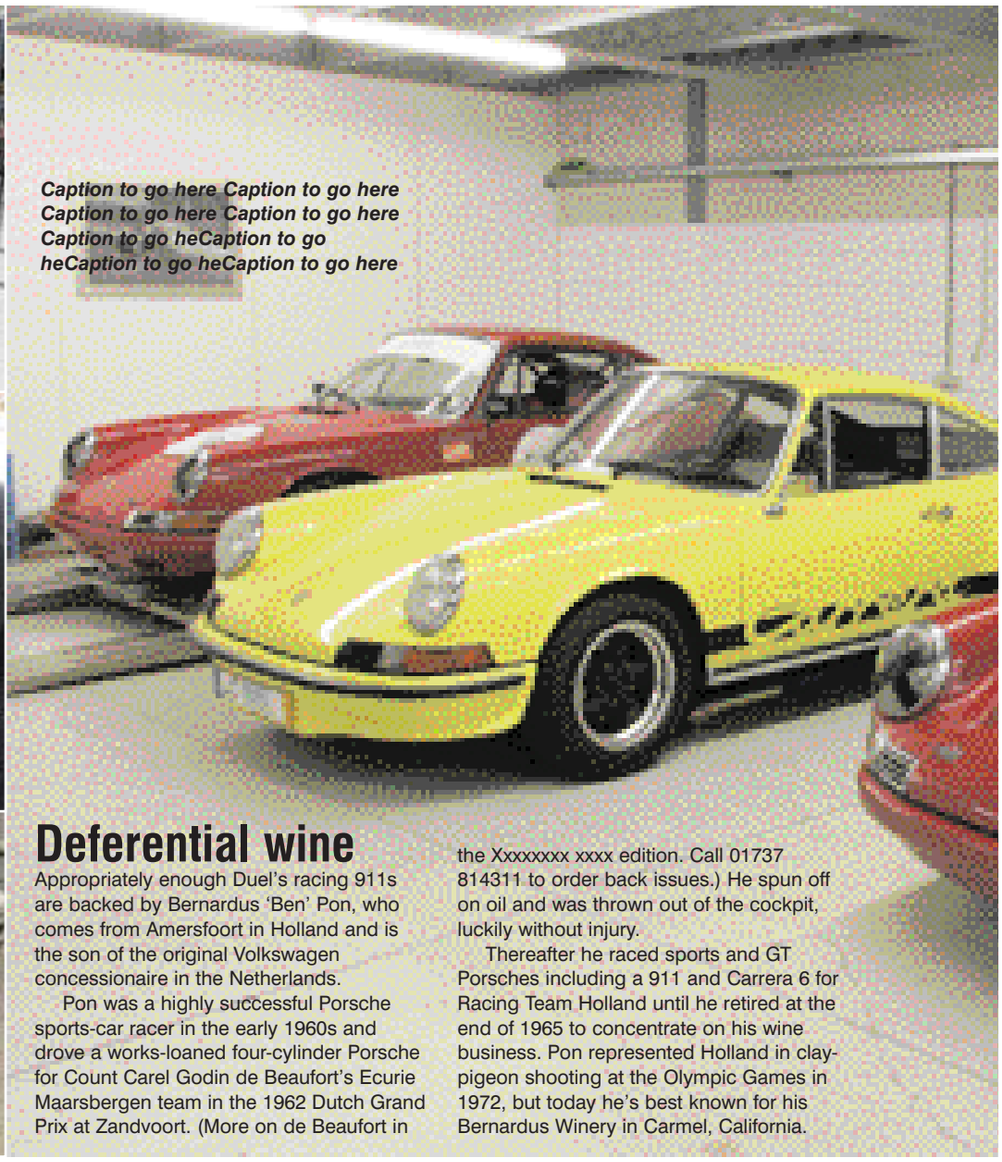
In fact, this is the 911 driven by 1968 European Rally Champion Pauli Toivonen (father of the late Henri - see sidebar). There were two sister cars, one of which was essentially a rally car for Toivonen, the other a circuit racer for Vic Elford (see the accompanying 1960s' Brands Hatch snapshot), with Waldegard and Larrousse also taking turns at the wheel. The Elford car, as far as Ed knows, is in the USA. We'll return to the Toivonen car later.

Other Porsches come from Belgium and Germany, but not, as yet, from the UK, although the four-hour crossing courtesy of Stena's HSS jetfoil shouldn't be a disincentive. 'We'd like it if people did come over from England,' says Ed. 'But there are several UK specialists doing the same sort of thing as us, like Autofarm and Francis Tuthill, so there's competition from them.'

In Duel's workshop was a Carrera 3.0 and a Carrera 2.7 RS, along with a more modern Carrera 3.2. Tucked away in the inner sanctum was a treasure trove of classic Porsches, which included a 2.4-litre 911S and a pair of short-wheelbase 2.0-litre race cars. These were in addition to Ed Poland's 'hobby' cars: a couple of Lola T450 F2 single-seaters from 1976, and a Lola T390 sports prototype under construction. 'We can't earn a living from these,' he jokes. 'They're just for having fun.' Probably just as well: Lolas weren't even so much as a blip on the F2 radar that season, dominated as it was by French drivers in Renault-powered Elf and Martini chassis.

At the back of the garage is the rolling-road, alongside which is the engine and gearbox workshop. This has the air of a college technical laboratory, with disassembled flat-sixes and 915 transmissions on the benches or free-standing trestles.

Duel is one of the foremost exponents of Porsche restoration, engine rebuild and race-rally preparation in the Netherlands. The company handles all aspects, from mechanicals to bodywork, sourcing and supply of parts, and provides at-circuit support for customers. It also specialises in



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Deferential wine

Appropriately enough Duel's racing 911s are backed by Bernardus 'Ben' Pon, who comes from Amersfoort in Holland and is the son of the original Volkswagen concessionaire in the Netherlands.

Pon was a highly successful Porsche sports-car racer in the early 1960s and drove a works-loaned four-cylinder Porsche for Count Carel Godin de Beaufort's Ecurie Maarsbergen team in the 1962 Dutch Grand Prix at Zandvoort. (More on de Beaufort in the Xxxxxxxx xxxx edition. Call 01737 814311 to order back issues.) He spun off on oil and was thrown out of the cockpit, luckily without injury.

Thereafter he raced sports and GT Porsches including a 911 and Carrera 6 for Racing Team Holland until he retired at the end of 1965 to concentrate on his wine business. Pon represented Holland in clay-pigeon shooting at the Olympic Games in 1972, but today he's best known for his Bernardus Winery in Carmel, California.

tracking down hard-to-find race or rally parts, particularly for rare vehicles like the 911R, RS, RSR and ST. 'We keep a certain amount in stock,' says Poland, 'and if we haven't got it on the shelf, we will certainly find it.'

Duel has developed several special parts for older Porsches, notably an exhaust system. Designed for the 2.0-litre engine, it lifts the power band from between 3000 and 6000rpm to 5000 and 8500rpm. Nothing much happens below 5000rpm, concedes Poland, but the system releases an extra 20bhp. It's claimed to work brilliantly, and forms an important part of Duel's business.

In response to decreasing noise tolerance at European circuits, Duel also designed the exhaust so the car can be driven either with or without a silencer - to be truthful, it's more of a shroud - which still produces more power than the megaphone-based systems favoured by the factory.

'At certain points on the graph our exhaust showed a power increase of 35 per cent against the best of the silenced race cans or after-market exhausts we've tested on our dyno,' claims Poland. 'At most circuits in Europe you can't make too much noise,' he adds, 'so we put a damper on it which fits neatly around the rearmost section of pipework. As a result it's quieter and there's no loss of horsepower.' The Duel system is supplied in open-exhaust format, with the silencer and all bracketry needed to install it.

Another key area where Duel has found scope for improvements is in carburation. Early 911s used what were effectively six separate Solex carburetors. 'It was a hell of a system,' says Ed. 'It didn't last for even a year, though, and very quickly Porsche went over to Webers.'

Drivers of Historic pre-1965 Porsches soon became aware of the inefficiencies of the Solex carburettors, and on race and rally engines they're notorious for resulting in excessive fuel consumption. Duel modifies the carbs and intake manifold and, in conjunction with the exhaust system, the result is claimed to be a very broad power band.

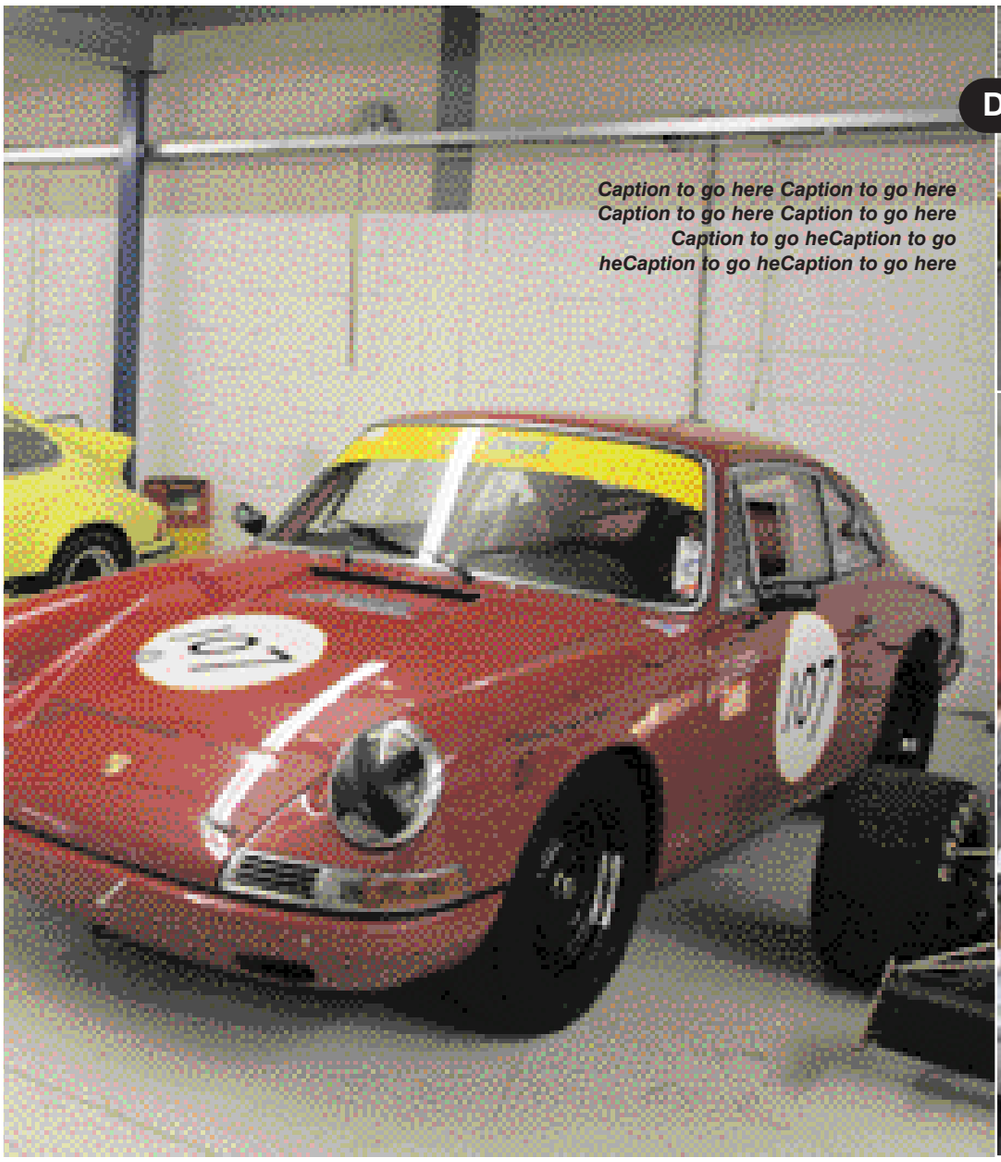
'We now run our competition engines on full-race camshafts without sacrificing power in the mid-range. And because of the broad power band we get better fuel consumption. Crucially, the cams produce 20bhp more at 5000 rpm, which continues to build as the revs rise to 8000 or 9000rpm. You end up with the top-end performance of a race car and the torque of a road car.'

There's a beneficial knock-on effect for the transmission, too: 'We can build longer gears into our gearboxes,' says Ed, 'which means the driver makes fewer shifts.' The upshot is that the engine and gearbox have a longer lifespan, a bonus for endurance racing.

For road use Duel will happily install bigger valves and enlarge the intake ports, finding another 20-30bhp, bringing output up to 220 or 230bhp. But for competition work - within the regulations, at least - the cars have to run with normal-size ports and valves. For long distance events like the Spa 6-Hours they also run with 100-litre fuel tanks.

It's not just the 911 driveline that Duel has tackled. For better handling the company has developed a fully adjustable suspension-damper kit to fit 911s from 1965 to 1975. These are available for race and rally, or simply street use. Says Poland: 'We make them here ourselves. A short-wheelbase 911 is quite tricky through long, fast corners. You can adjust the damper settings so it drives like a long-wheelbase car, and you can change the settings from circuit to circuit. We also make longer units for rallying because the car's ride height is higher.'

Duel's own racing Porsches are a pair of identical red 911s, sponsored by Ben Pon, one of the original 911 protagonists in the Netherlands (see sidebar). These cars can only be described as gorgeous. One's from 1964, the other from 1965, and both are



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Dutch Engine Laboratories

fitted with 2.0-litre engines. Their original 130bhp output has been increased to 204bhp at 8000rpm.

Duplicating such a machine is fairly standard procedure, until you come to the mechanicals. Duel finds a basic car, strips it to a bare shell, removes all the rotten parts, seam-welds it, and then rebuilds it as a race car. As Ed says, 'We rebuild everything from the engine, gearbox and suspension to the brakes. Everything is installed to meet the homologation requirements of a1965 car.'

I marveled at the complexity of the detailing in these racing 911s: the side window openings, the air vents in the rear-three-quarter windows, and the roll-cage: more complex than anything used at the time, but crucially still managing to appear in-period.

The meaty-looking steel wheels are standard-issue 15-inch-diameter pressings, which Duel has widened with 5.5-inch rims. The main reason for this is so they can run tubeless tyres; early narrow Fuchs alloys won't support tubeless tyres.

Ed offered to put one of the 911 race cars on the rolling-road. Having thrilled to the throaty roar of the 2.0-litre flat-six as a race fan during the mid-1960s, I could hardly wait for the mechanical cacophony to begin. As the engine oil warmed, the mechanic at the helm started to go through the gears. Soon enough the revs rose to earplug threshold.

I stared spellbound at the readout on the monitor as the revs soared and the output was registered; an impressive 8000rpm - and 205bhp! It begged the question, 'When can we see it in action?' Had we been around the following weekend we could have followed Duel's exploits at Zolder.

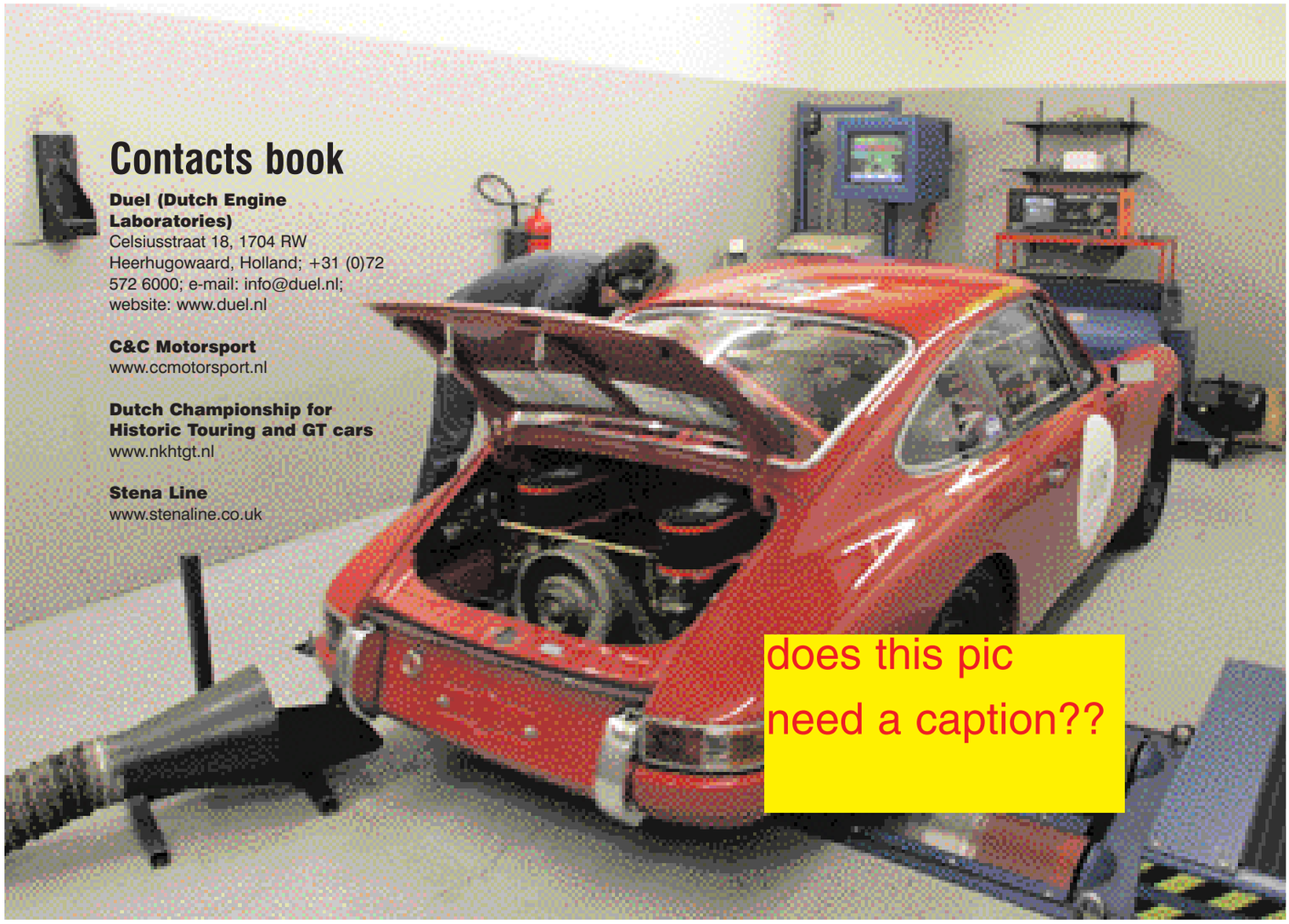
'We're doing quite well in the national Historic racing scene,' says Ed modestly. 'We didn't enter all the races last year because of the time schedule, but we finished the Spa 6-Hours in seventh place out of 120 starters.' The Porsche 911 isn't a car for sprint races, compared to the Alfa Romeo GTA or Lotus Cortina. But if you have it set up right the Porsche will run for six, 12 or 24 hours. 'If they have gas they will run - unlike the other cars we just mentioned. They are finished!' enthuses Poland

Duel employs three drivers for long-distance events like Spa, and for four-hour races there's usually just one driver change. 'You can drive every weekend if you like,' said Poland. 'We only do FIA races, but we cover the whole of Europe, with races at the Nürburgring, Monza, and also in France and Spain. Then we do the Dutch championships with races at Zandvoort on the coast and Assen in the east, plus rounds at Zolder, and Spa in Belgium. But we don't do anything in the UK yet.' By the time you read this Duel will almost certainly have won the 2005 Dutch championship with one of its red cars.

Duel 911s are built to extremely high standards, in contrast to the school of thought that believes a racing car just has to function as efficiently as possible in an environment where it's likely to get damaged. Poland puts it like this: 'When you are asking a lot of money from customers, they want to see something as close to perfection as possible. So we spend a lot of time making things look perfect.

'Sure, it has to work mechanically, but its presentation must be perfect, too.' To reproduce one of the red 911s would cost in the region of 100,000 euros. That's comparable with what the leading UK specialists would charge to construct a classic 911 race or rally car.

Poland is concerned with authenticity, but is prepared to make improvements wherever possible. 'The problem with Historic race cars is that everyone stands still. They are always looking in the Porsche history books and saying, "That's what you've got to do". But we are 40 years further on, so we can do better. Our present day figures of 200bhp would be unheard of.



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Dutch Championship for Historic Touring and GT cars
www.nkhtgt.nl

Stena Line
www.stenaline.co.uk

They were getting maybe180 or perhaps 185bhp back then.'

Three young men are employed full-time at Duel, with another on college work experience. As well as hands-on jobs, their tasks include writing computer programmes to evaluate scenarios, such as what kind of exhaust is needed for a particular application, and the result is tested on a dyno to see if it works in practice.

Two of them were hard at work in the engine shop during our visit, engaged in the rebuilding of a couple of engines and a 915 gearbox. The first engine was the 2.0-litre Toivonen unit, its heads having valve seats ground out, and the transmission was destined for the same car, waiting for the gears to be installed. The second engine was a 2.7 RS unit for a customer's car. The rebuilt 2.7 RS heads have new valves and guides, and the heads were skimmed to keep the deck height exactly the same on each. 'They came in as a complete mess,' Ed says.

Duel carries out all the cylinder-head work on site, including fitting valve guides and valve seats, flowing the ports and machining. 'We start with the standard engine, and it takes two weeks of normal work days to complete,' said Poland. 'The engine always has special parts in it, so you have to look for the parts, or maybe wait for them - or else fabricate them. We want to use the best pistons, so we have to find the 906 [Carrera 6] ones. We search for those worldwide.' Indeed, Poland sourced the special Mahle 906 racing pistons for the Toivonen car from Kuwait.

If Duel has specific questions about a particular car it calls the factory and a Porsche rep comes out to advise. They sometimes ask for the homologation papers, which is no problem. 'That's the nice thing about Porsche. They know everything about these cars. When you give the chassis number they tell you when it was delivered, what extras were on it, who delivered it, where it was delivered. They know everything. You don't get that with Ferrari or Lamborghini.'

Back on the forecourt we paused to admire the orange and silver cars. The exceedingly rare 914-6 GT with the flared wheelarches and lightweight bonnet was equipped with a 2.7-litre RS engine. Duel had done a complete driveline rebuild, and the owner and his wife use it simply for pleasure. And what a pleasure it must be!

The silver 911S had undergone a more comprehensive makeover for extensive use in classic rallies, for which it's fitted with front and rear skid-plates. It also has bigger brakes with Duel-made calipers, plus Minilite wheels and a more robust 950 gearbox to contend with the jumps. 'The owner rallies it all over Europe,' said Poland. 'He just did the Coppa Europa in the French and Swiss Alps, and competes in winter rallies in Austria and Switzerland. It's nice to work for serious guys because they know what they want - or you can advise them and they know what you're talking about.'

Lastly, Ed took us to see the stripped shell of the Toivonen car in their bodyshop just up the road. When found it had spent 20 years rallying in the Finnish forests, and was in a terrible state. It even had a turbocharger fitted, with vast wheelarches and a big wing to match. 'We had to rebuild to how it was in 1968,' recalls Ed. 'Where the rear wishbones are, everything was completely cracked, so we made up plates to reinforce it. The front had completely disintegrated, and we had to use a donor car to provide the doors and the front wings. The rear wings and the roof are going to be new because the car was rolled a few times.'

It's nice to have at least some metalwork from the original car, but the only thing worth keeping in this case was the VIN number and the original 100-litre fuel tank. There was also a footrest to the left of the clutch pedal and some studs that revealed where the roll-cage was located.

'We will copy the original, and with all details correct it will be just as it was in 1968,' predicted Poland. 'The same running gear, decals, same non-adjustable seats. We are going to do all the paneling and paintwork here. And Mika Håkkinen is going to drive it when it's finished.' You saw it first here, and I for one can't wait to see the Flying Finn in a 'real' car. ■