

there, and it was held down by him and his belts!"

Alén survived a heart-stopping fifth-gear spin at Oliver's Mount to maintain his lead as the field pressed on into Scotland. There the drama continued: Pond's Metro had a change of front diff, Alén's Lancia a new water pump plus yet another spin in Kielder. Toivonen – who'd edged into second place – then rolled his S4.

"Those bloody Lancias!" said Pond at the time, with a smile. "All through the stages, you can see where they've been going off. There are spin marks here, bits missing there. They hit things all the time, and they still keep going."

After a gearbox change in Carlisle, Alén headed back into an icy Kielder, where disaster struck. He went off the road and needed to be pushed back on by Juha Kankkunen's Toyota, but the time lost in doing so meant that he dropped behind both Toivonen and Pond.

Getting caught out on the wrong tyres cost Pond second place, but Alén was unable to catch his team-mate. For Lancia, the one-two was a dream result, and as Fiorio looked over the 6R4 after the event, he said: "I think that, now we know our car works as well, next year's World Championship will be very exciting."

Instead, 1986 was when Group B was stopped in its tracks. Toivonen continued where he left

off with victory on the season-opening Rallye Monte-Carlo, before Kankkunen struck back for Peugeot in Sweden. In Portugal, where crowd control was a perennial problem, Joaquim Santos lost control of his Ford RS200 and three spectators were killed. Then, in May, Toivonen was leading the Tour de Corse when his S4 left the road on the 18th stage. Both he and co-driver Sergio Cresto perished in the ensuing fire.

"The road was not to blame, the car was not to blame, and the driver was not to blame," said Fiorio in the immediate aftermath, "but all three together need to be studied. The regulations just now give the drivers too much to cope with. We must quickly find a solution."

Governing body FISA did just that, immediately banning any further Evolution models, and announced that the 1987 championship would be for Group A cars only, meaning that 5000 roadgoing examples would need to be built.

There was still a season to finish, though. Alén regrouped after the loss of Toivonen, winning in San Remo and on the final round in America to claim the championship. Or so he thought. On 19 December, FISA annulled the results of San Remo – on which Peugeot had been disqualified – due to timing discrepancies. Ten days after Alén had been crowned, the title was handed to

Kankkunen, but already life had moved on.

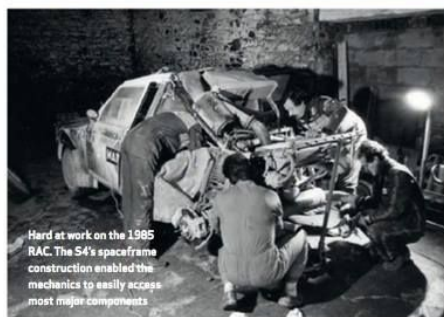
"Less than a week after driving the S4 for the last time, we were testing the Group A Delta," says Alén. "I could drive it with one hand – it was so easy! It had maybe 240-250bhp, and it was very heavy, too." The mechanics waiting at the end of that test saw Alén approach – the Lancia's door was open, Markku's leg dangling out and 'pushing' the car along. When they asked what he was doing, he replied that he was "trying to make it go faster!" The rallying landscape had fundamentally changed.

"The 037 was fantastic, but we'd worked on it for many years," says Vittone. "The S4 was fantastic, too, but we had it for only one year. It started with 430bhp and was up to 470bhp by San Remo, but there was no time to evolve. There was a lot to come – perhaps another 30%."

There's no doubt that Group B had got out of hand. The cars had become too fast for events that – in the case of the 1985 'Rack' – lasted five days with 562 stage miles and no pacenotes. That said, just imagine if Lancia had been given time to perfect the S4 – the sight and sound of Alén on one of his 'maximum attack' charges would have been truly awesome.

Thanks to Luca Gastaldi and Massimo Arsi

Clockwise, from left: S4's ferocious acceleration is best shown off on tarmac; Vittone reminiscing; air vents for cabin, with the intake for the engine bay behind – the latter feeds a vast oil cooler; twin-cam 1759cc 'four' produced nearly 500bhp in period

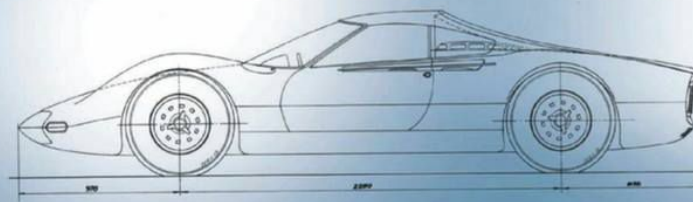


Hard at work on the 1985 RAC. The S4's spaceframe construction enabled the mechanics to easily access most major components



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“AND NOW, MAXIMUM ATTACK!”

Markku Alén's famous phrase was well suited to Group B, and to the Lancia Delta S4. **James Page** rides shotgun as two legends are reunited

PHOTOGRAPHY JAMES MANN/LAT





Left: upgraded T16 matches the RS200's straightline urge. Below: Metro 6R4 is the only normally aspirated car here – the V6 sounds glorious; Clubman-spec cabin is a curious blend of road car fixtures and stripped-out rally weapon

PEUGEOT 205 T16 SÉRIE 200

Sold/number built 1983-'84/200
Construction steel monocoque and front subframe, tubular rear spaceframe, steel doors and composite panels
Engine all-alloy, double-overhead-camshaft, 16-valve 1775cc 'four', KKK turbocharger, Bosch electronic fuel injection
Max power 197bhp @ 6750rpm
Max torque 188lb ft @ 4000rpm
Transmission five-speed manual, driving all four wheels
Suspension coil springs, double wishbones, anti-roll bar
Steering rack and pinion
Brakes two-pot calipers with ventilated discs
Length 12ft 6in (3820mm)
Width 5ft 7in (1700mm)
Height 4ft 5in (1354mm)
Wheelbase 12ft 4in (2540mm)
Weight 2525lb (1145kg)
0-60mph 6 secs
Top speed 114mph **Mpg** n/a
Price new £28,500 **Price now** £200,000



MG METRO 6R4 CLUBMAN 300

Sold/number built 1985-'86/200
Construction steel chassis and subframes, GRP, steel and alloy shell with integral steel rollcage and doors
Engine all-alloy, quad-cam, 24-valve 2991cc V6, Lucas-Micos electronic fuel injection
Max power c300bhp @ c7000rpm
Max torque c250lb ft @ 6000rpm
Transmission five-speed manual, driving all four wheels
Suspension MacPherson struts, adjustable anti-roll bar/r/r
Steering rack and pinion
Brakes four-pot calipers with ventilated discs
Length 12ft (3657mm)
Width 6ft 2in (1880mm)
Height 4ft 11in (1500mm)
Wheelbase 7ft 10in (2391mm)
Weight 2200lb (1000kg)
0-60mph 3.2 secs (250bhp Clubman)
Top speed c110-120mph
Mpg n/a
Price new £16,000 **Price now** £150,000

Nicolas and Angelo Marinello to raise the Série 200 to within 50bhp, 72lb ft and 309lb of works Evo 1 specification. The downside was that it added a whopping £39,500 to the £28,500 price-tag. The kits (only 25 were produced) also ensured brakes, steering and suspension could cope with its 300bhp 'four' without it spitting you off in a plume of tyre smoke and profanity.

Naturellement, you sit on the left and the dashboard, a modified early production 205 unit, is packed with instruments. It stylishly bridges the gap between the RS200 geezer and the leather-clad sophistication of the Sport quattro. After a brief high-pitched Peugeot whinny from the starter, the exhaust is deliciously loud. The note romances your ears as the turbo swooshes and the wastegate snorts and sniffs. Pedals are positioned for dancing feet and the gearbox has six short ratios. To drive, it is glorious – enjoyable, tractable and beguiling.

It does feel more diminutive, though, and the narrow-gate, short-travel gearchange demands concentration. The front end feels nervy and twitchy – possibly due to too much spring poundage and not enough weight – but the T16 seems far lighter and more responsive than the RS200. Steering feel, speed and chassis turn-in are beautifully judged. The rear is faithful yet adjustable on the throttle. It rides well and, thanks to its shorter gearing and upgraded

engine management, doesn't feel noticeably slower than the RS200, despite the Ford's power advantage. Even the weighting of the control surfaces is beyond reproach.

Cast an eye over Mark Donaldson's MG Metro 6R4 Clubman 300 and clearly there is a difference between PTS's Group B approach and that of Austin Rover Group Motorsport. If the Série 200 hides its motorsport genes well, the Clubman 300 does the exact opposite.

The Very High Performance Derivative (VHPD) of the Metro was overseen by John Davenport and designed, with input from Patrick Head at Williams Grand Prix Engineering, to fill the gap left by the retired Triumph TR7 V8. At first, thoughts involved fitting a Rover V8 under a rear-drive Metro's bonnet, before a more sensible mid-engined alternative



was suggested by Head – the six-cylinder rally four-wheel drive (6R4).

Early prototypes were powered by three-quarters of a Rover V8 until the quad-cam V64V was ready. Unusually for Group B, the 6R4 was naturally aspirated because, when the project started in 1981, it was felt that forced induction added complexity and unreliability. In standard Clubman tune, the V64V was capable of 250bhp; in International specification it could realise up to 410bhp (unfortunately, as turbocharging gained reliability and power, the MG was left behind). Two hundred 6R4s were built between August and October 1985, with the car being homologated by FISA from November. As with the RS200, the 6R4 just ran out of time following a long gestation and early troubleshooting.



Even in homologation-run Clubman spec, the little 6R4 is a manic, explosive and addictive machine. Left: Per Eklund aviating on the 1986 1000 Lakes



Homologation Clubmans were sold as kits to the public for around £40,000 (price negotiable) and required some DIY assembly. The problem was, Austin-Rover had a lot of unsold 6R4s when the axe fell on Group B. The company negotiated a stay of execution on national rallies, provided cars were limited to 300bhp. Enter the Clubman 300, a 6R4 that was advertised at just £16,000 – again with room for haggling – that unsurprisingly sold out within 10 months.

If the 300's lack of trim and Belga livery doesn't get the blood excited, then donning headphones certainly gets cells fizzing. The engine is started. It whoops into life. *Gran turismo* refinement isn't in its brief.

Everything is physical about the 6R4; it feels more like sparring than driving. If changing gear in the T16 is a flex of the wrist, here it's a jab from the shoulder. The hefty steering's responses are electric and those wide front tyres scramble over imperfections. The 6R4 darts this way and that, until it is calmed at bigger speeds by the aero. Unlike the others, the pedal needs a kick in the guts to really get the brakes working.

The sharp-edged howl from the V6 is intoxicating. Power delivery is wonderfully linear. It's hard to stick to the imposed 7000rpm limit because the engine revs so freely, provides such an aural thrill and your concentration is dealing with multiple demands.

"Take the headset off!" says Donaldson over the intercom. The howl is now far more intense – almost uncomfortable, in fact. It feels as if it's in your skull, gnawing away at your brain from the inside. You can't hear your thoughts but you can feel yourself grinning like a loon.

After a few laps, we swap positions and I get into the passenger seat. It is a mad flurry of noise, speed and g-force as Donaldson demonstrates how ductile the 6R4's chassis is. Filled with schoolboy-like glee, I'm reminded of being face-to-face with a new 6R4 at an NEC Motor Show of yesteryear, wondering if it could ever be as impressive as it was imposing. Now I know.

It's not often you get to tick four cars off your bucket list in one day, but which is best? Like a glutton at Willy Wonka's warehouse, I don't know where to start. The T16 is the most complete car – great handling and epic performance plus good usability – yet I was bewitched by the 6R4, even if only a masochist would contemplate using it on the road. Then I ask Donaldson, who reckons that, dynamically, it has to be the Lancia Delta S4. And if you thought that the brutal Italian contender had possibly been overlooked, turn the page now...

Thanks to Alex Karidis; David Ingram at Audi UK; Simon Rudge Motorsport; Mark Donaldson; www.markdonaldson.com

Group B explained

Introduced in 1982 alongside Group N (large-scale series production touring cars) and Group A (large-scale production), Group B (series-production grand touring cars) was intended to replace Groups 4 and 5. Cars from the former were automatically allowed to compete in it. The aim was to attract more manufacturers via fewer regulations and lower homologation runs – from 500 to just 200. It had four classes: B9 (1299cc or lower), B10 (1300-1599cc), B11 (1600-1999cc) and B12 (2000cc and higher), which is the one in which the rally versions of our feature cars competed. Forced-induction engines had their capacity multiplied by 1.4. The class would also dictate minimum weight and maximum tyre width.

A car needed to have at least two seats and the 200 roadgoing variants had to be produced in 12 months. Each year, 'evolution' models were allowed provided that 20 were made – these could weigh less and have larger engines. Teams either built them for use as their own entries or simply converted 20 of the existing run.





possible via a lever in the cabin operating the viscous coupling on the front of the FF Developments five-speed gearbox.

Speed of repair was essential, so both front and rear body sections were hinged for good access, and suspension spec (eg, from tarmac to gravel) could be changed quickly between stages.

It is believed that only 140 of the 225 RS200s were sold to the public, and it's an odd mix of friendly Ford and single-minded rally jobs-worth. Getting in, you might hit your head on the integral rollcage, but once seated there is plenty of room and Essex-ness in the detailing. The offset pedals are close together and the short-tempered clutch is either in or out. The manual steering is meaty and direct, and demands greater muscle through bends, while the five-speed gearchange is light and slick in its travels. The RS200 rides well and is very stable, with handling traits similar to a Sierra Cosworth; it is a touch roly-poly with a hint of understeer thanks to soft dampers and road tyres.

But everything is subservient to that turbo-charged 'four'. It is uncouth. It is coarse. At higher revs it feels slightly red-faced. Above 4000rpm the dump-valve sneezes and flutters when the clutch is depressed, interrupting the turbo's manic swooshing. At 480bhp, the power of our featured example is rather more than the standard 240bhp, and getting closer to outputs

Clockwise, from above: featured car has 480bhp, which gives eye-opening performance; rear panel lifts out of the way for easy access; central rev counter in dash; interior is recognisably Ford. Inset above: Blomqvist retired from 1986 Acropolis Rally



From above: T16's styling is almost subdued when compared to the other three; transverse 'four' is mated to a Citroën SM 'box'; dashboard is based upon that of the early 205; orange-on-black dials. Inset: Timo Salonen on the 1985 Acropolis Rally

enjoyed by the works' 2137cc Evo II, allowing you to gorge on acceleration that is as mesmerising as it is moreish. You leave the RS200 feeling stunned, and not just because you've clobbered your bonce on the rollcage again. You're speculating on what might have been following more time and development.

Despite having a longer chassis and using only the doors from its front-wheel-drive sister, the Peugeot 205 Turbo 16 Série 200 hides its Group B-ness well. Peugeot Talbot Sport's (PTS) M24-Rally project was born under Des O'Dell, Jean Todt and Bernard Perron, and came to fruition in Coventry at Talbot's HQ in 1981 before moving to France. The car that would become the T16 made use of Chrysler Europe's rally experience to promote Peugeot's new make-or-break 205 hatchback. Mid-engined and four-wheel drive, its layout was inspired by the cancelled Lotus-powered Group B Talbot Horizon and designed to optimise weight distribution, traction and responsiveness.

Two hundred road cars were built, all in metallic dark grey and powered by a transverse XU18 engine built on a diesel block, giving 197bhp and transmitting drive via a Citroën SM five-speed gearbox. 'Our' T16, though, is even more special. It's been updated with the PTS Clubman kit (actually comprising four individual kits) that was developed by Jean-Pierre



Clockwise: wider arches and short wheelbase give aggressive stance; Audi has vast reserves of grip; bespoke dash. Inset above: Mikkola in Portugal, 1984

Mention its name and there is a twinkle in the eyes, followed by a smile. Speaking to Alex Karidis, owner of the featured Peugeot 205 T16 and Ford RS200, it is clear that Group B left an impression: "I lived through that era and went to a rally or two. People don't understand now but, at the time, these cars were rock stars – they were bigger than F1. It was stupendous, such a buzz."

"I remember sitting at the traffic lights in my little Honda, when a works RS200 pulled up next to me with a T16. When they shot off, it was 'Wow!' It was in between stages on the Acropolis Rally and they were putting on a bit of a show. It was incredible to see them on the road."

The regulations (see page 101) were few, free and easy. Engines migrated from front to rear-mid locations. There wasn't a limit on power or boost or fuel. Advanced lightweight composite materials were encouraged, and upgraded 'Evo' models were also permitted annually.

The resultant spectacle was awe-inspiring. Mighty power. Mind-numbing acceleration. Huge speed. Heroic crews. Spine-tingling soundtracks. Wide-bodied machines dancing on the edge of control – and all coinciding with improved television coverage. Little wonder the fans went crazy. In places, crowds swarmed



stages, playing chicken, getting plastered in dust and trying to touch the cars.

Some entries paid lip-service to their road cousins by loosely following their silhouettes, others didn't bother. The cars built for homologation and sold to the public – almost as an afterthought – frequently lost money and were far from the polished product that their price-tags suggested. That, however, was more than 30 years ago and today, thanks to the efforts of enthusiasts, these machines live up to the white-knuckled promise those owners bought into.

The lasting legacy of the ur quattro is such that it flouts the rules of written English – a proper noun devoid of capital – without comeback. Sitting in the short-wheelbase Sport, you are reminded of this when you glimpse the

reflected 'quattro' legend in the mirror. Yet while this car set the four-legged cat among the two-legged Group 4 pigeons, newer machines were starting to outperform it.

Lancia's 037 may have been only rear-wheel drive and somewhat inconsistent, but with the pairing of Walter Röhrl and Markku Alén it beat Audi to the manufacturers' title (making it the last two-wheel-drive machine to do so) in 1983. Halfway through the 1984 season, competition got even tougher with Peugeot Talbot Sport introducing the four-wheel-drive 205 Turbo 16.

The Audi Sport quattro, in S1 form, was the least successful car here because it was a Group 4 machine with a Group B tickle. The Sport, however, does make a strong road case for itself as a two-seater GT with sizeable turbocharged

welly. The rear seats are implausible, a victim of the wheelbase shortening – 12.6in was removed for less weight (better distributed), plus greater manoeuvrability and rigidity. Other differences include a bodyside featuring composites, shorter Audi 80 front doors, a more upright windscreen, 1in-wider alloy wheels under bigger flared arches and a 306bhp engine running an exhaust manifold that was designed for the works cars' initial 444bhp output.

Peter Birtwhistle's restyled front end is all about optimised air-flow, and it accentuates the tuggish functionalism of the Sport. Yet where I'm sitting – on Recaros in a two-tone leather-bound interior on the left-hand side – the atmosphere is different. In here, furnished with a unique dashboard, aesthetically far more modern than anything on longer quattros, you cannot see the Sport's brutal rally attire.

Audi UK is about to rebuild the transmission, so kid gloves are donned when working the clutch, gearbox and throttle. The redline starts at 7250rpm and there's a 3bar boost gauge located between the 8000rpm-plus rev counter and the 300kph speedo. At first, everything is well mannered and very quattro. The steering is direct but masked by a slight mushy over-assistance, as if it were one of those old 10p arcade driving games. Thanks to its immense traction and short wheelbase, it turns in far more keenly than memories of quattros past – this Audi is huge fun, garnished with daily-use practicality.

Good though the Sport's dynamics are, it's the twin-cam 'five' that steals the glory. There's a gentle warble at low revs, but as the tach needle approaches and passes 4000rpm – cue a spasm from the boost gauge's needle – the off-beat gargle rises in intensity and volume. Lag is history and everything blurs but the view ahead.

Yes, it rolls and pitches through tighter corners, but you do have to remind yourself of the Sport's vintage. We're also getting rather rapid, so we leave our test track before Stig

Right: turbocharged 'five' delivers 306bhp – the twin-cam cylinder head was later adopted for the 20-valve version of the standard quattro. Below: Ford-owned Ghia was responsible for styling the RS200. Steering is heavy when cornering



Blomqvist delusions overcome talent and transfer from the car that could be described as Group B's genesis to one of the category's latecomers. It also wouldn't have happened were it not for the quattro, because Ford's director of European Motorsport, Stuart Turner, might not have cancelled the much-delayed Escort RS1700T.

In 1983, Turner held discussions about the future direction of the company's rally programme. The result, the RS200, would use lessons learnt during the RS1700T's troubled development. Specified by Ford Motorsport's chief engineer, John Wheeler, and designed to appear ageless while still looking like a Ford, the RS200's composite body was built by Reliant, having been styled by Ghia with UK direction and incorporating some Sierra components.

The stressed aluminium-honeycomb chassis was designed by Tony Southgate and Wheeler. Unusually, the mid-engined RS200 featured a front-mounted transaxle and a drivetrain so complicated – including three limited-slip differentials – that it would have befuddled Brunei. Three front/rear torque settings were

AUDI SPORT QUATTRO

Sold/number built 1983-'84/214

Construction steel monocoque with steel and composite panels

Engine all-alloy, double-overhead-camshaft, 2133cc inline 'five' with KKK turbocharger, Bosch electronic fuel injection

Max power 306bhp @ 6700rpm

Max torque 258lb ft @ 3700rpm

Transmission five-speed manual, driving all four wheels

Suspension MacPherson struts, gas dampers, anti-roll bar rear longitudinal radius arms

Steering power-assisted rack and pinion

Brakes four-pot callipers, ventilated discs, with anti-lock system

Length 13ft 8in (4160mm)

Width 6ft 1in (1860mm)

Height 4ft 5in (1344mm)

Wheelbase 7ft 3in (2204mm)

Weight 2800lb (1270kg)

0-60mph 4.8 secs

Top speed 155mph Mpg 15.3

Price new £56,000 Price now £400,000

FORD RS200

Sold/number built 1985-'86/225

Construction aluminium honeycomb platform chassis, carbon/glass/aramid-fibre composite body with steel rollcage

Engine all-alloy, double-overhead-camshaft, 16-valve 1803cc 'four', Garrett turbocharger, Bosch electronic fuel injection

Max power 240bhp @ 8000rpm

Max torque 207lb ft @ 5500rpm

Transmission five-speed manual, driving all four wheels

Suspension twin coil springs, double wishbones, anti-roll bar

Steering rack and pinion

Brakes four-pot callipers, ventilated discs

Length 13ft 1 1/2in (4000mm)

Width 5ft 9in (1760mm)

Height 4ft 4in (1321mm)

Wheelbase 8ft 3in (2530mm)

Weight 2600lb (1180kg)

0-60mph 4.7 secs

Top speed 142mph Mpg n/a

Price new £50,000 Price now £200,000





NO HOLDS BARRED

The Group B era produced unforgettable road cars.
Simon Charlesworth straps himself into contenders
from Peugeot, Austin Rover, Ford and Audi

PHOTOGRAPHY TONY BAKER/LAT

Markku Alén looks across as I tighten my belts and close the lightweight door: "First time in an S4?" It is, and we burble out of the make-shift service area. "This car was only finished five days ago," he continues, "so there's not been time to set it up properly, and it's on old tyres." There's a pause as he prods the Lancia's throttle and the car leaps forward. "And it's only producing maybe 420bhp, but you will get the idea..."

We turn onto the short stretch of road that has been closed just for us – it helps when the town mayor is also president of the local motor club – high in the Lombardy hills. Maybe a kilometre long, it's a typical country lane, with crests, changes in surface, quick corners and tight ones as it makes its way through vineyards and scrubland. The locals are well used to rally cars and, this being Italy, they come out not to protest at the noise but to appreciate a master at work.

"Okay," says Alén, and he once again opens up the Lancia in first gear. The effect is sensational – even in the split second it takes for your brain to get over the initial shock of the acceleration, the car has gone from walking pace to a very high speed indeed. An S4 will get to 60mph from rest

in a little over two seconds, and the proximity of trees and earth banks intensifies the experience.

Alén is using more than 8000rpm through the tightly packed gears, but wisely shows a little deference to the more severe changes of surface. As we turn around at the far end and I get my breath back, I wonder aloud how on earth he did this in somewhere like Kielder Forest – at night.

"I don't know!" he chuckles. "I must have been crazy." And with that, we're away again, Alén now pushing a little harder, cutting corners here and there, backing off less for the many crests. Not once does the Lancia feel unsettled – it punches out of corners with phenomenal traction and instant power delivery.

We roll back into the service area. Alén still wearing his Aviator shades and looking as if he's done nothing more than nip to the shops. It's difficult to relate the idyllic scene, with red-tiled roofs dotted in the valley below and church bells ringing in the distance, to the thrilling violence of the past few minutes.

This particular S4, chassis 207, is the very one that Alén drove on the 1985 RAC Rally. The following year, it was campaigned in the European Championship by Fabrizio Tabaton then, in '87 and '88, Gian Battista Rosella took it to victory in the European Autocross series. Now

owned by arch-enthusiast Massimo Arsi, it's recently been restored to 1985 specification and today's 'relaunch' has reunited many members of the old factory team.

It's a crew that Alén knows well, having spent 16 years with Fiat, eight of which were at Lancia: "I actually had the chance to go with Ford and Fiat in 1973, but Ford already had guys like [Hannu] Mikkola. Who knows why I lasted so long with them? Maybe I'm a spaghetti guy!"

The S4 was a relative latecomer to the Group B arms race. A team at Abarth led by Pier Paolo Messori started work in early 1983, with the first chassis being built in December. Its sheer complexity led to a number of delays, and not until June 1984 did the car make its test debut, at Mandria in the hands of Giorgio Pianta.

Initially bearing at least some resemblance to Giorgetto Giugiaro's roadgoing Delta, the early rally cars shared only the windscreen, rear lights and front grille with the production variant, while beneath the cutting-edge carbonfibre and Kevlar bodywork was a rigid tubular space-frame that weighed only 98kg.

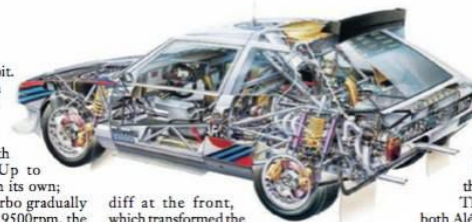
The mid-mounted engine was the first to be designed by the Fiat Group specifically for rallying. The all-alloy 1759cc unit featured four valves per cylinder and twin overhead camshafts,

but that wasn't the really clever bit. Lancia used its experience with supercharging, gained via its Volumex models, and blended it with turbocharging in a bid to eliminate the lag associated with employing just the latter. Up to 3500rpm, the blower works on its own; from there to 5500rpm, the turbo gradually joins in. Between 5500rpm and 9500rpm, the supercharger is bypassed so that it can idle and not drain any more of the engine's power, leaving the turbocharger to take over.

The suspension was derived from that used on the 037, but the biggest change was the adoption of four-wheel drive. That necessitated a front-end redesign, with the spring/damper assembly having to be moved back because of the need to accommodate the driveshafts.

"I did 1000km of testing on gravel," remembers development driver Walter Rostagno, "and it needed a lot of work, mostly on the suspension because at first it was very difficult to drive. There was no power steering and no front limited-slip diff at that time. It was completely different to the [roadgoing] Delta's 4x4 system."

The development of power-assisted steering meant that the engineers could fit a limited-slip



diff at the front, which transformed the car's handling. There was another one at the rear, and the torque distribution between the axles could also be varied.

"With the 037, rear-wheel drive was always a handicap," explains Alén. "It was not really possible to win on snow or gravel. We were very late with the S4, but I got used to it very quickly."

Extensive aerodynamic testing was needed, though. Beginning in Fiat's Orbassano wind tunnel in March 1984, work centred on reducing drag – the frontal area was larger than that of the 037 – and front-end lift, which caused high-speed understeer. Efforts continued right up until the S4's World Championship debut on the 1985 RAC Rally, which started on 24 November – homologation having been granted that month.

"To be honest, it wasn't really ready by the time of the RAC," says engineer Roberto

Vittone, who, like everyone else here, pronounces RAC 'rack'. "The cars suffered from an engine vibration, and changing one took three hours. It was very bad. The last important pieces were still arriving when the cars were already loaded in the trucks ready for the RAC!"

There was no real expectation of getting both Alén and team-mate Henri Toivonen to the finish, but it was Lancia's rivals that hit trouble first. Audi's Walter Röhrl and Hannu Mikkola both retired during a busy couple of days that took crews from Nottingham to Wales and back, and Alén led the way. Toivonen was lying third, the S4s split by the heroic Tony Pond, cheered to the rafters by the home crowd as he gave the Metro 6R4 its own WRC debut.

Team boss Cesare Fiorio pressed mechanics to renew components wherever possible, which led to a ferocious workload.

"We had a clutch problem on Henri's car at Donington Park while we were running first and second," says Vittone. "We were really tight for time at service, and to work on the clutch and engine you had to remove the driver's seat. We got it done, but Henri told us not to waste time bolting the seat back in – we just placed it in

Rear bumper was removed as part of aero work – it improved the S4's pitch stability. Above: cutaway view shows twin dampers at rear and front differential



Above left: Alén in chassis 207 on the 1985 RAC Rally. He won 27 stages out of the 63, but was pipped by team-mate Henri Toivonen. Above: five-speed gearbox has a magnesium housing and transmits drive through a twin-plate AP clutch

"THIS PARTICULAR CAR IS ONLY PRODUCING MAYBE 420BHP, BUT YOU WILL GET THE IDEA"



Left: Markku Alén in his former office – the tall Finnish ace won rallies for Lancia aboard Stratos, 037, S4, Delta HF and Integrale. Note the rally tripmeter and radio sited ahead of the co-driver

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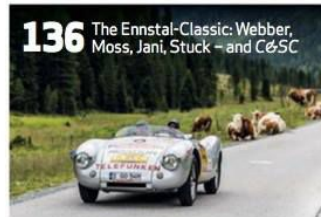
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HOMOLOGATION HEROES

**92**Peugeot, MG, Ford
and Audi in epic
Group B showdown**150** Mick Walsh heads for France in a trio
of Thames Ditton's finest models**136** The Ennstal-Classic: Webber,
Moss, Jani, Stuck – and C&SC**190** Buyer's guide to the S-type:
Jaguar's unsung '60s saloon**142** How the Lightweight Sports Car
led to Ariel's frenetic little Atom**108** The Turner apprentice who
restored a 950S, 50 years later**162**Our classics:
Stovebolt on
road and track**177**Specialist:
making your
distributor
more efficient**NEWS**

Editorial	4
The gallery	6
News	8
Your events	15
Sport	19
Lost & found	22

COMMENT

Mick Walsh From the cockpit	27
James Elliott Misfire	29
Simon Taylor Full throttle	31
Martin Buckley Backfire	33
Letters	35

REVIEWS

Motoring art	38
Books	41
Models	45
Automobilia	47
Classic shrines	49
Next month	51
Subscribe! 08448 488835	52

FEATURES

From stage to Stradale	92
Our Group B tribute starts with four of the best homologation variants	
Lancia's amazing S4	102
Markku Alén reunited with the Delta that he drove on the 1985 RAC Rally	
Turner's second chance	108
Ken Robbins and his restored 950S	
Clubbing together	114
We join the Morris Minor Owners' Club's 40th-anniversary celebration	
Grand Turismo greats	120
Ferrari 365GT 2+2 takes on Maserati Mexico and Monteverdi 375L	
Great British sports cars	128
MG TA does battle with Morgan 4-4	
Alpine adventure	136
Malcolm Thorne takes part in the star-studded Ennstal-Classic	
Ariel before the Atom	142
From university project to track-day legend: we drive the brilliant LSC	
AC's greatest tourers	150
An unforgettable French road-trip in 16/80, Ace Bristol and Cobra	

LIVING WITH CLASSICS

Our classics	162
Your classics MGB GT	171
Garage gear	175
Specialist	177

BUYING AND SELLING

Auctions	180
Market place	188
Buyer's guide Jaguar S-type	190
Case histories	start on 201
de Cadenet's heroes	266