

Audi

Quattro

Group B
Sport
Sport S1



Graham Robson

RALLY GIANTS™

Audi

Quattro

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Foreword

What is a rally? Today's events, for sure, are completely different from those of a hundred or even fifty years ago. What was once a test of reliability is now a test of speed and strength. What was once a long-distance trial is now a series of short-distance races.

In the beginning, rallying was all about using standard cars in long-distance road events, but by the 1950s the events were toughening up. Routes became rougher, target speeds were raised, point-to-point speed tests on special stages were introduced, and high-performance machines were needed to ensure victory.

Starting in the late 1950s, too, teams started to develop extra-special versions of standard cars, which were built in small numbers, and meant only to go rallying, or motor racing. These were the 'homologation specials', and later the four-wheel drive cars, which now dominate the sport. The first of these, no question, was the Austin-Healey 3000, the first successful four-wheel drive Group 4 car was the Audi Quattro (a converted front-drive machine, which is profiled here), and the latest is any one of the ten-off World Rally Cars which we often see on our TV screens, or on the special stages of the world.



Although rally regulations changed persistently over the years, the two most important events were that four-wheel drive was authorised from 1979, while the World Rally Car formula (which required only 20 identical cars to be produced to gain homologation) was adopted in 1997. At all times, however, successful rally cars have needed to blend high-performance with strength and reliability.

Unlike Grand Prix cars, too, they have needed to be built so that major repairs could be carried out at the side of the road or in service parks, sometimes in the dark, sometimes in freezing cold, and sometimes in blazing temperatures – and always against the clock.

Over the years, some cars became dominant, only to be eclipsed when new and more advanced rivals appeared. New cars appeared almost every year, but dramatically better machines appeared less often. From time to time, rally enthusiasts would be astonished by a new model, and it was on occasions like that when a new rallying landmark was set, when a new Rally Giant appeared.

So, which were the most important new cars to appear in the last half century? What is it that made them special, at the time? In some cases it was perfectly obvious – Lancia's Stratos was the first-ever purpose-built rally car, the Audi Quattro was the

first rally-winning four-wheel drive car, and the Toyota Celica GT4 was the first rally-winning four-wheel drive Group A car to come from Japan.

But what about the Big Healey? Ford's original Escort? The Fiat 131 Abarth? Or the Lancia Delta Integrale? Or modern machines like the Subaru Impreza? All of them had something unique to offer, at the time, in comparison with their competitors. Because they offered something different, and raised rallying's standards even further, they were true Rally Giants.

To a rallying petrol-head like me, it would have been easy to choose twenty, thirty or even more rally cars that have made a difference to the sport. However, I have had to be brutal and cull my list to the very minimum. Listed here, in chronological order, are the 'Giant' cars I have picked out, to tell the ongoing story of world-class rallying in the last fifty years:

Car: Austin Healey 3000

Period used as a works car: 1959-1965

Car: Saab 96 and V4

Period used as a works car: 1960-1976

Car: Mini Cooper/Cooper S

Period used as a works car: 1962-1970

Car: Ford Escort MkI

Period used as a works car: 1968-1975

Car: Lancia Stratos

Period used as a works car: 1974-1981

Car: Ford Escort MkII

Period used as a works car: 1975-1981

Car: Fiat 131 Abarth

Period used as a works car: 1976-1981

Car: Audi Quattro and S1

Period used as a works car: 1981-1986

Car: Peugeot 205 T16

Period used as a works car: 1984-1986

Car: Lancia Delta 4x4/Integrale

Period used as a works car: 1987-1993

Car: Toyota Celica GT4

Period used as a works car: 1988-1995

Car: Ford Escort RS Cosworth/WRC

Period used as a works car: 1993-1998

Car: Mitsubishi Lancer Evo

Period used as a works car: 1995-2001

Car: Subaru Impreza Turbo/WRC

Period used as a works car: 1993-2006

Car: Peugeot 206WRC

Period used as a works car: 1999-2003

Car: Ford Focus WRC

Period used as a works car: 1999-2008

There is so much to know, to tell, and to enjoy about each of these cars that I plan to devote a compact book to each one. And to make sure that one can be compared with another, I intend to keep the same format for each volume.

Graham Robson

Introduction & acknowledgements

Introduction

The Audi Quattro was much more than an extremely successful rally car. Just for one moment, please put aside its many victories, at World, European and national level, and see why it was a truly significant Rally Giant in other ways. Not only was it the world's first successful four-wheel drive rally car, but it was also the first to make the most of turbo-charging. It was a trendsetter in every way.

Once homologated in 1981, the Quattro completely changed the face of rallying at all levels. In the years immediately BQ (before Quattro), four-wheel drive was specifically banned. The world's best rally cars all had rear-wheel drive, either with a front- or a mid-mounted normally-aspirated engine. In that period it was the Ford Escort RS, the Fiat Abarth 131, and the Datsun Violet GT types which did almost all of the winning. AQ (after Quattro) every car-maker needed four-wheel drive to have any chance of victory, and it was not until the Peugeot 205 T16 (also covered in this Rally Giants series) came along that the Quattro could be beaten.

If Audi had not conceived a viable four-wheel drive installation for its road cars in the late 1970s, and if it had not then nagged away at the authorities to change the rules so that it could go rallying with its new models, four-wheel drive might not have been authorised for years. Even when it was authorised (and, please note, this was before most people knew that the Quattro was under development), many observers thought it was no more than a gesture to companies like Subaru, whose little cars were still too under-powered to be competitive. To its eternal credit, once Audi knew that its still-

secret new car would be allowed to compete at international level, every effort was made to ensure that this big, heavy, but above all effective, new model could become world-class, and a world-beater. Although the four-wheel drive system which Audi chose was by no means ideal for its purpose (it was too much of a 'converted front-wheel drive' system for that ...), the company went to enormous lengths to make it as ideal as possible.

Right from the start, Audi's aim was to become the best rally team in the world. Not only did the company want to win rallying's World Championship for Makes contest, but it also wanted to ensure that its drivers could win the Drivers' Championship too, and the funds were made available to back this. Maybe success was not achieved quite as rapidly as the company would have wished – Audi won the Makes series after only two years, while Hannu Mikkola took three years to lift the Drivers' title – but it was done, with a great deal of effort, if not style or panache.

Like most motoring writers observing the scene at the time, I was a great admirer of the Quattro, and of its achievements, even if I did not always admire the methods, and the approach, of the team behind it. It was easy enough, for instance, to be impressed by the car's engineering, and by the way that the team assembled the world's best drivers to join them. It was quite another, though, to accept the bullying and blustering way that the works team approached many events: that wasn't attributable to naïveté either, for the team was still as pushy after five years as it had been after five months.

The Quattro effort, in other words, was always controversial. Rules were bent at the start (headlamp flaps and twin batteries on the 1981 Acropolis), in the middle (premature homologation of the Sport Quattro in 1984), and at the end (the well-documented car substitution in the Ivory Coast in 1985). An open relationship with the rallying media gradually eroded, so that, by 1986, Audi was rarely willing to provide details of

developments. Team orders were sometimes applied to massage one or other driver towards the desired title.



Yet, after allowing for all that, I conclude that the Quattro project was a great success, not only in sporting terms, but because of the way the company's over-riding brand image was transformed along the way. A team which had virtually no works experience in 1980 started winning within a year, delivered Championships within two years, and was always competitive – even to the end, in 1986 – which tells us everything about the German way of tackling a challenge. If the funds were available (and no-one ever accused Audi of trying to win on a shoestring budget ...) Audi was convinced that it could win, and consistently: it did all of that.

The fact that the Quattro's first-generation four-wheel drive car was eventually overwhelmed – first by Peugeot's 205 T16 and then by Lancia's Delta S4 – was inevitable, and purely because time had caught up with the original design. A Quattro designed in 1979, around a layout with most heavy components up front, and with a 50/50 torque split, could not

be expected to keep on winning when the opposition was developing purpose-built, 200-off projectiles, and had years of previous experience on which to rely. The miracle, of course, is that the Quattro kept on winning for so long.

It was all very well for bitter rivals to talk about the crudities of the Quattro's layout, but this was misguided. All I need to do is to quote the following stats:

World rally victories (1981-85): 23

World Championship for Makes: 5th in 1981, 1st in 1982, 2nd in 1983, 1st in 1984, 2nd in 1985

World Drivers' Championship:

Hannu Mikkola became Champion in 1983

Stig Blomqvist became Champion in 1984

Could anyone really ask for more?

Acknowledgements

Without the help and advice of many dedicated Audi-watchers, Audi staff, and other historians, I could not possibly have written this book. Although I first saw a works Quattro competing in the RAC Rally of 1981 (and, yes, it won!), and wrote the first of several features about the cars in the next few years, I am happy to admit that more and more facts are still emerging about what was, after all, a ground-breaking four-wheel drive machine.

Audi UK helped enormously by steering me through the recent history of the company, also guiding me towards other sources.

Fellow author, and dedicated Audi-watcher, Jeremy Walton, helped to provide many facts and figures about the road cars. It is the dedication of such experts which has allowed the full, final (and accurate, at last ...) production totals of all these cars to be ascertained.

I can never even hope to complete a book like this without

constant reference to Martin Holmes, whose World Rallying Annuals are a constant source of inspiration, and are ways of double-checking all my supposed research. His personal pictorial archive is a gold mine too, and many of the colour images printed here are from his extensive collection. Like others in my profession, I have come to rely on Martin and his diligence as an absolute authority, to be cherished at all times.

Over the years, David Sutton, whose company became one of the most accomplished, and the most successful, preparers of Quattro rally cars in the business, has helped me with advice and with access to his cars. David, to his credit, still retains some of the most famous Quattro rally cars of all, and regularly sees them demonstrated at classic events held today (who can forget the way that Stig Blomqvist still drives an E2 to its absolute limit?), so on behalf of thousands of Quattro fans I thank him for that.

Finally, and with deep admiration for a man who sat alongside some of the fastest rally drivers in the world, I want to thank Phil Short – co-driver, team-manager and Quattro enthusiast – not only for his many insights, but for lending me many images of the cars in action.

Graham Robson

The car and the team

Inspiration

Although the Quattro was not inspired by any other car – it was, after all, a technical pioneer on its own – it was inspired by the deep thinking of one engineer, Dipl Ing Jorg Benzinger. Having already spent some years at Audi improving and refining the front-wheel drive installation for which the 80s and 100s became famous, Dr Benzinger studied ways of providing even more powerful cars – 200bhp and more – with appropriate traction. Gradually, very gradually, he began to consider four-wheel drive.

At this time the only relatively-civilised four-wheel drive vehicles on sale anywhere in the world were the British Range Rover, and the most up-market models in the Jeep range: all other 4x4s (such as the original Subarus) were strictly for agricultural and military use.

The last (indeed the only) 4x4 private car to have been sold in Europe was the Jensen FF of 1966-71, though this was vast, heavy and colossally expensive: it had been a commercial failure, for only 320 had ever been sold.

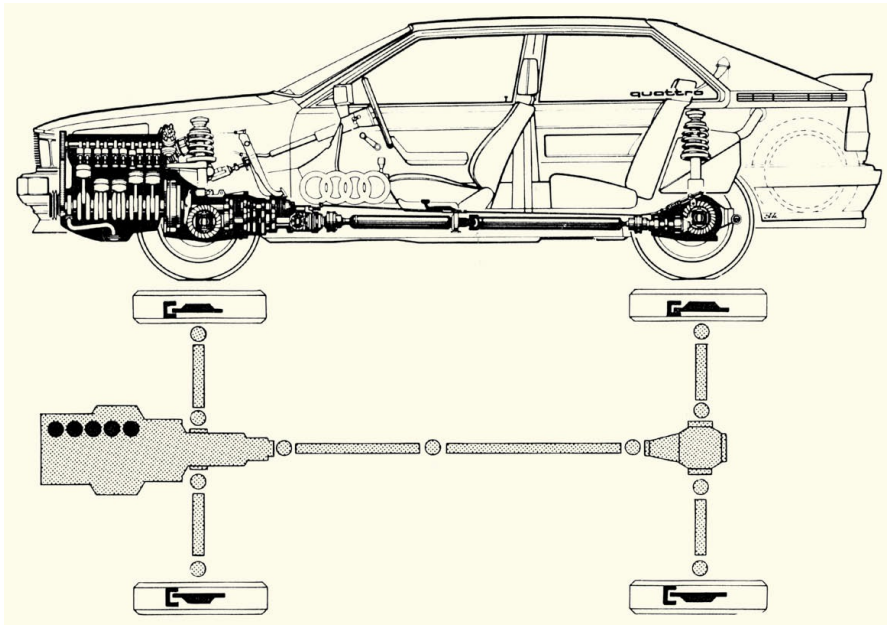
Although Benzinger claims that he was never remotely interested in the Jensen/Ferguson FF layout, since the mid-1970s was a period in which Audi and VW were evolving a relatively crude 4x4 installation for use in the VW Iltis military vehicle, he began to ponder its employment elsewhere: “When I see the interesting possibilities of this system, I ask myself, ‘why not four wheels driven?’”

At the time, in fact, Benzinger had neither the budget, the available workshop facilities, nor the parts to go any further, which meant that his idea of mating a four-wheel drive system to a car either in the 80 or 100 family had to remain in his head. It was only after a series of winter tests with Iltis

prototypes that Benzinger became more enthused:

“I was really pleased with its performance on ice and snow: I was convinced this was the way to go in the future.

“I wanted to try 4x4 on better surfaces. When I came back from that winter testing, I said to Dr Piech [Audi’s formidable chief, who would later become Chairman of VW] that we should do this 4x4 for a higher performance car ... Mr Piech was not very excited about this, when I had told him how good the Iltis had been. But it was only the next morning when he telephones me and we talk about this idea. He says we must convince the public of the advantages of 4x4, and that we can do it at Audi.”



This was the layout of the new Quattro, which revolutionised rallying when it began competing in 1981. The heavy five-cylinder engine was way out front, and there was a fixed 50/50 torque split to the four driven wheels.

The Auto Union connection

Although Audi heritage enthusiasts make much of the links between the magnificent rear-engined Auto Union Grand Prix cars of the 1930s and the Quattros of the 1980s, these were tenuous to say the least.

Audi had started out as an independent marque, at Zwickau, in 1910, but was swept into a merger with DKW, Horch and Wanderer in 1932, when Auto Union was invented as the new parent company. From 1939 the 'Audi' name then went back into the 'trademark' cupboard until the 1950s.

Mercedes-Benz absorbed the re-established Auto Union business in 1955, but sold it on to VW in 1964, and the very first post-war Audi (a re-engined, re-engineered and re-developed DKW F102) appeared in 1965.

The Auto Union GP car of the 1930s was originally inspired by Dr Ferdinand Porsche, and partly financed by Adolf Hitler's Nazi party subsidies, these unique race cars always being built at Zwickau (south of Leipzig, and west of Dresden). After World War Two, the pulverised town of Zwickau found itself behind the Iron Curtain, in East Germany. Post-war Audis, on the other hand, have always been built at Ingolstadt, which is many miles south of Zwickau, and safely within West Germany.

Well before the bare bones of the new 4x4 Audi had been finalised, it was agreed that it should form the basis of a new Group 4 rally car, which meant that at least 400 cars would have to be built. Amazingly, Audi apparently thought it would have difficulty selling more than this, but as we now know, more than 12,000 were eventually produced.

If the new Audi was to be a world beater, in works form it would need to have a better power/weight ratio than existing rally cars. In 1977, the trendsetters at 'world' level were the 250bhp Ford Escort RS and the 270bhp Lancia Stratos, both of which weighed much less than the Quattro was ever likely to do; the Germans had to look towards rally car outputs of 330-

350bhp. Because all of Audi's engines were normally aspirated, this would mean turbocharging one of those available engines: fortunately, such installations were already being planned for other Audi models.

The Quattro's importance in rallying

All this happened in 1976, when four-wheel drive cars were still banned from World Championship rallying (this series had originally been held in 1973), so there was no obvious link between Benzinger's big idea and the ultra-powerful Quattros which would follow. In the next two or three years, however, everything changed, for Audi set up Audi Sport, a fledgling motorsport organisation, to evolve a works team, while motorsport's Paris-based governing authority, the FIA, authorised the use of four-wheel drive.

It was a long time before the sequence of events which had taken place behind the scenes became entirely clear. In the mid-1970s cars like the Lancia Stratos, the Fiat 131 Abarth, and the Ford Escort MkII set all the standards in rallying and, frankly, there was no groundswell of opinion trying to change that. From 1977/78, however, Audi started lobbying its own motorsport authority, the German Federation, which took the case to 'head office'. Suddenly, and with very little notice, the 1979 FIA Year Book (the 'Yellow Book', as it was known within the motorsport industry) included a section of new wording which authorised the use of four-wheel drive. Such cars, of course, would still have to be built in significant numbers – 1000 for Group 2 approval, and 400 for Group 4 approval – but all the usual sporting restrictions, and freedoms, would still apply.

At the time, none of the established rally teams took this change seriously, for none of them had four-wheel drive cars in their product ranges, or indeed, under development. We now know, too, that it was only Audi – not even Mercedes-Benz or Porsche – which had been lobbying hard with the German

Federation to get four-wheel drive authorised, for it had already concluded, tentatively until it could prove the point on the special stages of Europe, that its new-fangled four-wheel drive system could become part of a successful rally car programme.

Five-cylinder engines

Although Audi's straight-five-cylinder engine was first revealed in 1976, it had been conceived some years earlier than that, for it was a direct evolution of the all-new four-cylinder engine which appeared in the original front-wheel drive Audi 80 of 1972. That engine measured 1470cc (with a bore of 76.5mm and a stroke of 80mm), had single overhead camshaft valve gear, and produced 85bhp. The same engine would soon be adopted for the VW Golf and Passat ranges.

The first Audi 'five' was fitted to the Audi 100 range, measured 2144cc (with a bore of 79.5mm and a stroke of 86.4mm), retained a single overhead camshaft valve gear, and employed Bosch K-Jetronic fuel injection. Although it was already almost at the limit of the available 'capacity stretch' within the cylinder block (there was no cooling water between any of the adjacent cylinders), much more power would eventually be squeezed out of this remarkable unit. Audi made much of this being the world's first viable five-cylinder petrol engine, though the fact is that Rover had already tested just such a layout (based on the Rover P6's four-cylinder engine) in 1964, Gardner truck diesel 'fives' had already existed for many years, and Mercedes-Benz had recently unveiled a diesel-fuelled 'five' for its passenger cars. There was a personal (if not technical) link between the new Audi and the Mercedes-Benz diesel, for it was Dr Ferdinand Piech, in earlier years, who had been working at Mercedes-Benz during development of the 'five'.

If Audi had not persuaded the German Federation to persuade the FIA that four-wheel drive cars should be allowed

to go rallying, the sport might never have evolved the way that it did in the 1980s. Not only that, but if the Quattro had not been successful, what other manufacturer would even have bothered to begin a four-wheel drive project of its own?

As far as motorsport in general is concerned, the Quattro's importance is that it was the pioneer of four-wheel drive (and, incidentally, a successful pioneer of the use of turbocharged engines), a car which proved that rally cars built like this could succeed, and could be a complete step ahead of the best of the two-wheel drive brigade.

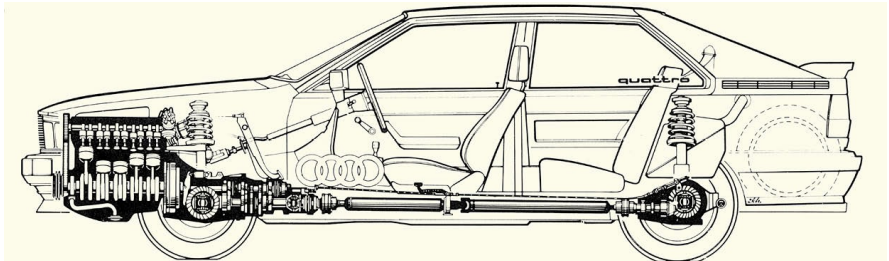
Even though engineers now tend to look back at Audi's technical solutions, and write off the Audi installation as crude and inflexible, the fact is that an undeveloped Quattro was immediately up to the winning standard, and soon outstripped all its competitors. Compare the sophistication of the mid-engined/rear-wheel drive Lancia Rally 037 with the relative crudity of the Quattro – race-car mechanical elegance compared with heavyweight, pragmatic mechanical road-car-based engineering and all – and see how four-wheel drive made all the difference on gravel, in mud, and on ice/snow surfaces.

The fact is that the Lancia's Rally 037 was at once lighter, almost as powerful, and significantly more nimble than the original works Quattro. In a straight line, and round corners on sealed surfaces, the Rally 037 beat the Quattro in all respects, and it soon proved to be a genuine winner. It was only where grip and traction were low that the Quattro's pioneering four-wheel drive layout suddenly proved itself.

The Quattro's true significance is that it was the pioneer, and began to win at World level almost at once – the first victory came in Sweden on ice and snow only weeks after homologation had been achieved – and Audi never needed excuses about its lack of experience. By laying down markers in that season – victories in Sweden, San Remo and the British RAC, and third in the 1000 Lakes – Audi convinced the

opposition that they had to follow suit.

Peugeot started work on the 205T16 in 1982, Porsche (with the 959) followed suit soon afterwards, Lancia, Austin-Rover and Ford all followed on, while Mitsubishi, Opel and VW also had a look at 4x4 Group B cars, and would have put them on sale if the category had not been killed off so abruptly in 1986.



This side-on cutaway drawing confirms that the Quattro had evolved from a front-engine/front-wheel drive car (the 80 Coupé, also announced in 1980), in which the in-line engine was mounted entirely ahead of the line of the front wheels.

This would lead to serious front-heavy weight distribution problems which could never be entirely solved.

The Quattro's big advantage

In North America, they would call it the USP – the 'unique selling proposition'. Quite simply, without four-wheel drive the Quattro would never have existed (Quattro, by definition, refers to 'four', in this case the number of driven wheels), in which case the legend would not have grown, and there would have been no sensational rally cars to write about.

In spite of all the tall stories you may have read, let me assure everyone that new cars cannot be designed and developed in a hurry. Although it was done as speedily as possible, it took Audi three years to get the Quattro from first prototype to first delivery status. However, as far as rallying was concerned, Audi's big advantage was that it was already developing a new generation of four-wheel drive sports coupés before the FIA

changed its rules to allow such cars to be used in rallying. Audi, therefore, became the first manufacturer with a model which could be developed into a competitive rally car, for the Subaru which appeared on Safari before that had been puny, crude and under-powered by comparison.

The other big advantage, of course, was that by being well ahead of the game, Audi had a very clear and long lasting head start over all its rivals. The first Quattro rally car appeared on the Monte Carlo Rally of 1981, but it was more than three years before the next generation of front-running, four-wheel drive rival – the Peugeot 205 T16 – came on to the scene. Audi made the most of those three years, winning many events, and establishing a successful brand image.

The business of brand image is important. Significantly, when Ford carried out a major (but anonymously sourced) marketing survey at the end of the 1980s, it was years after Audi had pulled out of rallying, but it was still seen as the most successful, and the most consistent, of all in the sport. And for a company which was only in the sport for six years – 1980 to 1986 – that was a remarkable achievement.

If truth be told (and rival engineers made certain that it was eventually told), the Audi four-wheel drive system was really quite crudely detailed, but it had a purpose, and it had one big advantage – that it was there, and it could be adapted to high-performance cars, in double-quick time. None of its competitors had anything available to them – not even in the ‘secret projects prototype cupboard’ at this stage – which gave Audi some years’ start.

We must not forget, however, that it was not merely the existence of four-wheel drive which made the Quattro so formidable, but the fact that it had an ultra-powerful turbocharged engine to match to it. The use of a heavy straight-five-cylinder engine up front might have done nothing for the weight distribution, but the fact that in road-car guise it produced 200bhp from a mere 2.1-litre capacity, and up to

360bhp in full Group B rally-car tune by 1983, was vitally important.

The two features – 4x4 and turbocharging – went hand-in-hand in the Quattro, for one without the other would have rendered a rally car uncompetitive. 360bhp from a front-wheel drive car would have resulted in an understeering monster, while a normally aspirated engine with perhaps 220-240bhp would have been too heavy, lacking in power/weight ratio, and regularly humiliated by most well-driven two-wheel drive cars of the period.

Facing up to rival cars

In the late 1970s, when the Quattro was originally being designed, it had no rivals. Once the Jensen FF (successful in the late 1960s) had been discontinued, no other car company had bothered itself with four-wheel drive for road cars, and since four-wheel drive cars were specifically banned from rallying at the time there had been no impetus to change all that.

Then, in 1979, the FIA (which governs motorsport, worldwide) made two major changes to motorsport. One was to authorise the use of four-wheel drive cars in rallying, and the other was to inaugurate a new Group N/Group A/Group B. Even while the Quattro was still at the 'first thoughts'/prototype stage, Audi had set up a Competitions Department, and by 1980 the company had decided to set up a works rally programme with the new Quattro.

At first, as already detailed, it was thought that just 400 such cars should be made to ensure homologation (though demand rocketed after it had been launched), and the car should gain approval into Group 4. It was not until 1981 that the possibility of re-homologating it, and taking advantage of new Group B regulations, was considered.

Because the Quattro was unique in so many ways when it appeared, this is the first time in this Rally Giants series that I have had to acknowledge that the Quattro had no immediate

rivals when it started rallying, but I must also point out that, during the course of its distinguished career, a number of new-generation, four-wheel drive cars came on the scene to compete against it.

Existing Group 4 competition

These were the rally-winning Group 4 cars which either existed, or were being finalised, when the Quattro first appeared:

Fiat 131 Abarth – front-engine/rear-drive. First engineered in 1974, as a direct replacement for the 124 Abarth Rallye, like the RS1800 this four-seater saloon was a dedicated rally car project, in this case a 400-off Group 4 car. Loosely based – very loosely based – on the body/monocoque of the conventional Fiat 131 saloon, it was powered by further developed/evolved versions of the Fiat 124 Abarth Rallye engine (by then in 2-litre form), transmission and all-independent suspension.

Complete with 2-litre/16-valve engine, five-speed transmission, all-independent suspension and lightweight GRP body skin panels, works cars would eventually have up to 240bhp. Still formidable in 1980 when the Quattro was announced, it was soon to be obsolete.

Ford Escort RS – front-engine/rear-drive. Used since 1975, this conventional Group 4 saloon was now obsolete by Ford standards, though as a rally car it was about to have an astonishing renaissance in 1981 when, running under Rothmans/David Sutton control, Ari Vatanen would become World Rally Champion. Like all such Escorts of recent years, it had an extremely powerful 250bhp/16-valve engine, rock-solid transmissions, and was still a standard setter on rough and tough (as opposed to tarmac) rallies. Because it had always been hampered by having a solid rear axle, its traction on slippery surfaces and its handling on tarmac had always been

suspect, but it was, nevertheless, still a world-standard setter when the Quattro was conceived.

Lancia Stratos – mid-engine/rear-drive. In the mid-1970s, this was the ultimate weapon: the world's first purpose-designed rally car. Small, very fast (it had a Ferrari Dino 2.4-litre V6 engine), and designed to be ideal for rough road and tarmac rallying, it was also backed by a stupendously high-budget operation from Fiat-Lancia. It was only bad luck which stopped a works Stratos winning every time it started a World rally, for it was always competitive on all of them. Fiat-Lancia politics eventually saw the Stratos sidelined in favour of the Fiat 131 Abarth, and it was almost forgotten by the time the Quattro came along.

Opel Ascona 400 – front-engine/rear-drive. Opel was running hard to catch up with the opposition with this conventional car, which was let down by being too large, too heavy, and having a solid rear axle. Though it was blessed with a fine Cosworth-designed 240bhp/2420cc/16-valve engine, it was handicapped in every other way. Not even massive Rothmans sponsorship (which would follow in 1982) and the hiring of superb drivers like Ari Vatanen and Walter Rohrl could make up for old technology. Like the Escort, this was a rough-road car which could not really cope with low-friction surfaces or tarmac events. It could never match the Quattro, except by strokes of luck (the Monte 1982 was such a case).

Renault 5 Turbo (and, later, Maxi Turbo)– mid-engine/rear-drive. Well before four-wheel drive was authorised, Renault produced its ultimate Group 4 car, using a much-modified 5 structure, but with a mid-mounted 250bhp/1397cc turbo engine and rear drive. In later years it would evolve into the Maxi Turbo, with a 350bhp/1527cc engine. When handled by the bravest drivers (Jean Ragnotti was one such driver and would win the 1981

Monte) it was superb on tarmac, ice and snow, though Renault was not really interested in rough and tough events, nor even a full World Championship programme. With a dictator like Peugeot's Jean Todt at the helm, and with broader vision, more might have been achieved – but not against four-wheel drive cars.

Talbot Sunbeam-Lotus – front-engine/rear-drive. Team manager Des O'Dell set out to 'build a better Escort' which, arguably, he did, for this car had a 250bhp/2174cc Lotus engine, conventional transmission, and a solid beam rear axle. Hampered by all the same limitations as the Ford and the Opel, the Talbot was, at least, relatively light and nimble, but could never match up on slippery surfaces. Competitive in 1980 and 1981 – the years in which the Quattro burst on the scene – the team won the World Championship for Makes in 1981, but was then sidelined (by Peugeot, which owned the brand) in favour of the all-new 205 T16.

Following the success of the early Quattros, other car-makers rushed to compete, designing new four-wheel drive cars for the Group B category. The most important of these, some of which were coming to maturity as the Group B category was abruptly killed off in 1986, were:

Citroën BX 4TC – front engine/four-wheel drive. Citroën should have been ashamed of this lash-up and, in later years, apparently it was. Developed at minimal cost, the 4TC had a far-forward engine, a too-heavy five-door shell, and a simple four-wheel drive transmission which even lacked a centre differential. With 380bhp from 2.1-litres, it was only adequately fast, suffered from heavy understeer, and started only three World rallies in 1986 before the whole project was abruptly cancelled. It was no threat to anybody: I don't think a 4TC ever won an event.

Ford RS200 – mid engine/four-wheel drive. Though too heavy in standard form, this designed-for-a-purpose rally car was elegant (the GRP/Kevlar style was by Ghia) and effective. According to the drivers, it handled better than any other Group B machine, and had a better ride on rough surfaces. Started late as a project (after the unpromising rear-drive Escort RS1700T was cancelled in 1983), it only ran in World rallies in 1986, before Group B was cancelled. Initially with a 450bhp/1.8-litre engine, the works rally cars needed more grunt – which was planned (2.1-litres/550bhp) for 1987 – but Group B's cancellation killed that off. Audi, Peugeot and Lancia all feared this car's potential. At European Championship level it won 19 events in its single season, before becoming a dominant rally-cross machine.

Lancia Rally 037 – mid engine/rear-wheel drive. Lancia paid the penalty for being too early with the 037. Announced in late 1981, this pretty coupé was the very first of the purpose-built Group B cars, but had been conceived before the Quattro broke cover, and was soon rendered obsolete by its rear-drive-only layout. With more than 300bhp from 2.0-litres (the Evolution car of 1984/85 had about 330bhp/2.1-litres), at first it was a rally winner where it could get traction, but was always at a disadvantage on low-grip surfaces. Obsolete as early as 1983, Lancia had nothing better to offer until 1985, so it remained the front-line car until the end of that season.

Lancia Delta S4 – mid engine/four-wheel drive. This, one of two serious rivals to the Quattro (the Peugeot T16 was the other), had a 450-500bhp output from its 2.0-litre supercharged and turbocharged engine (such a layout had not previously been used in a rally car), and replaced the Rally 037. As expected from Lancia, which was always a very serious rally team, it was a no-holds-barred Group B car, looking like the Delta road car, but mechanically almost totally different. Engineering started in

1983, when the Quattro was already a secure winner, and homologation followed in November 1985. It was a winner at once, and possibly had even more potential than any other Group B car. Henri Toivonen's fatal crash in one (Corsica, May 1986) triggered the cancellation of Group B – and with it, the premature demise of this still under-developed rally car.

MG Metro 6R4 – mid engine/four-wheel drive. Though it became a clubman's delight in Britain for many years afterwards, as a World rally car the 6R4 was a failure. Austin-Rover's big mistake was to choose a normally-aspirated 3-litre V6 engine (with cylinder heads and detail engineering by Cosworth), whose output was limited to about 420bhp, when rivals with turbocharged engines were already aiming for 550-600bhp. With a few (very few) panels shared with the Metro family car, its bulges, spoilers and wheelarch extensions made it plug-ugly. The handling was great, but in just one full World Championship year (1986) it was dismally uncompetitive.

Peugeot 205 T16 – transverse mid-engine/four-wheel drive. Designed specifically to beat the Quattro, and any other Group B car which was ever planned, it was well-engineered, very strong, and backed by an enormous budget. With a team run by Jean Todt, and with star drivers like Ari Vatanen, Timo Salonen and Juha Kankkunen, it was always competitive. Smaller, lighter, and more nimble than the Quattro, it had a 1.8-litre/335bhp engine at first, but second-evolution types (introduced in 1985) originally had 420bhp, a figure which was raised to nearly 500bhp by the end of the season. The T16 was extremely successful, and quite outclassed even the short-wheelbase Sport Quattro.

Porsche 959 – rear engine/four-wheel drive. This, the most sophisticated of all Group B cars, was developed too slowly, and too thoroughly, which meant that it was not even ready for

sale until Group B had been cancelled. Though it was too large and too heavy, the combination of 911 styling, and a racing 956-type engine, with an advanced four-wheel drive system, made it a remarkable prospect, which might eventually have won all round the world. Success in the 1986 Paris-Dakar Raid rally across the Sahara desert proved its worth – but Porsche was interested more in racing than rallying.

Toyota Celica Twin Cam Turbo – front-engine/rear-wheel drive. When Toyota set out to build a Group B car, it underestimated the potential of the Quattro. Though German-based team boss Ove Andersson asked for four-wheel drive, he was spurned, and had to use what was effectively a super-powerful old-type Group 4 car instead. The 400bhp/2.1-litre turbocharged engine made the TCT very fast, though traction on loose-surfaces (and snow and ice) was hampered by the solid-axle rear suspension. Because it was strong, and meticulously detailed, the TCT could be successful on endurance rallies like Bandama (Ivory Coast) or the East African Safari; otherwise it was never a threat to the Quattro.

Homologation – meeting the rules

Once Audi was committed to a motorsport programme, and had signed up two high-profile superstar drivers – Hannu Mikkola and Michèle Mouton – for the team, it was determined to burst straight into rallying at the start of 1981. In 1980 Mikkola, we know, had divided his time between rallying for Ford/David Sutton in Eaton's Yale-sponsored Escort IIs, and for Mercedes-Benz, yet had been approached by Audi as early as 1979, and somehow found time to carry out considerable testing in the prototype Quattro rally development cars: he was not likely to be impressed by a delayed start to his work with a new employer.

Audi, too, was a proud company, and was anxious to show well in this new enterprise. Because the entire Quattro

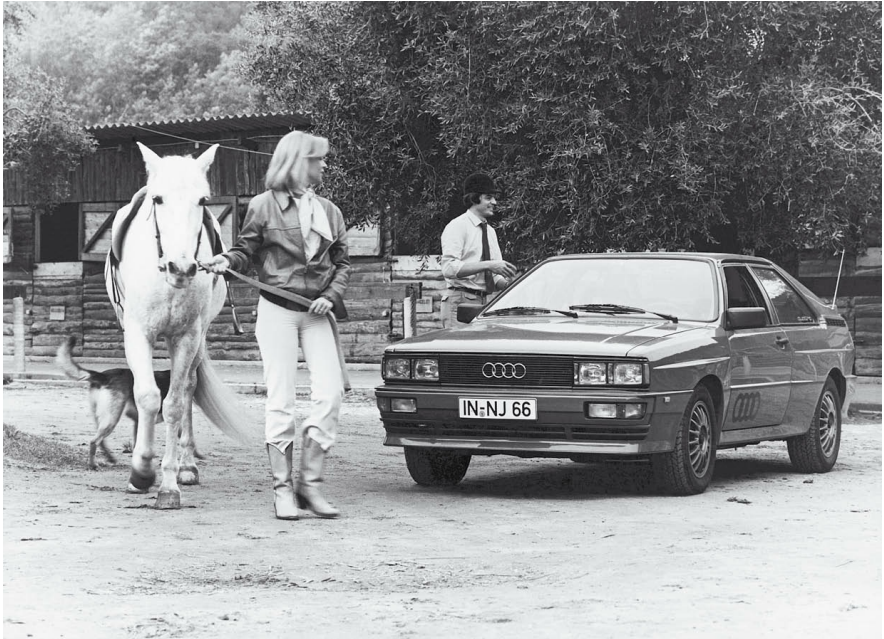
programme was such a high-profile project, and the rally car was likely to be a winner, Audi knew that it would have to comply with all the rules before making a start.

Even so, and as with other front-line Group B contenders of this period, Group B homologation was somehow achieved before 400 cars were completed. This, however, was only a minor infraction, as the 400th example was completed very early in 1981 (probably in the same week as the Monte Carlo Rally of 1981 took place, and before the original World victory in Sweden, in fact), and we now know that no fewer than 11,452 long-wheelbase Ur-Quattros ('Ur' means 'original' in German) were eventually manufactured. If ever there was a more genuinely and honestly homologated Group 4 car than this, the author does not know of it.



All original Quattro road cars had left-hand drive, and featured this fascia/instrument panel display. Centre and rear differentials could be locked by deploying the very clearly

marked wire-pull controls which were mounted ahead of the gear lever.



From this angle the use of flared wheelarches, to complement the wider wheels and tyres of the new Quattro, is an obvious feature, while the message of this posed picture is 'horsepower'.



This, in road-car form, was the original 'Ur-Quattro' ('Ur' means 'original' in German) which retained the same wheelbase as the Audi 80 saloon of the day, but used a two-door, four-seater style.

Originally shown at the Geneva Motor Show in March 1980, when only 24 individual cars had so far been constructed (mainly at the independent Baur body-making business where the mass-production front-drive coupé bodysells were to be carved up to suit the new-fangled four-wheel drive layout), the new Quattro road car was not yet ready to go on sale. Development and tooling had not been completed, and motorsport development had not begun. It would not be until much later in 1980 that Walter Treser's Audi Sport department completed its first rally car – the one which Hannu Mikkola would use to such startling effect as a course car to 'compete' in Portugal before the end of the year.

We now know that the first 'showroom' deliveries were made in October/November 1980, and that by the end of that year just 292 cars had been completed: that figure, of course, rocketed to 2248 by the end of 1981, and to 4183 by the end of 1982. Quattro assembly averaged about 1500 cars a year in the

first half of the 1980s, and there was never any lack of availability to back up the homologation/production claims.

Unlike later four-wheel drive rally cars of this era, the original Ur-Quattro was neither totally special, nor a limited-run model, so its production was carried out in a dedicated, Teutonic, manner. Later, of course, Audi admitted that demand – continuing demand, that is – for this four-seater coupé was much higher than originally forecast by the sales force, and that it might have arranged things differently if it had known about this in advance.

Space (separate from that where other Audis were being constructed) was set aside in the N2 building at Audi's HQ complex at Ingolstadt in the south of Germany, where cars took shape on a special 'overhead cradle' line, and by 1981 just six cars a day were being completed, though this was pushed up, or cut back, in future years to balance output against demand. At first, all cars had left-hand steering, the first right-hand drive types following much later in 1982.

The Quattro line, which was alongside another line where the (related) VW Iltis 4x4 military vehicles were made, was staffed by 22 highly-skilled mechanics, each car taking at least two hours to go from one end of the track to the other. Bodies, modified by Baur, had already been finalised, painted and partly trimmed before they arrived, while engines and main transmissions arrived from the same facilities which were also serving the 200 Quattro lines in another assembly hall. Every completed car went out on public roads for a 40 minute 'shakedown' road test close to the Ingolstadt factory.

From 1 January 1983, the Quattro was re-homologated as a 200-off Group B car, and, of course, there was absolutely no controversy over this move, though the change from this specification ('A 1') to a later one ('A2'), which involved a slight reduction of engine size, caused more of a stir. These manoeuvres are described in more detail later in this section under 'Motorsport development and improvements'.

Sport Quattro – handbuilt to order

Assembly of the short-wheelbase Sport Quattro, on the other hand, went ahead in a much more traditional way (traditional, that is, by Group B standards). Although it was trimmed, equipped and developed to Audi's own self-imposed high standards, it was only ever expected to be the basis of a 200-off Group B rally car.

As any regular reader of this Rally Giants series will now know, homologation was pushed through as rapidly as possible, Audi solemnly swore that it had built 200 cars when far fewer had been completed, but more than the required minimum were finally constructed. Revealed in September 1983 (another Frankfurt Motor Show sensation), it was homologated on 1 May 1984. We now know that no more than 50 cars, in total, had been built by then ...

This, in fact, is how Sport Quattro production eventually built up:

1983: 4 cars

1984: 102 cars

1985: 106 cars

1986: 12 cars

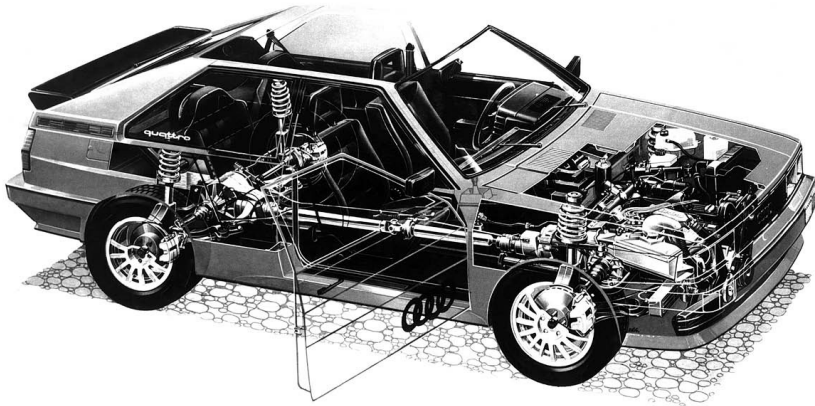
Total: 224 cars

In later years Audi confirmed the total number built, but also agreed that only 164 of them were ever sold to private customers. The balance – 60 cars – were kept either for testing and development, for use by senior management, or for use as works competition cars. A few, I have no doubt, were later converted to E2 specification.

As I make clear in the following section ('Engineering features'), the Sport Quattro was much more than a conventional Quattro with 12.6in carved out of the floor panel and roof sections, for a considerable amount of carbon fibre was involved, the front end came in for some restyling, and the

engine was, of course, a 20-valve unit with twin overhead camshafts.

The ever-resourceful Baur business produced the modified shells (it did, indeed, start on the basis of a part-completed normal long-wheelbase coupé car), and final assembly was carried out at Ingolstadt, in and among the 'normal' Quattros. So-called 'production', which was only in small batches, did not begin until 1984, and went ahead spasmodically until March 1986. There was no question of such cars ever being built 'for stock', and all of them were originally produced in left-hand drive form.



This was the technical layout of the Ur-Quattro, as revealed in March 1980 and going on sale later that year. The five-cylinder engine was mounted ahead of the front wheels, there was permanent four-wheel drive, and the car was only available as a four-seater, two-door coupé.

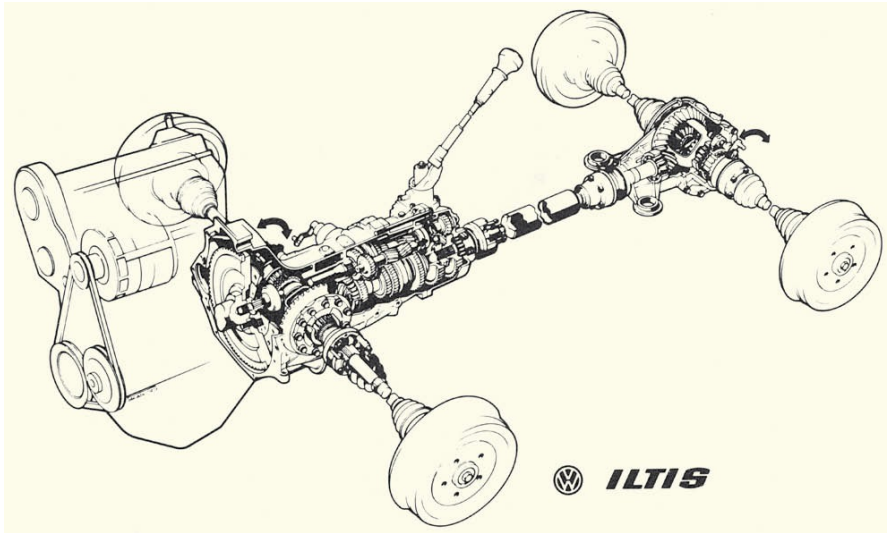
The second-evolution car – the Sport Quattro E2 – was homologated on 1 July 1985, and, according to the regulations, this meant that 20 cars had already been completed. Since each

and every E2 was produced in the Audi Sport rally workshops (and not on the normal assembly lines), I find it impossible to believe that had been done, or perhaps ever would be done, but the authorities seem to have been convinced. Some of these 20 cars, for sure, were straight conversions of existing Sport Quattros which (theoretically) was not allowed, but since most other teams did the same sort of thing, no-one really complained.

On the basis that all E2s were retained by the works team, by the time the programme was cancelled in March 1986, only eight different cars can be identified. Twenty sets of pieces might indeed have manufactured, but twenty complete cars certainly were not ...

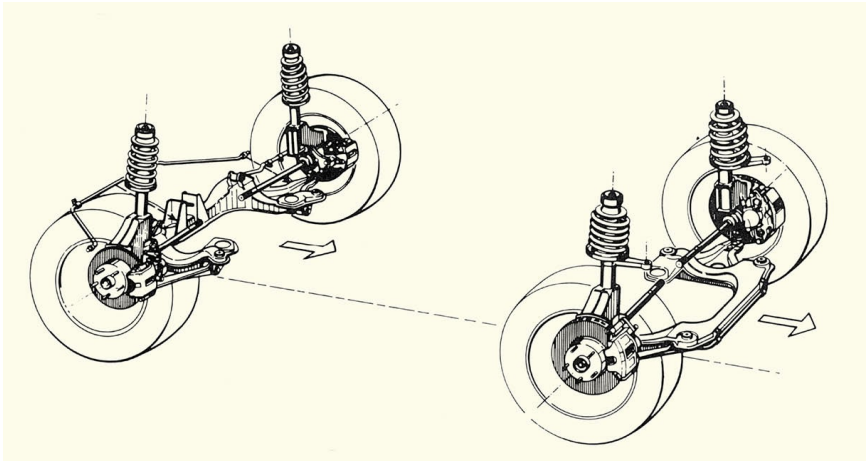
Engineering features

Compared with other Audis of the period, it is important, at this early stage, to stress that there was much more innovation in the Quattro (or the 'Ur-Quattro' as it was always known within the factory) than the four-wheel drive system. Nor is it enough to describe the Quattro as an Audi coupé to which four-wheel drive and a turbocharged engine had been inserted. It is fascinating, however, to see how the general layout of the Quattro came to evolve.



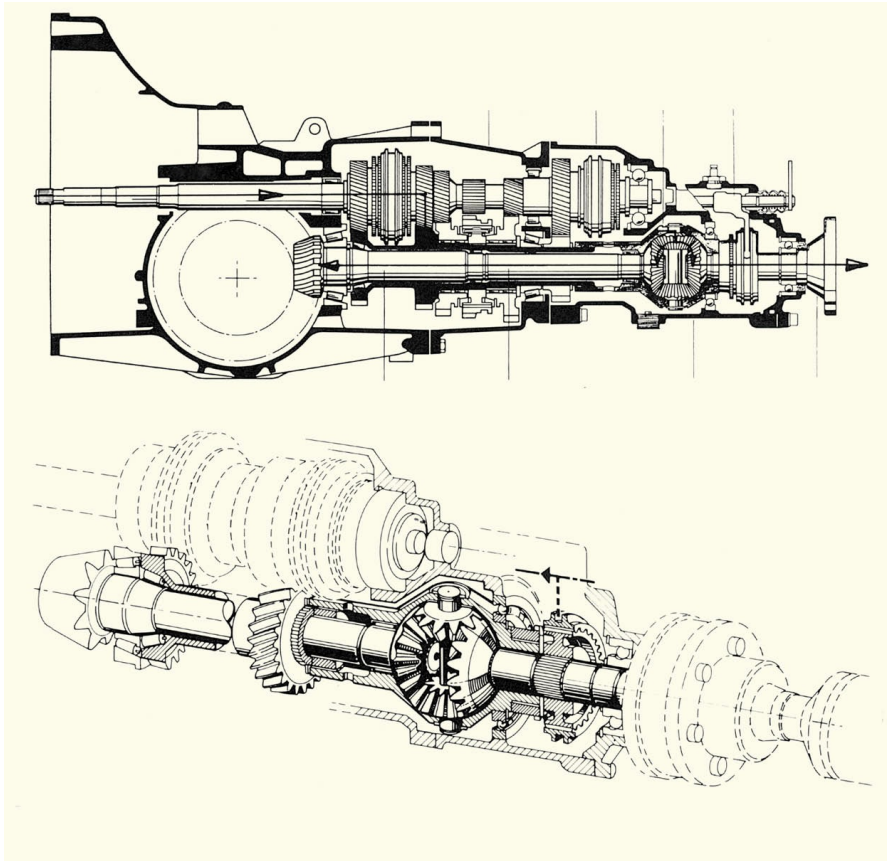
This schematic drawing of the VW Iltis military vehicle's transmission shows how it was to be used as the basis of the Audi Quattro installation, though the Iltis had only a four-cylinder engine, and was by no means a sporting machine.

Looking back to the late 1970s, we see that there were three main Audi product lines – the small 50, the medium-sized 80 and the large 100/200 type – all of them with front-wheel drive. The 50, which was closely related to the VW Golf, soon disappeared from the scene, and has no relevance to the rest of this story, but the other ranges most certainly do.



This perspective drawing shows the layout of the front suspension (right) and very similar rear suspension (left) of the Quattro road car. The geometry and layout of front and rear suspensions was deliberately designed to be almost identical.

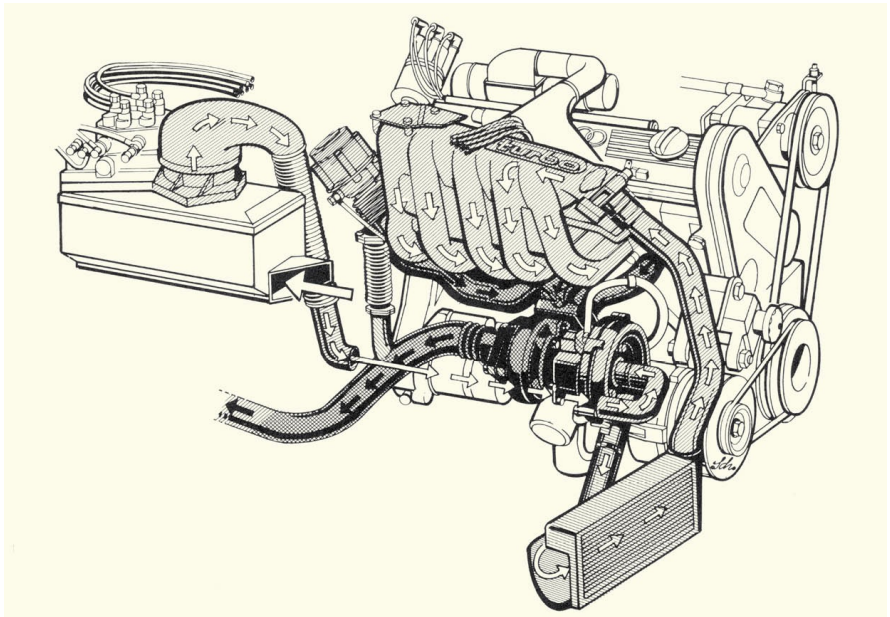
Briefly, the second-generation 80 was introduced in 1978, with a choice of in-line four-cylinder engines, the 100 had first appeared in 1976 and, among many other options, had a straight-five-cylinder overhead-camshaft engine, while the 200 was an up-market version of the 100, built solely with a choice of in-line five-cylinder engines, one of these being turbocharged. Down the road, but still under wraps until 1980, there was a smart two-door four-seater coupé version of the 80. All of those cars had MacPherson strut front suspension, and rigid 'dead' rear axles.



This was the schematic drawing of the main Quattro gearbox, showing the upper transmission shaft from the engine, running over the top of the front differential, and also showing the tiny grapefruit-sized centre differential which was located on the lower transfer shaft. Below this is another view of the hollow shaft transmission/gearbox arrangement, and the centre differential.

Another model, being developed for the German military forces, and about to go into production at Audi's factory at Ingolstadt, was the VW Iltis 4x4 vehicle, a rugged off-roader which had a four-wheel drive conversion of the existing Audi

front-wheel drive transmission, a chassis-mounted rear axle, and independent rear suspension.



This was the turbocharged 'plumbing' system of the five-cylinder engine used in the Quattro, viewed from three-quarter front. The air intake was positioned high in the engine bay, the turbocharger was placed under the five-port inlet manifold, and the intercooler (quite small on road cars) was low down, and placed immediately behind the front grille.

At this point, therefore, we can see how Ing Benzinger, and Walter Treser (who was responsible for the development of the Quattro) could begin to play the game of 'mix-and-match', though nothing so crude as a phrase like that was ever used by Audi. In essence, the Quattro would use a much modified (80) Coupé bodyshell, an uprated (200-type) five-cylinder turbocharged engine (which, critically, included an intercooler in the inlet tract), a much-revised version of the Iltis four-wheel drive system and rear axle, four-wheel disc brakes, and other

'parts bin' components for a novel type of independent rear suspension.

The story of how, why and when the Quattro project took shape would make a book all of its own, but in this case we need only say that the general format of this splendid new sports coupé was closely based on the structure and general mechanical layout of the new (80) Coupé. As it eventually transpired, the complex four-wheel drive Quattro would be officially previewed in March 1980, while the front-wheel drive Coupé from which it evolved would not break cover until September of the same year: naturally, both cars then went into production at the same time, with the first Quattro deliveries taking place in October/November 1980.



Although the Quattro was in production for more than ten years, there were many subtle changes along the way. From the late 1980s (and picking up changes introduced on the Audi Coupé from which the bodysell was altered), the sharp front-end was slightly smoothed.

The structure, general layout and style of the Quattro, therefore, was based on that of the Coupé, which was itself based on the platform and all the running gear of the new-generation 80 saloons, though with an entirely fresh superstructure. Both cars were rather angularly-detailed two-door/four-seater coupés, with long noses but short tails, the Quattro itself having flared front and rear wheelarches, the Coupé having totally smooth flanks. Although the shape suggested that a hatchback rear would be present, it was not, for there was a conventional, upward-opening, boot lid.

There was a reason for the lengthy nose. Since the 'mother ship' was a front-wheel drive device, normally mated to a four-cylinder engine, with the longer five-cylinder engine ahead of the gearbox transaxle, no amount of clever packaging and space saving (at which Audi was adept) could reduce the front overhang and, regrettably, the preponderance of weight over the front wheels. Because of this, the water-cooling radiator was positioned alongside the engine, to one side of the engine bay.

The schematic drawings published on pages 20 to 22 make this clear but, working backwards from the nose, therefore, was the engine, then the clutch, then the front differential, the massive all-indirect five-speed main gearbox, the small centre differential, and then the propeller shaft leading to the rear chassis-mounted differential. In a clever, space-saving way, the drive was split front to rear by making the secondary (output) shaft hollow. On rally cars, incidentally, for the first several years the centre differential was rendered inoperative, so that the front/rear torque split was 50/50, without any option: later in the life of the A2, a newly-homologated lightweight transmission had no provision whatsoever for a centre differential.

On the road cars, provision was made to lock the centre and the rear differentials. As first put on sale, this could be done with twin Bowden cables, via transmission lock actuating levers provided between the seats, though this would be replaced by

electronically-actuated controls in due course.

No other Audi private car (they were all front-wheel drive cars) used a rear differential, of course, so this was lifted from the VW Iltis military vehicle, for which a new assembly had especially been designed. To match up to this, the Quattro became the first Audi to have independent rear suspension, this being a MacPherson strut/wishbone layout which picked up many modified components from the existing Audi parts bin.

The kernel of the design, of course, was the five-cylinder engine which had originally been developed as a logical extension of the 80's still-modern overhead-camshaft four-cylinder power unit. Even by 1970s' standards, this was quite a conventional power unit, designed to be built in millions, rather than to produce phenomenal power, which is why it had a cast iron block with an aluminium cylinder head.

That head had a very conventional layout, with two valves per cylinder, those valves being mounted in a row with little scope for enlargement, or for improvement in the combustion chamber or port shapes.

Right from the start, in the early 1970s, Audi had laid down versatile machine tooling which would allow straight-four and (closely-related) straight-five-cylinder blocks and heads to be machined on the same transfer lines. Different engine sizes (of 'fours' and 'fives') followed in future years, and Audi always made sure that closely related, sometimes standardised, bores and strokes could be used.

This little chart makes things clear as to the engines' relationship in 1980:

Engine: 4-cyl

Bore x stroke (mm): 79.5 x 80

Cubic capacity (cc): 1588

Engine: 5-cyl

Bore x stroke (mm): 79.5 x 80

Cubic capacity (cc): 2144

The 5-cylinder engine, therefore, shared the same cylinder bore, piston dimensions, valve gear' camshaft drive arrangement, and other details, as the 4-cylinder engine, but with a longer stroke.

This is a comparison of power outputs for various typical applications:

Engine: 4-cyl 1588cc

Model used: VW Golf GTI

Power: 110bhp

Comment: Injection

Engine: 5-cyl 2144cc

Model used: Audi 200 saloon

Power: 136bhp

Comment: Injection

Engine: 5-cyl 2144cc

Model used: Audi 200 saloon

Power: 170bhp

Comment: Injection

Engine: 5-cyl 2144cc

Model used: Audi Quattro

Power: 200bhp

Comment: Injection + turbocharger + intercooler

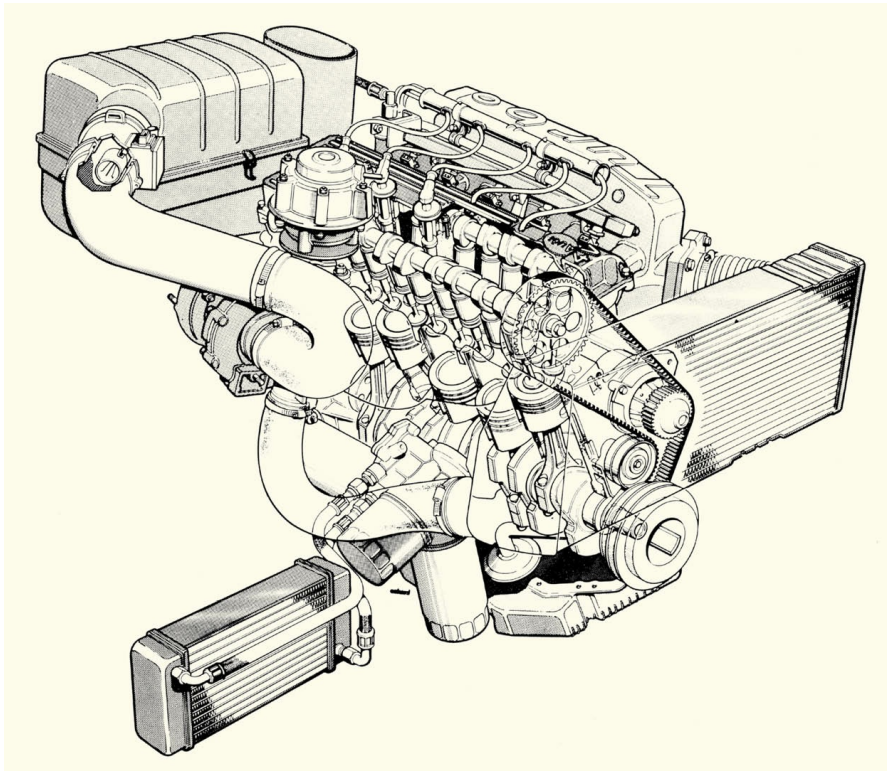
Five-cylinder engines all had Bosch fuel injection, but the big, heavy, 200 saloon benefited from a turbocharged version. For the Quattro, where even more power was needed, an air/air intercooler was also added, that component being mounted low down at the front of the engine bay.

Maybe the engine was not ideal as the basis of an ultra-powerful competition car engine, but at the end of the 1970s

there was neither time, nor development funds, to design anything more special. This, in other words, was all that was available to Audi at the time.

Audi cut no corners when developing this new road car, and because it was built around a structurally solid two-door/four-seater bodyshell in pressed steel, it weighed a very substantial 1290kg/2838lb. It was this weight, allied to the nose-heavy weight distribution, which would mean that it was always something of a compromise car in motor sport.

By 1982/83, of course, the Audi Sport works rally team had rather lost interest in developments to the Ur-Quattro, for it was already looking ahead to the short-wheelbase Sport Quattro, but is certainly worth mentioning that the original longer-wheelbase type would be made until 1991. During that time, not only were there many relatively minor technical changes, but one or two style re-touches (though no sheet-metal changes). The first right-hand drive cars were produced in the autumn of 1982, ABS braking was added to the standard specification from late 1983, while in 1983 a digital dashboard read-out replaced the original, conventional, circular dials.



Quattro engine installations gradually became more complex as the years passed. This was the 20-valve/twin-cam layout of the Sport Quattro road car power unit, as put on sale in 1983/84. The water-cooling radiator was mounted directly ahead of the engine, while the air/air intercooler was always positioned low down, to the right of the engine, effectively underneath but ahead of the original air box/air intake.

It is worth noting that the first 80 Quattro four-door saloon (with a normally-aspirated engine) came along in 1983, too, while there were important handling improvements for 1984 and beyond.

All this, and more, kept the car fresh in the showrooms, years after it fallen into disuse as a rally car. Finally, from 1989 a detuned (220bhp) version of the Sport Quattro's 20-valve/2ohc

engine was fitted, and used to the end in 1991.

By later standards, of course, the Ur-Quattro had very unsatisfactory turbo characteristics (Quote from a Quattro devotee: “Put your foot in it, and nothing happens for ages. Then everything happens ...”) and, of course, the nose-heavy weight distribution was always going to promote understeer. Autocar’s road test, incidentally, quoted 61 per cent of the weight over the front wheels, and only 39 per cent over the rears.



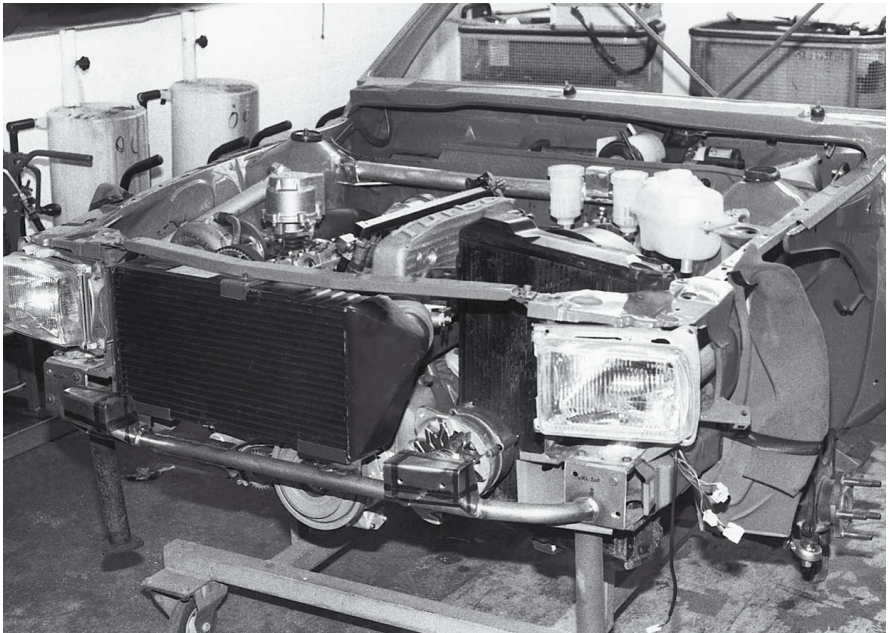
Launched in September 1983 at double the price of the original Quattro, the short-wheelbase Sport Quattro was a brutally-styled but purposeful machine with only one function – to become a successful competition car.

Sport Quattro and Sport Quattro E2 – the short-wheelbase evolutions

During the Quattro’s life as a front-line rally car, there were two important evolutions to the basic design. One was a genuinely low-production short-wheelbase version of the original car called the Sport Quattro, of which (as already noted) well over

the necessary 200 cars were eventually built, the later derivative being the Sport Quattro E2, of which Audi assured everyone that a further twenty cars were built, though no independent observers eventually saw evidence of this.

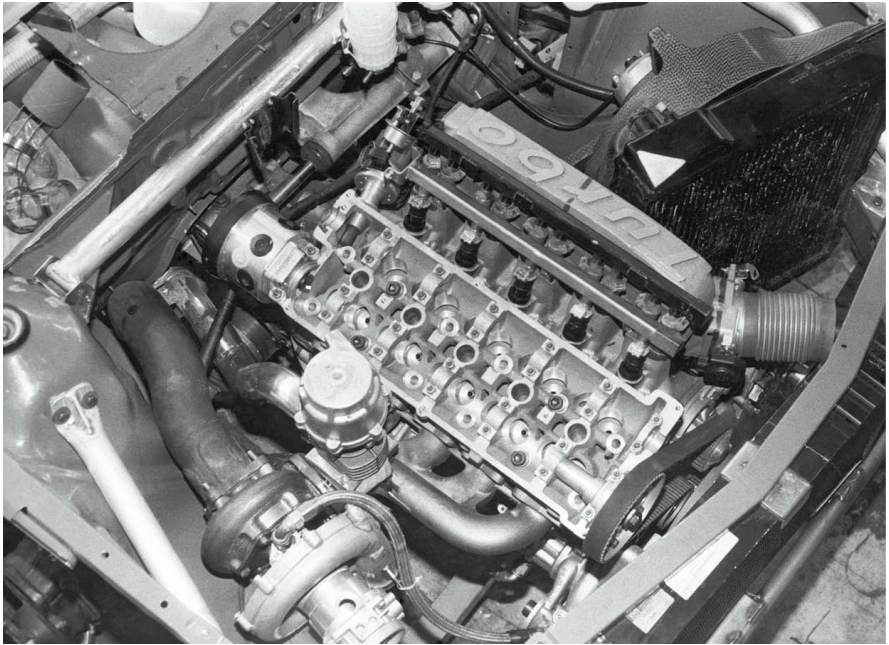
Work on a new, smaller, lighter and shorter-wheelbase version of the Quattro started in 1981, specifically to provide the basis of a more nimble car for use in rallying. However Audi, like all similarly serious-minded German organisations, was not about to rush such a machine into production until it had been tested thoroughly. Accordingly, though prototypes were running by 1982, extensive testing (much of it in the seclusion of Porsche's R&D estate at Weissach) occupied much of the next two years. The public launch came in September 1983, only four production cars (in motor industry-speak we might even call them 'pilot-build' cars) were produced by the end of the year, and genuine, but spasmodic, series production began in 1984.



This half-built rally car is actually an early 20-valve Sport Quattro, with the engine virtually hidden behind a massive intercooler and the water-cooling radiator.



Late models of the Quattro road car were fitted with the 'tamed' 20-valve, five-cylinder engine as standard, when it was rated at 220bhp instead of the original 10-valve car's 200bhp.



The Sport Quattro of 1983 was the first car in the VW-Audi concern to use a twin-cam/four-valves per cylinder derivative of the famous five-cylinder engine. It was a neat and (in sporting terms) partially successful layout which could be persuaded to produce phenomenal amounts of power.

Although the basic style of the new version was much the same as on the Ur-Quattro, the new car had its wheelbase shortened by no less than 320mm/12.6in, this being done by chopping the length of the cabin and turning the car into a rather odd-looking closed two seater with a truncated tail but a long nose.

In fact, relative to the general proportions of the front end, the nose of the new car was longer than on the longer Quattro, the reason being that the bonnet and front wings had been lengthened to allow space for a more capacious engine intercooler. The front track had been increased by 100mm/4.00in, and overall width was increased by

80mm/3.15in, this being done by increasing the wheelarches' flare to allow super-wide 9J x 15in wheels to be standardised.

Although the new structure was substantially stiffer than before to limit the weight, it was arranged for a combination of glass-fibre, Kevlar and carbon weaves to be incorporated in the wings, the aprons and the roof panel. Audi, in fact, must have been disappointed that it could save very little weight for this derivative – as it seems that the Sport Quattro was only about 30kg/66lb lighter than the longer car.

Compared with the Ur-Quattro, the major technical change was that the Sport Quattro became the first Audi to use a four-valves/cylinder/twin-cam cylinder head, allied to a light alloy cylinder block, still measuring the slightly-reduced 2133cc of the A2 Quattro, complete with the 79.3mm cylinder bore. This provided a great deal more power than before, best summarised as follows:

Feature: Peak power

Original Quattro: 200bhp @ 5500rpm

Sport Quattro: 306bhp @ 6700rpm

Feature: Peak torque

Original Quattro: 210lb/ft @ 3500rpm

Sport Quattro: 258lb/ft @ 3700rpm

By the time the new model was announced, Audi Sport knew that it could rely on 400bhp, and shortly 450bhp, for the works cars, which ought to make them stunningly fast, and well able to match anything which Peugeot, Lancia and Ford were planning.

Compared with the Ur-Quattro, the internal gearbox ratios were all changed and the final drives were now 3.875:1 instead of 3.889:1 – enough to deliver up to 155mph.

Much work had also gone into changing and refining the basic suspension layout, and the components used therein.

Larger disc brakes and ABS as standard equipment all added to the chassis attractions of the new car. It was, need I say, colossally expensive, which explains why so very few cars were built. The Sport Quattro was never officially sold in the UK, but in Germany it retailed for DM200,000, which was precisely double that of the longer-wheelbase Quattro of the same period.

E2 – the ‘motorsport monster’

Somehow or other, Audi managed to get the Sport Quattro homologated into Group B on 1 May 1984, when no more than 50 such cars had been manufactured, but by the end of that year the works team realised that the ultra-powerful rally car was too nose-heavy, with far too much understeer, to be turned into a consistent winner. Worse than this – outspoken drivers like Stig Blomqvist and Hannu Mikkola made it clear that they much preferred driving the well-proven A2 model, even though it was much less powerful.

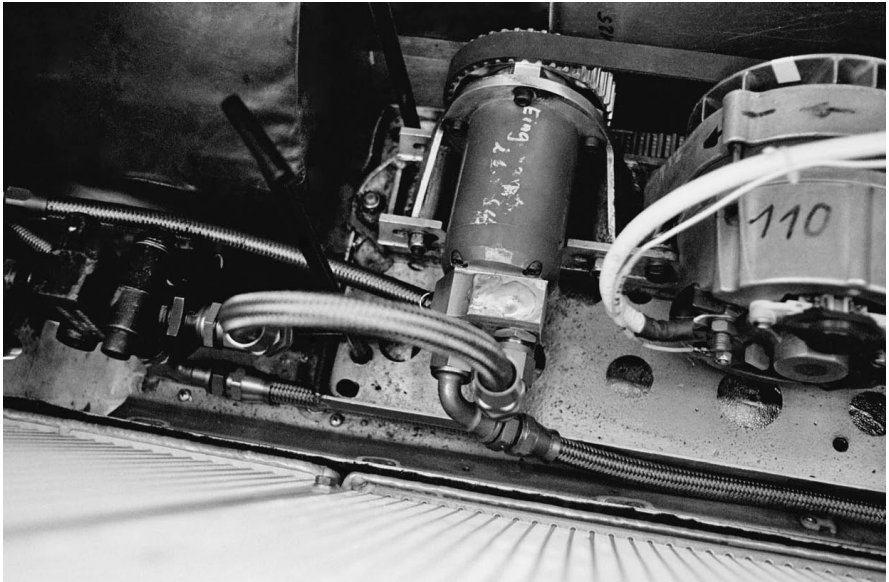
Work then began in earnest at Audi Sport’s rally build shop to try to turn the Sport Quattro into a much more versatile beast. The two major objectives were to re-balance the chassis, and to improve the ‘flying’ capabilities of this rather ‘nervous’ car. We now know that several innovations proposed to the homologation authorities were rejected out of hand – for Audi had to convince them that a further 20 such ‘second evolution’ cars had been built – but in the end Group B homologation was granted on 1 July 1985. As noted, we have only identified eight different cars used by the works rally team in the next nine months, but other radically modified versions were used in events like the Pikes Peak hillclimb in the months that followed Audi’s abrupt withdrawal from World Group B rallying in March 1986.

To quote the philosophy behind the layout of the E2, this is what Roland Gumpert had to say in 1985:

“The main disadvantage with our first evolution car was that

too much weight was over the front axle ... we have, therefore, now put all the cooling systems in the boot, so whereas there was 58 per cent of the weight on the front axle in the first-evolution car, our new car has 52 per cent ... so we will be closer to the ideal of 50/50 ..."

At the same time the style, and in particular the aerodynamic features, of the Sport Quattro changed radically, not only to make sure that the best use was made of air flowing around the replaced cooling radiators, but also through the engine bay, and around the skin of the car itself. Gumpert, above all, wanted the E2 to 'fly' a lot better than the Sport Quattro had ever done. This was not merely an Audi problem of course. Peugeot had also discovered that its original 205 T16 did not fly straight and level – Ari Vatanen had been severely injured in an accident – and the second-evolution T16 also featured many different aero fittings.



On the very first E2 to tackle a rally (Olympus 1985), the alternator was mounted in the tail of the car and driven by hydraulic pumps from the power-steering system. Audi then

simplified the location, and moved the alternator back to the engine compartment for World events.

Four-wheel drive in rallying

For many years, four-wheel drive cars were not eligible to enter International rallies. Even so, occasional events (such as Britain's Scottish) bent the rules to allow the Army to enter Land Rovers, but that was just for fun. Not that it mattered too much, for these were slow. Up until the end of the 1970s, the only four-wheel drive private car to go on sale was the British Jensen FF, which was at once too expensive, too heavy and too precious even to be considered.

Audi then let it be known that it was considering the use of four-wheel drive under a version of one of its new models (which became the Coupé). It was already competing in rallies with front-wheel drive 80s, and suggested that if it was allowed to use four-wheel drive then it might get a lot more serious about motorsport.

This was only one influence, but it all helped. Accordingly, the FIA authorised the use of four-wheel drive machines from 1 January 1979, and it seems that the very first 4WD cars to start an international rally were two Subarus and a Range Rover, which took part in the East African Safari of 1980.

That, on its own, was of no significance – but the arrival of the turbocharged, four-wheel drive Audi Quattro in 1980 most certainly was. Audi made it clear that it was going to attack the World Championships, starting in 1981, won its first event early in that year, and soon became dominant.

Once the Quattro began winning (but not, it seems, before then), several manufacturers decided that they had to follow suit. Peugeot moved faster than almost anyone else, by showing the first 205 T16 in 1983, and winning its first World rally with that car in 1984. By the mid-1980s the revolution was complete, and no two-wheel drive car has been truly competitive since.



On the Sport Quattro E2 the huge water cooling radiator and twin electric cooling fans were mounted in an area originally allocated for luggage to aid front/rear weight distribution! Note, too, the square-rig rear wings, which had big air intakes close to the doors, and air outlets at their rear, all to aid the flow of cooling air to the rear brakes. This car, incidentally, is pictured on its very first public appearance, the non-Championship Olympus Rally in the USA, in July 1985.



When the Sport Quattro E2 was homologated in mid-1985, one feature was the new-type front wing/front spoiler/aerodynamic strake layout, which was, of course, never fitted to road cars. It was brutally functional rather than attractive but, according to the drivers, was extremely effective at high speeds.

On the E2, what had originally been the luggage boot was converted into a container for the cooling radiators and twin-cooling fans, while the electric alternator was also mounted in that part of the car. The engine oil cooler, of course, had always been positioned at the rear (under the standard boot lid spoiler), but this was also re-positioned to allow idealised spoilers to be fitted. There was a weight penalty in all this – thought to be about 10kg/22lb in the form of extra piping and fixings – but this was considered a small price to pay.

It was the aerodynamic changes which were so startling, and so obvious. At the front of the car there was a massive 'cow-catcher' of a lower front spoiler, which was blended into two

fatter, squared-up, front wings. Wide sills were fitted under the doors, extra large and rectangular-sectioned rear wings were fitted, which incorporated large forward facing air-intakes and similar-shaped outlets behind the wheels. The revised bonnet panel now incorporated a lattice of air intakes to get air into the engine bay (which was, in fairness, less crowded than before), and at the rear, on the boot lid itself, there was a huge and high-mounted rear spoiler, stacked with two transverse aerofoil sections. The radiators were in the 'boot', exhausting to the extreme tail through grilles in the rear panel.



On the second evolution Quattro, the E2, bodyshell changes included these large sills connecting front and rear wheelarches. Audi insisted that these were for style and protection reasons, but it seems that they bestowed aerodynamic advantages, too.

Gumpert claimed that this assembly added much extra downforce at high speeds – as much as 500kg/1102lb at times – which he claimed would naturally add to the cornering power

of the tyres, particularly those at the rear of the car.



The rear aerofoil on the E2 model was adjustable to give more, or less, downforce at speed, if the driver asked for it.

Under the bonnet, and with space to play with, the 20-valve engine gained new intake and exhaust manifolds, a new and large turbocharger, and it was always planned to use the robust six-speed gearbox which had been developed on the original Sport Quattro. Even when it was launched, Audi also spoke of the 'six-speed automatic gearbox', though this would be a long time in coming up to scratch.

All in all, this was an expensive – and expensive – way to improve a long-established car, but in the short time that it was in use, Audi Sport showed that it was much closer to matching the might of Peugeot and Lancia than ever before.

Motorsport development and improvements

Right from the start it was clear that Audi was serious about optimising the car's specification, and taking every advantage that existing Appendix J homologation regulations would allow. When the original homologation application was allowed, under no 671, on 1 January 1981, the new car was allowed at 1190kg. Not only was the usual basic information provided, but no fewer than nine extra pages were also clipped to them.

Treser and his colleagues might still have been 'learners' as far as homologation was concerned, but they had studied everyone and everything. Homologated extras included heavy-duty suspension sub-frames, 'hydraulic' handbrake operation, a dry-sump lubrication installation for the engine, light-alloy brake callipers allied to larger brake discs, an engine oil cooler/modified rear spoiler kit, a larger fuel tank for long distance events, an alternative front-end body style which eliminated the fog lamps, a propeller shaft made of a composite material, plastic side and rear window panes, a range of alternative final drive ratios, glass-fibre and aluminium body panels where such were allowed, and much more in detail.

Early in 1981 Audi was somewhat cagey about power outputs – 310bhp at 6000rpm was thought to be the original output, with 303lb/ft of torque at a lusty 3500rpm – but by the end of the season it was happy to quote 340bhp at 6000rpm. The works team was contracted to use Kleber tyres, a decision which surprised almost every one of Audi's rivals, as Kleber was not currently in the vanguard of competition tyre development. Kleber worked hard throughout the year, it must be said, but by the end of the season the team's drivers, Hannu Mikkola in particular, had made it very clear that a change was needed. Unhappily, he would not get his way until the second half of 1982, and even then only in an unofficial capacity on the 1000 Lakes!



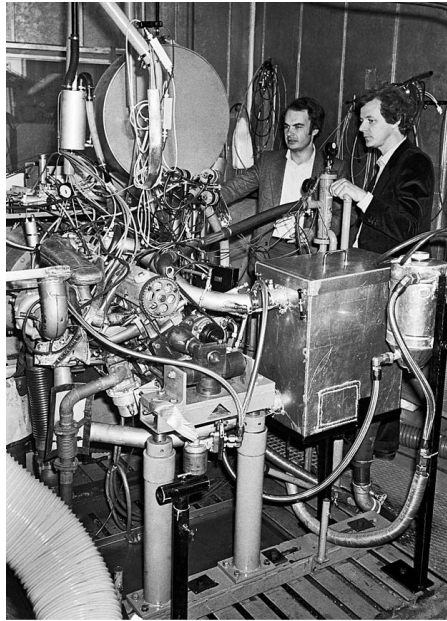
This detail of an early rally-prepared Quattro shows the five-cylinder engine and all the intake manifolding, turbo and intercooler completely filling the available space. The intercooler is ahead of the engine, while the water-cooling radiator is mounted to one side of the power unit.

Not even Audi could get all this incorporated into the very first cars, but more and more items would be added as the 1981 World Championship season progressed. In its original form, the centre differential was locked, so that the front/rear drive split was always 50/50, there being a limited-slip differential at the rear, but not at the front. Even in the short interval between the Janner Rally and the Monte, there had been time to finalise the use of larger rear brake discs, and the 310bhp of the original cars was pushed up to 340bhp (with 1.8 bar/26psi boost) from Portugal onwards. Wheelarch extensions were added for the first time on the Portugal cars, these being both allowed by rule, and essential to cover ultra-wide tarmac tyres on some sections.

For Corsica the arch extensions were retained – becoming standardised – as much weight as possible was stripped out (though creeping weight increases always afflicted this model, as they seem to do with every competition car), and larger (Porsche 935 race car size) disc brakes were added.



For the 1981 Acropolis Rally, Audi's ingenious wheeze, of arranging four moveable flaps to allow extra air into the engine bay at speed, was declared illegal.



There was never any problem getting enough power from the turbocharged engine. Early test bed figures soon exceeded 300bhp, and, by 1982, it was easy to produce at least 360bhp. Even though the Quattro was a heavy car, this was ample to make the cars competitive.

The 1981 Acropolis cars then attracted much controversy. Not only did Audi remove the inner pair of headlamps, replacing them with rubber flaps which opened up when air pressure from the moving car caused them to do so (and therefore to let more cooling air to an oil cooler, and into the engine bay), but it also inserted a second electrical battery (into the passenger compartment!) at service halts, so that the cars could more easily be fired up afterwards. Looking back, both these developments were demonstrably against the regulations, though Audi did not see it that way at the time.

A new package of improvements was introduced from the 1000 Lakes of 1981, including a new two-headlamp grille with a different profile (it covered up the area previously and

controversially occupied by flaps – but allowed air through all the same space!), and there was more space behind it for engine intercoolers and other components.



From the autumn of 1981, a revised front grille was homologated.

First seen at San Remo in 1981, the next improvement – the fitment of a large oil cooler kit mounted under the rear boot lid spoiler instead of the smaller originals – was structurally very simple to arrange, as to do this it was merely necessary to raise the mounting of the existing spoiler on spacer block.

Then, as homologated on 1 December 1981, came the next package of improvements, which concentrated on making the rally cars lighter. Dr Piech later claimed that his team had managed to lop 100kg/220lb off the unladen weight, mainly by using more exotic optional body panels, but significantly by building a run of Quattro road cars with aluminium cylinder blocks, and getting this feature homologated. In fact, it would then not be used in a works Quattro until the Tour de Corse in

May 1982.

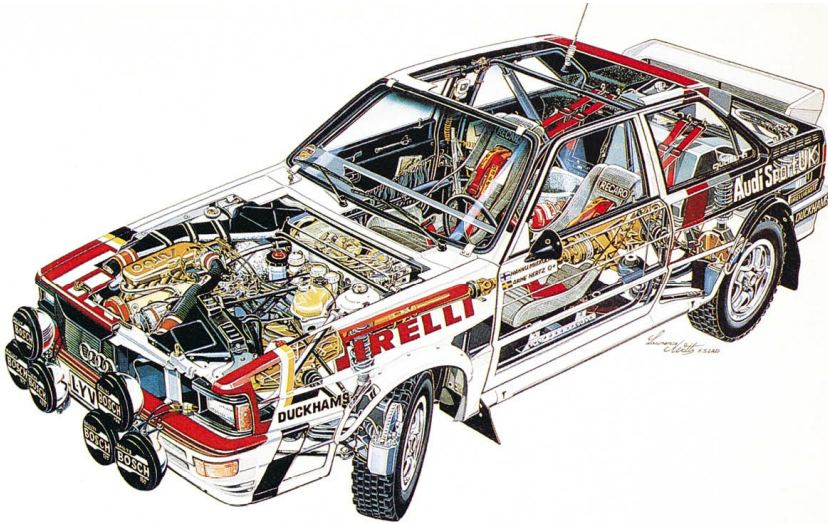


Mounting a large engine oil cooler underneath the rear spoiler was a neat and effective way of keeping the engine cool.

The new cylinder block (really, the fore-runner of what would eventually appear as an integral part of the 20-valve engine to be used in the Sport Quattro) retained all the same basic dimensions (bore and stroke, cubic capacity) as before, but weighed 22kg/48lb less. Other weight savings came from developing Kevlar bonnet, wings, boot lid and wheelarch extension 'blisters' – which all counted on the 'every little helps' principle. Although such fitments were undoubtedly expensive, it was deemed to be worth it since Audi had concluded that it would settle for nothing less than world-domination.

Although putting the Quattro on a diet seems to have been a

partial success, nothing could eliminate the bulk of the basic engineering. Authentic figures published at the time showed that a lightweight tarmac works Quattro might weigh 1120kg/2470kg, while we also know that the David Sutton built 'iron-block' car used by Hannu Mikkola and Bjorn Waldegård in 1982 weighed a sturdy 1262kg/2783lb.



Audi Quattro rally technology laid bare. This magnificent drawing was of the first car which was prepared by David Sutton's team for Hannu Mikkola to drive in British events in 1982.

Group B takes over from Group 4

Although there had been a few further detail changes and improvements during 1982, the next important package of changes came for 1983. Because the new Group A and Group B categories were taking over from the old Group 4 (and, indeed, Group 4 cars would shortly be made ineligible for World rallies), Audi took the opportunity to re-homologate the entire car. As far as Audi was concerned, at the end of 1982 it lost all interest in Group 4 rallying, and from 1 January 1983

took up Group B motorsport instead. The Group 4 Homologation Papers (no 671) became interesting museum pieces, and were replaced on every Quattro owner's shelf by the new Group B sheets, number B229. It is important to recall that from 1 January 1983, Audi Sport changed tyre supplier, dropping Kleber in favour of Michelin, which the drivers had secretly found to be superior in 1982.

Under B229, except that there were stronger and better-developed transmission installations, and the standard final-drive ratio was now 4.375:1 (with 4.571:1 or 4.625:1 as optional alternatives), there was little mechanical advance over the old Group 4 machine, though the use of Kevlar skin panels 'as standard' (yes, we may smile wryly at this – try buying a Quattro, so equipped, from your local showroom!) allowed the homologated weight to come down to just 1100kg/2430lb. No fully-equipped Quattro rally car ever got down to that figure anyway, though some were weighed at 1130kg/2485lb.

This specification, however, did not last long, for on 1 May 1983 Audi achieved the second phase of homologation to 'A2' specification, under the forms numbered B242/243.

The important change was that the 'basic' homologation car was now quoted as having a slightly smaller-capacity five-cylinder engine: because of the way the FIA rules for the turbocharging multiplication factor were applied, this allowed the A2 to run as an 'under-3-litre' machine, rather than an 'over-3-litre' machine. More importantly, it meant, theoretically at least, that the works Quattros could run to even lower unladen weights, though they never even came close to the 960kg/2121lb which this class allowed.

This is the comparison between 'A1' and 'A2' engine sizes:

A1

Bore x stroke (mm): 79.5 x 86.4

Cubic capacity (cc): 2144

Equivalent capacity (cc) (with FIA 'factor' of 1.4 applied):

3002

A2

Bore x stroke (mm): 79.3 x 86.4

Cubic capacity (cc): 2135

Equivalent capacity (cc) (with FIA 'factor' of 1.4 applied):
2989

Because of the wonders of turbocharging, control over the maximum boost they could deliver, and the ever-developing control over electronic and fuel supply systems, the Quattro's power could be ramped up, or screwed back, almost at will. In 1983, although the nominal start-of-season rating of the 10-valve engine was 340bhp, it could be rolled back to little more than 310bhp for marathons like the Safari, or boosted all the way to 400bhp where 'sprint' rallying on tarmac was in prospect. The Quattro might have had limitations in the road-holding department, and still been too heavy, but, for sure, it was never short of grunt!

Another important detail in these Group B cars was that there were enlarged wheelarch flares, and moulded recesses in the rear wings ahead of the rear wheelarches, which could be opened up (where regulations allowed) to feed more fresh cool air towards the rear brakes.

Massive 200-litre/44-gallon fuel tanks were also developed for 1983, specifically for use on long-distance events like the Safari and Ivory Coast. Though used on the Safari, they had not needed to be homologated because of regulatory freedoms that applied in Kenya. It is worth noting that when one of these tanks was full of fuel, it added more than 400lb to the dead weight of the cars, placing even greater strains on the suspension, the damping, the structure and – indirectly – on the drivers! Audi, which said that it had analysed all the alternatives, insisted that it was worth it.

Fuel leaks around the injection system always seemed to be a problem, and even though the system was revised in mid-1983,

problems with fire persisted. These were never entirely eradicated, nor were occasional breakages connected with the unique demands of balancing straight-five-cylinder engines.

By 1984 Audi Sport was concentrating most of its efforts on preparing the shorter-wheelbase Sport Quattro for homologation, and for its first event, which would be the Tour de Corse in May 1984. To make it more reliable, therefore, evolution of the A2 model virtually came to a halt. Not even for the Safari, where a great deal of testing was carried out, were there any significant novelties, and A2 specifications continued to be familiar until this works model was phased out at the end of 1984.

Sport Quattro changes

The first cars appeared on the Tour de Corse in May 1984, and it was clear that much development remained to be done. The first rally cars were only completed in mid-April, just two weeks before the Corsican adventure. Maybe this explains why the advanced twin handbrake feature (one operating each rear brake) and the homologated six-speed transmission did not feature on those original cars. For Corsica, too, the centre transmission differential was omitted – this being normal on A2s as well, and, of course, meaning that a 50/50 front-to-rear torque split was assured.

The major talking point about Sport Quattros at an early stage of their development was precisely how much horsepower the 20-valve rally cars actually produced. Remembering that the 10-valve A2 engines produced about 360bhp, Autosport's Peter Foubister's comments about the 20-valve 1000 Lakes cars of 1984 are illuminating:

"Audi seemed to get itself in some confusion regarding the specification of its cars, team boss Roland Gumpert confirming ... that his Sport car had 400bhp. Meanwhile, the press release put the figure at 450bhp, and if the team was quizzed the figure thrown about was 510bhp."

Not only that, but it was becoming embarrassingly obvious that the 'short' Sport Quattro was actually barely lighter than the A2, so one wondered where all the extra weight had been added, which negated the metal removed with the platform, roof and related panels all being truncated.

Early development work concentrated on making the cars more reliable, so there was no need to look for more power. At San Remo in 1984, for instance, Audi made much of the re-tuning which now helped provide more torque in the mid-range, but no more at the top end. At World level, the six-speed transmission was not used at all during 1984, though Walter Rohrl took a six-speed-equipped car out on a German rally – and won – as part of the testing programme.

For 1985 Audi Sport concentrated on improving the Sport Quattro, though they – management, drivers and technicians – all found this to be a long and frustrating process. In the first events, the five-speed transmission and 16in wheels were adopted, but, by the time the Safari came round, the new and more solid six-speed transmission was employed. Spring and damper settings came in for much attention, but of course the basic problem, of having a nose-heavy car, could not be solved until the E2 version appeared.

When the E2 was finally homologated, in July 1985, it was a great improvement on the original, but already overcome by time, events, and the advance of Audi's arrivals. Although Hannu Mikkola, for instance, told the media that the E2 was much more stable, and that it 'flew' much better (over long crests and jumps), he still complained that it was far too heavy. Water-cooled brakes were an homologated option, which was very effective, though on long stages the reservoir of water was quickly exhausted!

From San Remo, in October 1985, the centre differential was finally made adjustable (on all previous Quattro rally cars it had been fixed, with a 50/50 torque split), with a Torsen-Gleason component fitted, helping the 500bhp car's balance.



Audi Quattro rally technology laid bare. This magnificent drawing was of the first car which was prepared by David Sutton's team for Hannu Mikkola to drive in British events in 1982.

Finally, towards the end of the season, the semi-automatic change for the four-wheel drive transmission, with five forward speeds, was ready. Walter Rohrl had carried out much testing, had recently won the Semperit rally with an E2 which was equipped with semi-automatic, and pronounced himself satisfied. The foot-operated clutch pedal was only needed for stage starts, and there was a pre-selector mechanism for the driver to think ahead of his requirements, and two clutches in a complicated assembly. This was reputedly 30kg/66lb heavier than a normal manual transmission.

Once Roland Gumpert had been removed, and replaced by Audi's new manager, Herwart Kreiner, in 1986, he adamantly refused to tell the world what changes and improvements were being made to the cars from event to event. To some that meant

that all manner of quasi-legal changes were being made that Audi would rather not explain, to others it meant that development had ceased, while the majority merely saw this as a rather paranoid attitude brought about because the E2 was still not yet on a par with Peugeot's and Lancia's new models.

The fact was, however, that the semi-automatic transmission tried by Walter Rohrl on the RAC Rally was put back into the box marked 'work still needed', for the 1986 Monte cars both used the robust (and familiar) six-speed transmission, though a Ferguson centre differential took the place of the Torsen device used during 1985. By that stage, it seemed, a typical European-spec E2 weighed about 1090kg/2403lb, engines produced between 450bhp and 500bhp (this depended on who was being truthful, or boastful, or both), and the most favourable front-rear torque split seemed to 40 per cent front/60 per cent rear.

At this point crashes and tragedies bringing death to drivers and spectators occurred (none involving Audi), horrific events which caused Audi to abruptly pull the plug on its Group B rally programme. Although the cars went on to a distinguished career in other types of motorsport – not least in the Pike's Peak hillclimb, and in rally-cross – we will never know just how good the E2 could have been if all the development programmes had been brought to fruition.

Was the Quattro unique?

In the early years, for sure, the Quattro was unique. At a stroke, it seemed, it transformed the face of rallying. Not only was it the first competitive rally car to have four-wheel drive, it was also the first to use a turbocharged engine. It was the first works machine, in other words, to harness no less than 340-350bhp by feeding that through four driven wheels. Either feature on its own would have represented a big step forward, but combined they represented a cataclysmic change in the way that rally cars were meant to perform.

For the period, therefore, the Quattro was certainly unique,

for there was no other four-wheel drive car on the scene at that time. Rival cars being developed still only had rear-wheel drive (the Lancia Rally 037 and the Toyota TwinCam Turbo were classic cases), and the first dedicated four-wheel drive rally car (the Peugeot 205 T16) would not appear until 1984. This left the Quattro three full seasons – 1981, 1982 and 1983 – to enjoy four-wheel drive, even though it was neither sophisticated, flexible, nor technically advanced,

In some ways, of course, the Quattro traded on its two big advances, because they helped make up for important failings in the rest of the machine. It was, of course, far too heavy, for Audi had made no attempt to use lightweight materials or body panels at this stage. The rally car was originally homologated at 1190kg/2624lb, compared with 960kg/2117lb for the standard-setting Lancia Stratos, and only 980kg/2161lb for the last of the Escort RS types. This meant that each rally Quattro was always carrying around an extra 200kg/441lb, rather like having two extra passengers sitting in, doing nothing but adding to the problem.

Because it had a heavy, far-forward, turbocharged five-cylinder engine, it also suffered from a less-than-ideal weight-distribution: early measurements suggested that 58 per cent of the weight was carried over the front wheels, and this almost inevitably led to the handling of the rally car tending to understeer at all times, especially when the front tyres were already being loaded up with torque. To see a Quattro rally car going sideways was a rare event – usually because the car was already in mid-spin, or because the tyres had let go, unexpectedly.

The fact that in the first season those tyres were Klebers, which were not state-of-the-art as far as World rallying was concerned, did not help either. Showing a touch of German arrogance, the Audi works team had originally gone to Kleber for its first supplies. No doubt the sponsorship deal was good, but Audi seemed not to want to go cap in hand to rival

companies like Dunlop (which supplied Ford), Michelin (supplier to French teams like Renault) and Pirelli (equipping Fiat and Lancia). In an early interview, team boss Walter Treser agreed that Kleber was perhaps not the ultimate tyre to have but that, since the Quattro four-wheel drive system was so outstanding, this did not matter.

The team would remain contracted to Kleber in 1982, though once Hannu broke ranks and fitted Michelins during the 1000 Lakes Rally even the German management began to understand that it needed to consider a change. Michelins were officially adopted for 1983 and future years, and the drivers seemed to be much happier with that arrangement.

Building and running the works cars

As the basis of its new Audi Sport department, in 1979 the company acquired a disused supermarket workshop on the outskirts of Ingolstadt, and converted it into a simple two-story motorsport preparation complex. Crucially, this was about a mile away, and separate from the main factory buildings, therefore it could develop its own systems, its own way of doing things, and develop at its own pace.

Originally managed by Walter Treser (but, from the autumn of 1981 by Reinhard Rode, and for 1983 by Roland Gumpert), this operation housed the seemingly ever-growing fleet of works rally cars, and in the first year was also home to 27 mechanics and a tiny number of foremen and senior technicians. When all administrative staff were included, and counted, the total strength was about 45 people. This would grow slightly as the programme became more intense, but was a similar size to Ford's Boreham HQ at its height.

I should make it clear, right away, that the Audi Sport HQ was much more of an assembly and maintenance workshop than a manufacturing unit, for engines and transmissions were all developed, built, tested and maintained in the general R&D departments in the main factory.



Because the Quattro was such a sensational winning product, it made all its own headlines, and crowds flocked to see it wherever there was a service halt. This was the RAC Rally of 1984, where John Buffum of the USA is in for repairs.

Like all other works teams of the period, Audi started its preparation on the basis of a much-stiffened, reinforced bodyshell with a built-in roll cage, these being manufactured and delivered by Matter & Obermoser. This much-respected company started on the basis of a bodyshell which would otherwise have found its way to the production lines, then added the alloy roll cage and every other competition fitment, plus the aluminium front wings, bonnet panel, and doors skins, with a boot lid being in plastic.



Service on the 1984 Scottish Rally for the victorious Mikkola/Short example, as built by David Sutton's team. Note the homologated motorsport front grille, which covered the position of the inner headlamps and gave more room for the engine intercooler.

Like many other German motorsport teams, Audi preferred to build all-new cars for important events, rather than re-prepare existing ones. This made the workload at Ingolstadt even heavier. A measure of the intensity of this process is that, for San Remo in October 1983, Stig Blomqvist's brand-new works car was the fiftieth so far to have been completed in the Audi Sport workshops – this being little more than three years since the first test cars had been completed in the autumn of 1980. By the end of the season Audi Sport claimed to have built sixty rally car chassis, and the staff had risen to 60 in total. Many more new cars, including a fleet of short-wheelbase Sport Quattros, would follow.

To support the cars out in the field, a fleet of service vans was needed. Since Audi did not make vans of its own, the search

was widened to the rest of the VW Group, and, in fact, the choice of heavy-duty VW LT vans was an obvious one. Incidentally, right from the start, Audi spared no expense in supporting its works cars. For that first outing in Monte Carlo, no fewer than thirty support vehicles – vans, tyre trucks, ice notes cars and ‘chase’ cars – added to the convoy.

As another example, on Audi’s first visit to the East African Safari in 1983, the three rally cars were supported by three ‘chase’ cars (spares ‘on-the-hoof’, really, all of them being practice cars too), three Iltis 4x4 vehicles, four strategically located ‘mud’ cars for towing rally cars out of impassable sections, six VW service minibus/vans, a helicopter with flying mechanics, and a light aircraft to provide communications and radio relay facilities.

By 1985 that effort had expanded considerably (in spite of remarks made a few weeks earlier by company spokesmen, stressing that there would be financial cut-backs). To support two rally cars, Audi had an 80-man team, with eight VW vans all accompanied by locally hired pick-ups to carry fuel and tyres, two MAN trucks, three Isuzu Trooper 4x4s, ten other assorted cars to act as ‘mud rescue’ machines, and a supervision helicopter which had been flown all the way from Germany.

It was that sort of costly support exercise (and, let us be clear about this, renewed competition from Peugeot, Lancia and Ford) which caused Audi to pull in its horns somewhat for 1986, planning to run no more than two rally cars on a handful of events, and a single entry on several others.

Personalities and star drivers

Dr Ferdinand Piech

Not only was Dr Piech the grandson of Dr Ferdinand Porsche, the genius who conceived the VW Beetle in the 1930s, and who inspired the original Porsche of the 1940s, but he was a formidable engineering talent who rose to the very top of the

VW tree, and ran the complete empire from 1993 to 2001, when he reluctantly fell into line with company rules and retired.

Born in 1937, he joined Porsche in 1963, soon became General Technical Manager, then moved to Audi in 1972. From 1975 to 1988 he was the board member responsible for Technical Development, which means that the Quattro was invented, developed and put into production on his watch. He then joined Audi's managerial board in 1988, and became the Chairman of Management of the VW Group in 1993, after which he was in charge of everything that moved in this mighty business.

All manner of adjectives have been applied to Piech – ruthless, dictatorial, brilliant, hostile to criticism – and there is no doubt that he was difficult to work for. Technically, however, he certainly knew his stuff, so was always completely abreast of whatever the Quattro team was proposing.

If one's job was at stake, it was always unwise to cross him – both Walter Treser and Roland Gumbert discovered this – so it was a miracle that Audi Sport managed to make two mid-engined rally car prototypes in 1985-86 (they looked remarkably similar to the Sport Quattro, though this was probably not a settled style), with a view to making Group B cars out of them, without Piech's knowledge.

Walter Treser

Born in 1940, Treser was a key figure in developing the Quattro's character. In his young days he raced cars at club and national level, then worked as an engineer at Mercedes-Benz and Veith Pirelli. He joined Audi in 1977 as Manager of Advanced Development, and took charge of the Quattro programme from that point.



Reinhard Rode was Audi Sport's competitions manager from mid-1981, replacing Walter Treser. Rode was supplanted by Roland Gumpert late in 1982. Between them they moulded a formidably effective World rally team.



Roland Gumpert was Audi Sport's team manager as the Quattro came to the height of its fame, but rapidly fell out of favour when the Sport Quattro struggled to become a winner. He was removed from office at the end of 1985.

When Audi elected to open up a works competitions department, Treser was appointed manager, and led it in an extrovert, high-profile, way until mid-1981. Like all such ambitious men, he liked his own way, liked to be seen as the boss, and ruled his department with a rigid rod of iron. To some he seemed arrogant, and a rule-bender, but to others he was ultra-helpful and ultra-efficient.

Even so, it was under Treser that the team learned its World Championship craft, and under him that the regulations were sometimes skirted (the rubber flaps instead of headlamps, and the extra battery carried inside the car were typical). Perhaps it was inevitable that he was abruptly removed from his position in 1981, and shortly left the company.

After 1982 he developed his own Audi tuning business, and

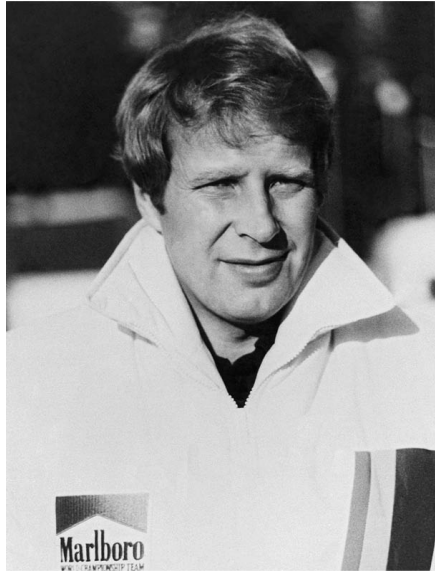
even planned to make a new supercar called, naturally enough, 'the Treser', but by 1992 he had closed down such activities, and was back in motorsport, as Competitions Manager at GM-Opel.

Hannu Mikkola

It was Ford Motorsport's Bill Barnett who first made Hannu a works driver in 1968 (he immediately won the 1000 Lakes Rally), after which he stayed with Ford until 1974, then raced for the team again from 1978 to 1980. By then the well-educated Finn with fluent English and good social graces, had come a long way, and was at the top of every team manager's shopping list.

In that time, although he will always be remembered for his ground-breaking London-Mexico World Cup (1970) and East African Safari (1972) victories, he also won the RAC Rally twice (1978 and 1979), the 1000 Lakes (four times), and other events (New Zealand twice, Portugal, and many British Internationals), all of them in Escorts. Hannu's style was smooth and cultured: crashes due to over-driving were so rare as to be remarkable.

If Ford had not then withdrawn from International motorsport after 1979, he might have stayed with the team, but Hannu moved on to more fame and a considerably larger fortune in the four-wheel Audi Quattro. As the undisputed team leader, he was the first to win a major event (Sweden 1981), became a mentor to individuals like Michèle Mouton, and thoroughly deserved the World Championship for Drivers, which he won in 1983. Second again in 1984, he then had to suffer the vagaries of the Sport Quattro in 1985 and 1986, and was released when the Audi motorsport programme closed down in 1986.



Hannu Mikkola was the first world-class driver to test the prototype Quattros in 1980, soon signed a contract to lead the team, and remained with Audi until the mid-1980s. He became World Rally Champion in 1983.



Superstars can sometimes get on very well. Stig Blomqvist and Hannu Mikkola seemed to share 'joint No 1' status without too much friction at Audi.



Arne Hertz, the ever-cheerful Swedish co-driver, was an indispensable partner to Hannu Mikkola during a successful several-years period with Audi Sport.

Hannu then drove for Mazda, briefly and not successfully, before retiring from the sport when he was in his mid-forties.

Michèle Mouton

Born in Grasse, close to the mountain stages which made France a famous rallying country, like most French enthusiasts Michèle Mouton started by driving Renaults, and Alpine-Renaults. First prominent on the world stage in 1977 (she finished second in the European Championship), she drove Fiat Abarth 131s until 1980, after which Audi signed her to drive alongside Hannu Mikkola in the new Quattro.



Any suggestion that Audi had signed up Michèle Mouton (left) and Fabrizia Pons merely to add glamour to the team was dispelled in the first season when the French driver proved to have formidable talent. Michèle won the San Remo Rally in the first season (1981), and came close to winning the Drivers' series in 1982.

Competitive at once – she was fourth in Portugal in her second Quattro appearance – she won the San Remo Rally of 1981, and three more events in 1982 (Portugal, Acropolis and Brazil), along the way to being second in the 1982 World Drivers' Championship and fifth in 1983. That there were no more outright victories was not her fault – with team mates like Mikkola, Stig Blomqvist and Walter Rohrl at Audi, it was always going to be difficult – and after the 1985 season, when she was less than fully-employed (though she contested the entire British Championship season), she moved on to drive Peugeot 205 T16s instead.

In later years she married, became a mother, and eventually became the mastermind behind the TV rallying spectacular

Race of the Champions. Along with Pat Moss, Michèle was, and is, the driver by whom all other females measure their skills and achievements.

Stig Blomqvist

This quiet, but supremely talented Swede burst in to rallying in the 1960s in front-wheel drive Saabs, won a World Championship for Audi in 1984, and was still competitive at the end of that decade. Even in the 2000s Stig was competing at World Championship level in Group N cars, and often appeared at classic re-unions.



Stig Blomqvist and his co-driver, Bjorn Cederberg, won four of the six British rally championship rounds in their Quattro in 1983. A year later the same team would win the World Drivers' Championship, too.

Driving Saabs, Stig's first big win was in the 1000 Lakes of 1971, his first World victory followed in Sweden in 1973, after which he was always competitive even if his under-powered Swedish cars were not. Audi signed him up for 1982, when he won twice (Sweden and San Remo). He won the RAC Rally of 1983, and in the same year won every British event in which David Sutton entered him – his dominance was almost embarrassing – which confirmed the Quattro's supremacy in these islands. Stig then astonished everyone with five World victories in 1984, when he was crowned World Drivers' Champion. In the Sport Quattro, although he was the most consistent of all works Audi drivers in 1985 (three second places, and three fourths) there were no more wins, so he then moved on to Ford, where the pickings were similarly slim, and ended his front-line career at the end of the 1980s.

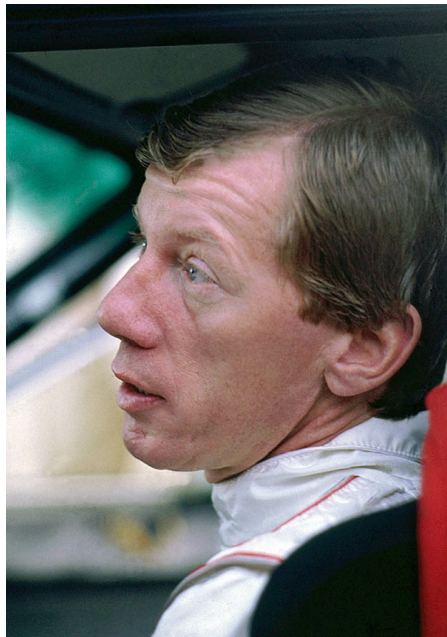


Two of the most successful Quattro drivers were Stig Blomqvist (left) and Harald Demuth

Talkative only after the evening's celebrations had begun, Stig (usually accompanied by co-driver Bjorn Cederberg) usually let his stage times and achievements tell their own story. He was an excellent test and development driver, uncomplaining if his rally cars were not quite up to the point, and was rarely seen to be angry about anything.

Walter Rohrl

How to describe Germany's best-ever rally driver? Amazing, talented, clinical, versatile, successful – but also formal, sometimes withdrawn, and always demanding the best of his equipment – this was Walter Rohrl. He had already been at the top for a decade before he joined Audi for 1984 – but what a decade!



When he was driving for a rival team, Walter Rohrl was so

frustrated he stated that “even a monkey could win in a Quattro.” In 1984 he joined Audi and became one of those monkeys ...

Having started in private Opels, he joined the works team and became European Champion in 1974. Moving on to Fiat in 1977, Opel in 1982 and Lancia in 1983, he was already a double World Champion (1980 and 1982) before joining Audi. Although he won only two World events for Audi between 1984 and 1986 (Monte Carlo 1984 and San Remo 1985), he was demonstrably the fastest and most clinically stylish Quattro driver of that period, searingly so on sealed surfaces where diligent practice paid dividends. Before he moved away from rallying, Rohrl had won no fewer than 14 World rallies, and one of his records, hardly likely to be matched, was to have won the Monte Carlo four times, in four different types of car.



It took Audi three years to attract the German superstar, Walter Rohrl, to drive the Quattro in rallying. This study, taken

when he signed up for the 1984 season, shows the complex layout of the fascia/instrument display of the works cars of the period.

Once Audi had withdrawn from rallying, Rohrl stayed on board to be involved in events as diverse as the Pikes Peak hillclimb, and USA IMSA racing. Rohrl's contract with Audi came to an end in 1992, after which he joined Porsche as senior test driver and was still employed at Weissach in the late 2000s.



Walter Rohrl joined Audi Sport in 1984, and came as close as anyone to completely taming the works Sport Quattro E2. This was the even more extreme E2 which he drove in the Pikes Peak hillclimb in the USA.



Walter Rohrl (right) and Christian Geistdorfer were ready to win in the new Sport Quattro on the Tour de Corse in 1984, but the car's development was not yet complete.

Competition story

Audi's competitions department had little experience, and had enjoyed virtually no success, by the time the Quattro appeared, and preparation work began. Yet such was the determination, ruthless professionalism, and utter desire to start winning, at almost any cost, that the Quattro's first victory came only weeks after homologation was achieved.

For the next five seasons, until the purpose-built Peugeot 205 T16 matured as a second-generation Group B car, the Quattro had flared, had become the world's first successful four-wheel drive rally car, and was still one of the most powerful and purposeful machines in the sport.



A famous and very significant occasion – Hannu Mikkola and Arne Hertz drove IN-NE-3 as a 'course car' on the Algarve Rally in October 1980, and had all their stage times recorded.

If they had been competing (but, being non-homologated, could not do so), they would have won the event by about thirty minutes!

As already related, the Quattro was officially launched in March 1980, went into slow (but steadily increasing) production in the autumn of 1980, and was homologated in Group 4 on 1 January 1981. At that time, Audi swore, more than 400 cars had been built, and although we know that this claim was a little optimistic, there is no question that road cars were pouring out of Ingolstadt before the first works cars were used in motorsport.

This is the detail story of their career after that.

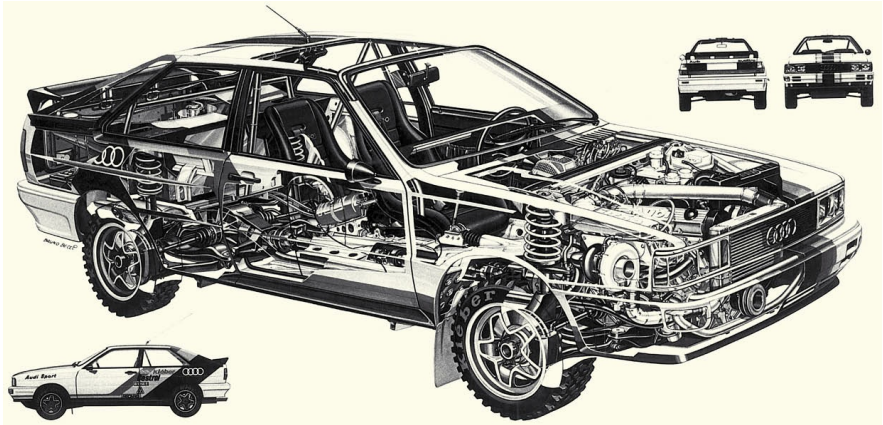
1980

During 1980 Audi worked hard to set up a separate works competitions department to build new rally cars. As we now know, the first handful of machines were ready by the end of 1980, and by the end of the first season as an homologated machine, Audi had used thirteen different identities in World events, with others being used for practice, for testing, and being loaned out to deserving 'friends of Audi'.

Audi wanted the world to get a taste of Quattro rally performance before the end of 1980, but had to choose an event where the lack of homologation would not debar it. In the autumn, too, because Hannu Mikkola was still heavily involved in his 1980 rallying commitments (not only was he driving works Mercedes-Benz cars in World rallies, but in Britain he was driving for David Sutton in the Eaton's Yale Escorts) there were not too many spare weekends.

In the end, team manager Walter Treser had to be content with running an early rally development car, complete with Kleber competition tyres, as a '0' course car on the Urbibel Algarve Rally in southern Portugal, which was a European Championship qualifying round. Running at the head of the

field, using the gravel stages in their very best 'virgin' state, and treating this as a rally for him in all except legal details, Hannu, his co-driver Arne Hertz and the first works Quattro IN-NE-3, set fastest times on no fewer than 24 of the thirty special stages.



The first works Audi Quattro rally cars were completely reworked from road versions, with well over 300bhp, and every item of strengthening equipment which modern rally cars needed at the time. All original Quattros had left-hand steering, and, in early works guise, the small engine oil cooler was mounted underneath the boot lid spoiler. From late 1981, though, this cooler was much enlarged.

Although Bernard Beguin's Porsche 911 was marginally quicker on the handful of tarmac stages this was a real demonstration. If the regulations had allowed them to compete officially, they would have won the event by an incredible 30 minutes – an average of one minute faster for every stage. Hannu's was a sensational performance, which might not have humiliated the official winner Antonio Zanini (Ford Escort RS), but certainly made its point

Just before the end of the year, two Quattros also turned up at the final round of the Finnish Championship, the Northern Lights, where Michèle Mouton and Freddie Kottulinsky drove

them as course cars. As in the Algarve, they proved encouraging, and sure-footed on loose and slippery surfaces. For the doubters, therefore, that was enough – and the team looked forward to a start to the real World Championship programme in 1981.



All the evidence of a hard life! This was the Kevlar-type front undershield of a works Quattro, showing how constant battering had worn it away without damaging the engine and transmission which it protected.



Hannu Mikkola's victory in the 1981 Swedish Rally was the first of many. The opposition quaked in their boots when they saw the awesome potential of this new four-wheel drive car on unsealed surfaces.

1981

By this time Audi had announced its plans for 1981, with the works Quattros scheduled to tackle eight World events. Hannu Mikkola would start all of them, though Michèle Mouton would miss the Swedish, where ice and snow conditions were considered too specialised even for her remarkable talents. Walter Rohrl, incidentally, had earlier been approached about a driving contract, but chose to sign up with Mercedes-Benz, only for the Stuttgart-based giant to withdraw from motorsport even before he could start rallying with it!

Early in the year, Franz Wittman (who would also compete in the occasional World rally too) recorded the Quattro's very first official victory, when he won the first European Championship round of the season, the Janner Rally of Austria, by an astonishing 21 minutes. Wittman, let us be quite honest, was good, but not that good, so this was an indication of just what a remarkable car the rally Quattro was likely to be.



Michèle Mouton had no luck on her very first World rally in the Quattro, when fuel contamination forced her to retire from the Monte Carlo Rally, but then took a fine fourth place in Portugal in March 1981. Soon after this, all criticism of Audi for signing the 'token woman' disappeared – forever!

Two cars turned up for the Monte Carlo Rally, where conditions were expected to be ideal for the newly-homologated Quattros. During pre-event recces, Hannu and Michèle had been giving demonstration rides to their rivals – almost all of whom were depressed by what they witnessed! For this event Hannu's car was decked out in Audi Sport colours, while Michèle's car had a BP livery, as that was her local oil

company sponsor in France, where all the Monte action would take place.

This was not a happy debut. First the good news – that the Quattro was demonstrably faster than all its rivals. Now for the bad news – that Michèle's car was forced out, with dirt contamination in the fuel system (oh dear! With an oil company sponsorship deal in place, too ...). Although Hannu built up a lead of six minutes on the first six special stages, trouble followed. First his car suffered a broken alternator belt, then a crash which wiped off a front suspension strut, and finally a steering breakage which was thought to be related to the earlier accident.

Fortunately, there was an almost immediate change of luck for the new German team. Although only one car was sent to Sweden (it was the same car which Franz Wittman had used in the Janner Rally), Hannu was in an event which he knew well, revelled in the snow and ice of central Sweden, and won convincingly. Here was record after new record – the first World win for a Quattro, the first World victory for a four-wheel drive car, and the first time the Swedish had been won by a non-Swede.

Hannu set fastest time on no fewer than 15 of the 25 special stages, second fastest on four others, and third fastest on three more: he was never slower than fifth on any of the others, and eased off towards the end, so that he 'only' won by 113 seconds, followed home by the two flamboyantly-driven (but technically obsolete) Rothmans Escorts of Ari Vatanen and Pentti Airikkala. Even after just two events, though, the sensation-seeking writers and photographers were beginning to claim that although the Quattro might be fast, it didn't look fast: this was one of the characteristics of a four-wheel drive which we would all come to know well in future years.

Audi came down to earth with a bump in Portugal, where Hannu had to retire with a failed engine, and Michèle Mouton's car was also hampered by electronic problems, but took fourth

place. This was, in any case, a real test for the versatility of the Quattro, for there was a mixture of tarmac and loose-surface going in the 46 stages, and older-type cars like the Fiat 131 Abarth, Talbot Sunbeam-Lotus and Toyota Celica could both stretch their legs and gain traction on many occasions.

This was the first occasion on which the works Quattros used the 340bhp engine, and the handling was now enough for Hannu to lead convincingly for the first 26 (of 46) special stages, when he was more than two minutes ahead of his rivals. Like other megastars in this event, Hannu then suffered ill luck, when his engine suddenly dropped a valve, cut out, and seized due to the carnage going on inside the cylinder block. Hannu had already set 16 fastest times.

Michèle kept on, set seven fastest times, and was always on the pace, but the failure of a Pierburg fuel injection control box in mid-stage set her back. In the end, she finished fourth, no less than 22 minutes behind the victorious Fiat 131 Abarth.

But, let's not be harsh on Audi, which had only tackled three World events, and was learning all the time, even when it was not winning. Even so, the dictatorial attitudes of team boss Walter Treser were not making many friends, either inside or outside the team and – except for the drivers themselves – there was a distinct lack of humour about the entire operation.

Even so, it was asking too much for the new cars to perform well in the Tour de Corse, where the slow, narrow and twisty all-tarmac stages in hot Mediterranean conditions favoured lightweight machinery which was much more nimble. Of all places, here was an event where smaller, lightweight, rally cars with two-wheel drive might still look outstanding which, indeed they did.

Amazingly, it was Bernard Darniche's six-year-old Lancia Stratos (a venerable, much-rallied machine which he loved – and so did the spectators) that won the event, from Guy Frequelin's works Talbot Sunbeam-Lotus: the Quattros were never on the pace. Both the team cars were forced out before

the first day's running was over, both of them with engine problems – Hannu's car broke a piston, and Michèle's engine broke a camshaft – which did, at least, allow the Germans two extra days to lick their wounds, try to work out the reasons, and begin to plan ahead. Which, with the challenge of the Acropolis brewing, they certainly needed to do. In Greece, in June, the weather was sure to be hot, there would be ultra-rough stages and mountains of dust, and only the most sturdy of rally cars would survive. Even so, for Audi this rally brought real controversy, not only because the cars were disqualified for technical homologation infringements, but because the team's antics eventually led to Walter Treser's dismissal.



It was only the instant bravery of Arne Hertz, who leapt into the burning Quattro and allowed team manager Walter Treser to be extricated, that averted real tragedy on the Acropolis Rally of 1981.



Before the works cars were disqualified from the 1981 Acropolis Rally, Hannu Mikkola was setting the majority of fastest stage times to lead the event. The 'opening flap' device in front of the inner headlamps is clearly visible here.

Two new cars (and an older car for Franz Wittman), all with reinforced shells (therefore heavier, and with 'only' 300bhp engines), faced the starter, but they also had modified noses in which the inner head lamps had been replaced by moving flaps covering intakes, which folded back under air pressure as the car moved along. This, along with the unashamed use of extra electrical batteries in the passenger's foot-well to help re-start the hot engine after service halts, made them a target for zealous scrutineers.



Michèle Mouton's magnificent victory on the 1981 San Remo Rally immediately convinced all doubters that she was a great driver, not merely a great woman driver – and she would go on to prove this time and again in future years.

Right on the pace from the very beginning, it was Mikkola's car which led, always battling closely with Ari Vatanen's Rothmans Escort, though Michèle Mouton also set several fastest and many 'podium' stage times too. Both cars suffered transmission breakages at one point or another, obliging them to operate in two-wheel drive mode – but both were restored to health at service points. For Michèle, it didn't help that her car also suffered a badly damaged rear suspension at one point either.

Then came near disaster. At a subsequent service point, Treser crawled under Mikkola's car to inspect the underside, at

the same moment a mechanic spilt petrol on to a hot exhaust pipe, and the car burst into flames. Fortunately co-driver Arne Hertz leapt back into the car, drove it away to safety and had the flames extinguished. Treser was burnt around the face and hands, and he took weeks to recover – he would not be involved with the team again.

In the meantime, Hannu's car was re-fettled, and started the third of four long loops in the lead, by three minutes from Vatanen's Escort, with Mouton fifth and Wittman's third car also in the top ten. Immediately after the re-start, though, the Quattros were summarily excluded by the Stewards because of homologation infractions. Audi, naturally, protested that its reading of the regulations was correct, the Stewards disagreed and, finally, the decision was upheld.

At this point, make no mistake, the entire Quattro rally programme was in crisis, especially as Audi seemed to have lost the sympathy of the media, especially the German media. The board of directors considered withdrawal, but in the end it elected to continue after very publicly sacking Walter Treser and installing Reinhard Rode in his place, with Roland Gumpert as his development engineer.



Once Michèle Mouton got the scent of victory in the 1981 San Remo Rally, she was uncatchable, taking her very first World success – and the first by a woman since the official World series was inaugurated in 1983. Note the latest type of radiator grille, which eliminated the inner headlamps, and allowed a larger air/air engine intercooler to be fitted.

A summer's development then followed. The works team ignored Argentina and Brazil, sent out Michèle Mouton to compete in the non-Championship Mille Pistes Rally in France in July, then sent three cars to the high-speed 1000 Lakes in Finland in August.

Once again, it seemed, the Quattro could do everything but win the event, for although Hannu Mikkola set 29 fastest times out of 47 stages, after 21 stages his engine needed a camshaft change and a new cam follower to restore it to full (320bhp) power. From that point Hannu had dropped to fifth, and struggled for half the rally to get back to third place: as on the Acropolis it was a Ford Escort – the Rothmans example of Ari Vatanen – which won the event. In fact, this was the last World rally to be won by an old-type rear-drive Escort.

Of the others, Michèle struggled on her first 1000 Lakes Rally, and only managed 13th place, while Franz Wittman went off after the end of a stage, tragically hitting an FIA official who was standing close by: the hapless Raul Falin later died of his injuries.

What was it going to take for the Quattro to become a consistent winner? In a word – reliability – for in almost every case so far in 1981 Hannu Mikkola had been let down by his machinery, rather than the other way round.

For two of the drivers, at least, it was the same old story on the San Remo, where Michèle Cinotto crashed his car at about half distance (he had already set seven fastest stage times), and where Hannu set by far the highest number of fastest stage times (30 out of the 59 scheduled sections), only for his engine to need what looked like a complete change of fuel injection and electrical systems to rectify untraceable engine problems. Never actually leading the event, he was way down in 56th place after the first day, and spent four of the five days clawing his way back, eventually reaching fourth place.



Was ever a rally victory more predictable? Hannu Mikkola had already won the RAC Rally twice (in Ford Escorts), the Quattro was already a capable four-wheel drive rally car, and conditions underfoot in 1981 were terrible. Game over, surely?

For Michèle Mouton, however, this was a joyful weekend, for she sat closely behind the local Italian hero Michèle Cinotto until stage 24 (after he had crashed his works Quattro not once but twice!), after which she took the lead from Henri Toivonen's Talbot Sunbeam-Lotus, and was never again headed.

Michèle therefore defeated several obstacles – the Quattro's losing streak, its deficiency with tarmac stages (the San Remo was about half-and-half), and her own lack of a World victory. No lady had ever previously won a World event, the last major event being victories for Pat Moss (in Big Healeys and Mini Coopers) in 1962.

It was almost as if the dam had burst, for after this success, Audi's self-confidence boomed, the media seemed to change its attitude to what had originally been seen as a very dour team effort – and, of course, the mainly male press contingent fell even more firmly in love with Michèle than it had already been.

For Audi, all that was left to be proved in 1981 was a dominant performance in Britain's RAC Rally, an event based on 'blind' driving (practice and pace notes were not allowed on the RAC at this period in rallying history), with no fewer than 65 special stages, based on two long loops out and back from Chester. Hannu Mikkola, who had already won the event twice (in 1978 and 1979), was looking forward to it but Michèle Mouton, who was really a pace-notes specialist and had never before tackled the RAC, was rather dreading the ordeal.



Michèle Mouton and Fabrizia Pons prepare to leave a wet Carlisle control in the 1981 RAC Rally. The author, soaking wet, is trying to get a quick word about their progress!



There was one occasion on the 1981 RAC Rally where the usually impeccable Mikkola put the Quattro on its side. The

windscreen had to be taped back into place after this!

For once, Audi's scriptwriters got it right, for Hannu Mikkola duly delivered his third RAC victory, and the Quattro's first (there would be more to come in 1982 and 1983). Except for Hannu's superficially-damaging roll (some roof panel work and a new windscreen were both needed), in unexpectedly foggy conditions on a Lake District stage, this was a real command performance from the Finnish master. Although we must not forget that he had spent many months rallying in British events, in Escorts, in recent years, there was no doubt that this was a performance which set all manner of ominous precedents for the future – and filled the opposition with real dread.

The fact is that Hannu led almost from start to finish, for it was only the first day of 'Mickey Mouse' stages, on the tarmac of stately home and race circuits, that any other driver really got a look in. Overall, he set 29 fastest stage times and nine second fastest – many more than any of his rival competitors. On returning to Chester from the northern counties, by half distance, he was already ten minutes ahead of Ari Vatanen's Rothmans Escort, after which the pressure was off.

Not so, unhappily, for the plucky, hard-pressed, Michèle. Even though she was as high as third place when the rally reached half-distance (only Hannu and Ari Vatanen's Escort was ahead of her), by the time she drove into Wales it was a real struggle to keep going. Not only did her car have to suffer a complete gearbox change (it would take 49 minutes, which was faster than Audi mechanics had ever before achieved), but prior to this she was forced to run with front drive shafts removed, with only rear-wheel drive working, and with only first and fourth gears working in the defective transmission. In the end, all the troubles got to her composure, and she fell off the road after 57 stages.

No matter. At the end of this first, sensational, learning season, the works Audis had already won three of their first

eight events, had been competitive on every one of them, and looked likely to be even more dominant in 1982. For Audi, it was almost all good news, but for its rivals there was the prospect of having to compete once again with obsolete two-wheel drive cars, while trying to evolve a new generation of four-wheel drive cars to match up to Audi in due course. The most serious of these was Peugeot, but it would be mid-1984 before it ever beat the Quattro in a straight fight.

During that frenetic first season, Audi also supported entries in the German, French and Italian rally Championships (not yet in the UK), though the only victories at European Championship level were gained in the Janner (Austria) and Aosta (Italy) events. That, of course, was before many ex-works cars found their way into the hands of committed competitors and preparers. It was all going to be very different in 1982.



The Sanyo colour scheme may look slightly unfamiliar, but on the Swedish Rally of 1982 every enthusiast realised that Stig Blomqvist was good enough to take the rally by storm.

1982

One important decision which Audi said it would make for 1982 was that the works team would rarely try to support more than two entries on one rally, unless a local concessionaire would provide support. Since Hannu and Michèle were to be retained for another season (quite right too, for they had given exemplary service in 1981), this meant that there was to be no guaranteed front-line place for Franz Wittman, though he seemed to turn up at least as frequently as in 1981, and, in fact, there was an even bigger and more comprehensive effort than in 1981. It also meant that when determined national teams – such as the David Sutton organisation – got going, they might tap up Ingolstadt for all the expertise, but that on the events they would usually have to do their own thing.

Interestingly enough, the question of sponsorship was discussed, all the way up to board level, and although Rothmans offered a lot of financial support, the company eventually turned it down. Rothmans, which had completed a three-year liaison with Ford and the David Sutton organisation at the end of 1981, had a notoriously hard-nosed marketing operation (this may, indeed, have influenced Audi's rejection), but Audi, it seems, merely wanted to maintain its independence while it could still afford it. (That attitude, incidentally, would change in 1984, when a different tobacco deal – with HB – was concluded.)

This, indeed, was to be a very busy season for Audi. Although its cars had won three World events in 1981, the team could only finish fifth in the Makes standings (behind Talbot, Datsun, Ford and Opel). For 1982, it hoped it would be very different, for in the end works cars appeared in eleven World rounds, though – perhaps wisely – Audi decided to ignore the East African Safari, where costs were very high, and development experience would be hard won.

There was controversy when the Kleber tyre contract was re-confirmed, and events later in the year showed that this had not

been done for technical reasons, but rather with commercial considerations in mind. Once Michelin tyres (or Pirelli, in the case of the British Championship car) began to appear on a Quattro, the deficiencies of the Kleber product became evident.

For the lighter and better-developed Quattro – and for the more experienced team – the year did not start well, for conditions on the Monte Carlo Rally (which should have been ideal rallying territory for the world's first four-wheel drive car) proved to be spring-like, and Walter Rohrl's old-fashioned rear-drive Opel Ascona 400 had the beating of Audi on mainly dry roads.

Maybe the statistics are slightly misleading – Hannu set ten fastest stage times, Rohrl 13 – for Hannu also had to drive one stage on a punctured tyre, and another with a broken drive shaft – but in the end he was four minutes adrift of the Opel. Michèle Mouton crashed out having hit a large and solid house, while third-man, Michèle Cinotto, also crashed when trying to hurry along with a punctured tyre.

Then came Sweden, this time with stages predictably covered in snow and ice. As in 1981, the good news for Audi was that it won, but the slightly disturbing news was that, in the end, the official works team was soundly beaten by local hero Stig Blomqvist. Team orders seemed to indicate that Hannu would be stage-managed to a victory, but when Hannu went off the track into a snow bank, and Michèle Mouton then went off at the same place, crashing into the sister car, Stig was gifted a victory which he accepted with great glee. Blomqvist first, Mouton fifth, and Mikkola 16th was not in the original game plan!

The Quattro steamroller was now well-established, for just three weeks later the cars won, and took third place, in Portugal. Even though Hannu Mikkola's luck still had to turn – he crashed his car in thick fog – Michèle Mouton won the event in great style, with Franz Wittman's semi-private example third. Michèle's drive was such that she set 18 fastest stage times and

ten second-fastest times – and in the end she was 13 minutes ahead of her nearest rival.

Then came the Tour de Corse, where the aluminium-cylinder block engines were to be used for the very first time – and where Hannu Mikkola's brand-new car was crashed by a mechanic just 36 hours before the start. This meant that Hannu had to commandeer Michèle Mouton's practice car and have it re-prepared, as far as possible, with pieces salvaged from the crashed machine. Not that this helped as the re-built car's transmission broke on the very first special stage.

Things then got worse, as Wittman's iron-blocked car blew its engine on the first day, too, while Michèle Mouton had to wrestle with an ungainly machine on Corsica's sinuous public roads, where she never set a single competitive stage time, and could take only seventh place. No matter how much Audi was trying, it was finding that the Quattro was indeed a big and heavy car to use on sealed surfaces.



Where else in the world could this be, than the end of the Acropolis Rally of 1982, where Michèle Mouton (right) and Fabrizia Pons had just won the event.

Would there be better fortune on the rough and tough Acropolis – an event which had made Audi infamous in 1981, but where the solid, tank-like, Quattro ought to be ideal? Maybe it should have been but, as far as Hannu Mikkola was concerned, this was not a lucky year and he posted yet another retirement. This time his car let him down by breaking a front suspension front strut (and Hannu insisted that he had not hit anything to make that happen), Wittman's so-called 'private' entry retired with damaged steering, so it was left to the

redoubtable Michèle Mouton to keep going, all on her own.

Once again this was a remarkable performance, for she led from the front, never put a Kleber-shod wheel wrong, set 26 fastest times (out of a total of 55 stages), and eventually won the event by a remarkable 14 minutes. Agreed, the Quattro was the only four-wheel drive car in the event, but it was now increasingly obvious that its qualities of traction and sheer brute strength were becoming unbeatable anywhere except on pure tarmac special stages.

Other teams, and other drivers, were now realising that they had an insuperable problem with the Quattro in rallies. At this time it was altogether typical of the dour and charmless Walter Rohrl to comment that “the Quattro is so good, that even a monkey can drive one to victory.” This was sour grapes from one German team/driver (Opel) to another team (Audi) – and within 18 months Rohrl would turn himself into one of those ‘monkeys’ by signing to drive for Audi!

Audi then made its first-ever trip to the Rally of New Zealand which, in retrospect, must have been a costly waste of time. Two cars were flown out to compete in the Motogard Rally, a World qualifier, and though both cars were demonstrably faster than any other car in the event (as was usual in 1982, there were no other four-wheel drive cars in the event), neither car made it to the finish. It was a measure of Audi’s commitment to World rallying that, after only a year and a half at this level, it had already prepared 30 new cars, Michèle Mouton’s New Zealand car being that thirtieth machine.

Wisely, too, Audi concluded that it knew little about New Zealand, so instead hired David Sutton (whose own UK-based Quattro was already dominant in British forests) to handle the New Zealand effort, with a mixture of his own mechanics, and those from Ingolstadt. Although they set many fastest times (Hannu Mikkola most of all), neither car made it to the finish – Michèle Mouton’s engine blew after an oil pipe broke, and Hannu’s car first suffered fuel injection problems, a detached

electrical distributor lead, and finally broke its steering.

This, though, was the low point for Audi. Just as team manager Reinhard Rode was wondering how he was going to advise the directors that much of the year's budget had been wasted on a string of mechanical breakdowns, the tide turned. Perhaps he was relieved that overall on-event management was moving towards Roland Gumpert, who seemed to relish the hustle and bustle of a rally service point. Between August and November, the works Quattros tackled five World rounds, winning four of them, and only failing to win the fifth when Michèle Mouton crashed her car in the unforgiving conditions of the West African jungle.

First of all Brazil, where only five front-ranking World drivers took the start, two of these being the regular Audi drivers, and one other being Walter Rohrl, whose Opel Ascona was rapidly becoming the only car in World rallying in 1982 which could come near to matching the Quattros. It was typical of Audi's frantic work during this year that the Brazil cars were meant to be shipped across the Pacific after the Rally of New Zealand, but Hannu's damaged car could not be repaired in time, so Mouton's Acropolis-winning machine had to be flown out to Brazil to make up the numbers.

All in all, the Rally of Brazil was a shambolic event, for most starters were South American, many of them ill-prepared, which left only eight crews still running after the first leg, and only five at half distance. Atypically, Mikkola put his Quattro off the track on an early stage, and stayed there for two hours, but Michèle kept going, swapped fastest times with the Rohrl/Opel combination on many occasions, then eased off after Rohrl went off the road, broke his steering, and dropped right back: the winning margin, which was really no measure of the battle, was 31 minutes.

The story of the 1000 Lakes Rally, which followed, is really all about tyres, though the debut appearance of the mid-engine/rear-drive Lancia Delta Rally 037 was also a real talking

point. Naturally this was a high-speed/loose-surface event which Audi was expected to win – and it duly did. Four works Quattros appeared – for Mikkola. Mouton and Stig Blomqvist – while Bjorn Waldegård drove a non-competing ‘camera’ car at the front of the field, in the interests of making a film.

Although Pentti Airikkala’s Mitsubishi Lancer Turbo was surprisingly fast at times, the Audi drivers shared most of the fastest stage times on this fast and flowing event. Michèle Mouton was the only works entry to drop out, when she jumped her Quattro so high on one of the high-speed brows that she damaged the car’s front differential, smashing the four-wheel drive system, thus converting her car to rear-wheel drive, causing her to slide off the road on the next corner ...

For the rest of the event Mikkola (Kleber-shod) and Blomqvist (Michelin-shod) shared almost every fastest stage time, and even though contract provisions forbade this, there were occasions when each driver used the other’s wheels and tyres! Michelin, it seemed certain, produced the best rubber at this time, but Mikkola could really only use them when the mechanics ‘made a mistake’ in fitment.



Another famous occasion – San Remo in 1982 – where Audi not only defeated the might of Lancia, but in which event Stig Blomqvist finished ahead of his more experienced Audi team mates.



Audi Sport's entry in the 1982 Ivory Coast was unique – the only time that the works cars carried Marlboro sponsorship colours. Driving car no 2, Michèle Mouton set out to consolidate her World Championship position, but crashed the car close to the end of the event ...



... while Hannu Mikkola and team boss Roland Gumpert, driving what was really a mobile service/chase car, suffered co-driver illness, and eventually ran out of time.

Whatever, team orders had to prevail, Mikkola won the event by a stage-managed 28 seconds, and apparently Stig Blomqvist was not amused. Hannu, for his part, was mightily relieved, for it was his first World victory since November 1981, and he was now too far behind Michèle Mouton to challenge for the Drivers' title.

Five weeks later, Audi turned up in Italy for the lengthy (six-days!) San Remo Rally with the prospect of facing the new Lancia Rally 037 (rear-drive or not, this looked like being a formidable machine) on its home ground. Six works, or works-blessed, Quattros appeared for this marathon event, which was to include 56 stages totalling 457 miles/735km, many on sealed surfaces, many on gravel.

The big shock came when the media saw that the Quattros were electing to use Pirelli tyres (neither Kleber, for which they

were contracted, or Michelin, because sufficient supplies could not be secured), which proved to be a real talking point. In all other important aspects, the cars were running to a standardised, late-Group 4 specification – for although we did not know it, Audi was proposing to re-homologate the car as a Group B machine for 1983.

Amazingly, the new Lancia Rally 037 rarely figured among the fastest stage times (it was at a very early stage in its development), so the major San Remo battle was between the squadron of Quattros, and four Opel Ascona 400s (Rohrl, Henri Toivonen, Miki Biasion and Dario Cerrato). Two well-supported Quattros (really they were ‘fringe’ works cars), driven by Franz Wittman and Harald Demuth, fell out during the event, which left four Quattros and just two Opels in the top six.

Once again it was the unassuming Swedish driver, Stig Blomqvist, who won the event by 2min 16sec from Hannu Mikkola, with Michèle Mouton fourth, just 56 seconds behind Hannu. It had been a colossal battle, with Stig setting 19 fastest times, Hannu Mikkola 17 times, and Mouton nine times in all. With so many cars vying for the lead, and with big personalities and egos involved, it was a miracle that the Audi team organisation never actually broke down, but there was much evidence of over-strain at some of the service points.

And who could blame Audi? With two events to go in the season, it was neck-and-neck with Opel in the Makes Championship, while it was certainly possible (if not perhaps probable) for Michèle Mouton to win the Drivers’ series. As I commented in print many years ago: “Audi, who had not wanted to enter their cars for the lottery of a long-distance African marathon, suddenly found that they had to go to the Ivory Coast. So much money and effort had already been put into the season that it would have been insane to back out at this stage.”

The Ivory Coast rally was no-one’s favourite, for it was long, rough, demanding, and way out of the mainstream of World

rallying – if it had a relative, it was really the African Safari, though that event had much less jungle, and more rallying tradition. Audi did not want to go, Michèle did not want to go, and the media certainly did not want to go.

Even so, Audi took a 'brave pill', entering Michèle in a well-proven 'heavyweight' Quattro – she had actually used it to win the Acropolis earlier in the year – backing it with Hannu Mikkola, crewed by team boss Roland Gumpert. In addition, the organisers hired Stig Blomqvist/Arne Hertz to drive another Quattro as a 'course-opening' machine, it being understood that if this car should find itself useful as spares 'on the hoof' then it would fulfil that duty. For this occasion only (and to help defray the enormous costs), Audi Sport accepted sponsorship from the Marlboro tobacco brand, and liveried its cars accordingly. From Opel, by the way, there was just one Ascona 400, for Walter Rohrl, but the lanky German set out to win the event – and would do just that.

Only 51 cars started the event (50 were needed for the event to qualify as an official World rally – and many of those cars seemed to be little more than 'starting-money specials'), and only 16 were still running after the first difficult section. It soon became clear that only a handful of (European-based) drivers and cars would battle seriously for the lead. Hannu Mikkola's 'chase car' function was soon in trouble when his co-driver Roland Gumpert became sick (there is a gulf between directing a team and taking part in it), but later he really needed his own support car as the rear differential, then the front differential, both failed, probably due to the excessive load of spares being carried.

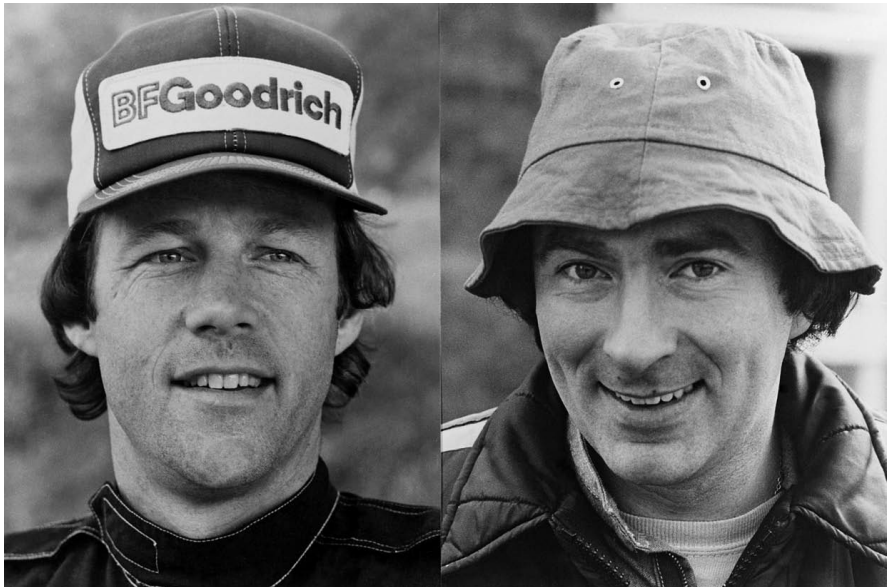


Although Audi Sport did not usually carry cigarette company sponsorship in the early years, in 1982 it did a deal with Marlboro on the Ivory Coast Rally. This was an unhappy event for Audi, for Michèle Mouton's car retired after an accident, while Hannu Mikkola's car (which was acting in the 'chase car' capacity, with Roland Gumpert in the co-driver's seat) was withdrawn when it ran out of time.

It was all in vain, for Michèle Mouton's car also suffered multiple transmission problems, and on the fourth and final day she rolled her car into retirement. Her battle to win the Drivers' title, therefore, was lost (for Rohrl won the event), but the Makes fight was still in the balance.

In the end, therefore, everything hinged on the RAC Rally, where Audi sent two cars for Hannu and Michèle, and a third works-backed example for Harald Demuth. Malcolm Wilson was also invited to drive the David Sutton car which Hannu had been driving in Britain all through the year and John Buffum of the USA used a Quattro with which Michèle had earlier won the Rally of Portugal. Because the cars started as hot

favourites, the only major talking point was tyres, for the works team was using Kleber and Michelin tyres, Buffum was using BF Goodrich, and Wilson was on Pirellis!



John Buffum (left) and Neil Wilson sometimes paired up, with great success, in Quattros in the early 1980s.



Service and a tyre change for Harald Demuth's Quattro on the 1982 RAC Rally, where the German driver took a fine fifth place – other Quattros driven by Hannu Mikkola and Michèle Mouton took first and second places.

It was, as expected, a complete walkover for Audi, for, with no other four-wheel drive cars in evidence, it had much more traction in the British forests than any of its rivals. In something of a 'command performance' Hannu set 26 fastest times, and Michèle 15 fastest stage times. They finished first and second, the gap being 4min 17sec, with Demuth's car fifth, Wilson tenth and John Buffum twelfth. Only Henri Toivonen, battling away in an Opel Ascona 400, and Markku Alen (Lancia Rally 037), could offer much credible competition, and the rout was complete.

This remarkably emphatic result gave Audi the Makes Series Championship from Opel, which had won only once during a season in which the Quattro's reliability became more and more assured. For 1983, with the promise of more power,

lighter weight and (though we did not know it at the time) re-homologation into Group B, could it be an even more successful season?



Harald Demuth, in the third of the works Quattros, charges through a water splash on his way to fifth place in the 1982 RAC Rally.



With Hannu Mikkola committed to another event that weekend, David Sutton persuaded Bjorn Waldegård and Phil Short to crew his Quattro in the 1982 Welsh Rally. Bjorn won, of course!



Big boys' toys! No fewer than four rally cars being prepared and refreshed for more hard work by David Sutton's team while it was still based in Acton, west London. One car (nearest the camera) is clearly brand-new and not yet complete, while the one furthest from the camera is a Group A 80 Quattro saloon.

Away from the World scene, wherever there were competitive Quattros these were beginning to dominate at other levels. In the European Championship (where many events were on sealed surfaces, and rear-wheel drive was still adequate), there were seven outright victories. Stig Blomqvist won the Nordic Championship series, Harald Demuth won the German series, and the Quattro proved to be much the fastest car on forestry commission stages in the British series.

It was in Britain, for sure, where Audi showed that it could not only build great works cars of its own, but could also supply competitive pieces for other specialists to win. Funded mainly

by Audi Sport UK and by Pirelli, David Sutton built up a new car, had Terry Hoyle look after the iron-block engine; Sutton's machine went on to win the Mintex (Mikkola), Welsh (Bjorn Waldegård) and Scottish rallies (Mikkola), the other two events being on tarmac where Jimmy McRae's Opel Ascona 400 was more competitive.



David Sutton's team built up this brand-new Quattro, LYV 4X, for Hannu Mikkola (and Bjorn Waldegård, at one point) to use in the British Championship. It proved unbeatable on loose surfaces, though took time to come to terms with tarmac stages.

1983

For Audi, the fact that it had not quite managed to win the Makes and the Drivers' Championships was a big disappointment, especially as the driver who had pipped Michèle Mouton was himself German. Accordingly, as far as an operating budget was concerned, for 1983 the sky was clearly the limit.

There was to be an enormous investment in machinery and

in personnel. Roland Gumbert became the undisputed team boss, with Reinhard Rode fading gracefully into the background. Far more new cars, and several short-wheelbase Sport Quattro prototypes, would be constructed. On most occasions there would be three works Quattros at the start of a World event, often backed by supported entries from national teams or concessionaires. Even if the factory team could not guarantee support for the 'satellite' operators, this was sometimes to be a recipe for chaos.

Not only that, but there would be three world-class drivers in the team, and works cars (if not all the drivers) would start every one of the twelve rallies in the World Programme. The driver line up was, in a word, formidable, for Audi now had three World superstars. Not only had Hannu and Michèle re-signed for the third consecutive season, but now they were officially to be joined by Stig Blomqvist, who had already proved his worth in so many cars, and so many events: for Audi, of course, he had already won the Swedish and San Remo rallies of 1982, and taken second (driving to team orders behind Hannu) in the 1000 Lakes. There were certainly no team orders at first, though Gumpert admitted that if one driver began to produce better results than the others as the season progressed, then he might have to reconsider. He might, and he did – with Hannu Mikkola (four victories and three second places) the principal beneficiary.

Even so, it all started badly in Monte Carlo, where there was almost no snow, and where the fast-developing mid-engine/rear-drive Lancia Rally 037s (with a newly-appointed Walter Rohrl in the team) could stretch their legs. Because they only picked up four fastest stage times, third (Blomqvist) and fourth (Mikkola) places were as good as could be expected while – guess what – Michèle Mouton went off the road, not too far from home, for she lived in Grasse, close to the classic Monte stages.



Even though the 1982 British Championship Quattro could not yet win on tarmac, Hannu Mikkola gave it everything – and the spectators were enthralled.

The gloom lasted only for three weeks for in Sweden, and while running different cars from the Monte ‘fleet’, the team notched up first (Mikkola), third (Lasse Lampi in a Sutton-built car) and fourth (Mouton), while Stig Blomqvist recorded a remarkable second place, but driving a normally-aspirated 194bhp 80 Quattro saloon (on this event the turbo Quattros were rated at 320bhp)! This was the sort of steamroller success that Audi bosses truly wanted – and even though these were still the only four-wheel drive cars in the events it was still an excellent showing.



Just for fun, it seems, Audi entered Stig Blomqvist in the 1983 Swedish Rally in a normally-aspirated, 185bhp, 80 Quattro saloon, taking second place behind Hannu Mikkola's usual works Quattro. Along the way the imperturbable Stig took no fewer than seven fastest stage times!

When Hannu and Michèle finished nose-to-tail in the Rally of Portugal in March (Blomqvist's car broke its transmission after the car had left the road and smacked a wheel against the scenery, and ran out of time having it changed), using their ex-Monte cars, Audi's opposition realised that the game really was up, and that if they did not speedily develop four-wheel drive cars of their own, then they might as well stay at home. We now know that Lancia started development on the next-generation Delta S4 at this time, Ford abruptly cancelled its still-unrallied Escort RS1700T, and even Austin-Rover redoubled its effort to get a four-wheel drive Metro ready to sell.

Next came the big gamble of the year: sending three cars to

tackle the East African Safari. Audi, being self-confident, of that sort of mentality, and now running very successful cars, thought it might win this event. Seasoned rally-watchers, on the other hand, pointed out that victory on its first visit, to an event known to be long, rough, dusty when dry, and extremely demanding, was most unlikely.

As we now know, the big gamble failed, but not by much, for Mikkola finished second overall with Michèle Mouton third, though local hero Vic 'Junior' Preston had to retire after he crashed his car in the poor visibility of a dust cloud. Hannu ended up just six minutes behind Ari Vatanen's winning Opel Ascona (the winning penalty, by the way, being a colossal 6hr 36min), which was as close to a dead heat as was ever likely to occur on an event as elongated as this.

As the pundits expected, the Quattros suffered several 'Safari breakages' (the definition being that these are the sort of mishaps which only occur there due to the battering the cars get, usually many miles away from service support!). Mikkola's car suffered a failed water pump (the helicopter-based mechanics eventually put down in the bush and mended it for him), 'Junior' Preston's car suffered a blown turbocharger, while Mouton's engine needed its fuel injection system to be changed and, in a later incident, twice lost rear wheels following accident damage.



Audi Sport tackled the East African Safari for the first time in 1983, entering three cars. Hannu Mikkola came within six minutes of winning the event, to take second place, while Michèle Mouton (this car) hung on bravely to finish third – a great result for Kenya debutants.

But what goes up sometimes comes down, and Audi Sport soon suffered. Following a good sequence of results in the early months – 2nd, 1st, 1st and 2nd in four rallies– the team then tackled three more events in which only one works car ever reached the finish! This was reality, this was World rallying at its most brutal, but this was not the sort of progress which Audi's publicists enjoyed at all. Nor was such misfortune received with a smile by the participants, and the team's old-style grumpy image began to re-emerge.

First, on the Tour de Corse, the cars officially became A2 derivatives instead of A1s and, after a great deal of diligent lightening, weighed little more than 1000kg/2205lb. With engines tweaked up to 360bhp they were expected to be competitive. Tarmac-specialist Lancia thought otherwise, for the results show that the Rally 037 took the first four places and

almost every fastest stage time. Hannu Mikkola crashed his brand-new car, while Michèle Mouton saw her own car consumed by an engine fire.

Things were better, but only relatively better, on the Acropolis, where the four-wheel drive Quattro should have been expected to win, but in the event Blomqvist (with 18 stage wins, twice as many as any other driver) could take only third place after his car suffered a small petrol fire, then a period when his steering broke.

Mikkola, on the other hand, might also have won – along with Stig he set many fastest stage times – and he was still in the lead ten stages from home when one of the boot lid hinges broke and the lid itself became disarranged. On a conventional car that would have been no big deal, but on the Quattro the main engine oil cooler was mounted on the tail, between the spoiler and the boot lid itself. When the lid came adrift, it ruptured the pipe feeding oil to the engine, all oil was lost, and the engine very swiftly self-destructed.

Then – oh calamity! – the three car entry in New Zealand was a complete wipe-out for the Audi team. The Safari cars had all been re-furbished, converted from A1 to A2 specification, including fitment of the smaller-capacity engines, then shipped half-way across the world to compete down under (and, confusingly for historians, being re-registered for that purpose). Stig Blomqvist's entry turned out to have been filed too late (which meant that he could not start the event), and the other two cars – for Mikkola and Mouton – both retired.

Hannu's car was often in trouble, first with a broken water pump pulley which displaced the camshaft drive belt (ingress of a foreign object, into the engine bay, was suspected) then, having had this repaired, he was finally forced out when a fuel leak developed in the petrol injection system.

Michèle Mouton was even more unfortunate, for her Quattro had taken the lead on the seventh stage, and she only relinquished this lead when her engine failed suddenly, and

terminally. Once again Lancia had succeeded, with a rear-drive car (the Rally 037) which did not deserve to do so, and Audi was in despair.

Many years ago I quoted this thoughtful comment from Autosport, which summed up what the British specialist media was thinking at the time, and it is worth quoting again:

“What are we going to do with Audi? By now they should have been light years ahead in the World Championship, but they still muddle along to disaster ... Why they tried to push Blomqvist into the rally is a mystery ... It showed something worrying about their philosophy. It has taken the Lancia team 15 years to reach their standard of competence, and nobody can little wonder they get irate when newcomers think that corners in the rules are there for cutting ... Audi personnel were openly admitting they would send four cars to Argentina, without noticing they do not seem to be capable of running three, or even two cars.”

Penned by one ‘Harry Milne’ (that was a pseudonym – and is now known to have been that well-known Quattro historian Jeremy Walton), this caused a real furore, but there was never an ounce of regret from the Germans, who were, as ever, convinced that they knew best.

Audi’s fortunes, however, then turned round completely on the Rally of Argentina, and if the Germans could not understand why, then clearly they did not have a phrase for ‘Lady Luck’ in their vocabulary. Not three but five Quattro A2s took the start – one of those cars being loaned to a local race-driver hero, Ruben Luis di Palma – for the three regular drivers, along with five-times Safari victor Shekhar Mehta. The regulars got brand-new machines, the other two using practice cars which were hastily re-furbished before the start.

Although 94 cars started this four leg event, Audi had only to fear two of them, which were the latest Lancia Rally 037s for Markku Alen and Adartico Vudafieri. Unhappily for Lancia, there were stages where grip was at a premium, and the cars

struggled, but there were also many super fast stages where the Quattros were demonstrably faster than the 037s. Lancia team leader Markku Alen, in particular, was miserable for the entire event (and if you have never seen Alen miserable, you have never witnessed total and complete gloom).



Audi Sport tackled the East African Safari for the first time in 1983, entering three cars. Hxannu Mikkola came within six minutes of winning the event, to take second place, while Michèle Mouton (this car) hung on bravely to finish third – a great result for Kenya debutants.

This event, in fact, turned into an Audi parade, in which any of the top-line drivers could have been ushered into the victory if Roland Gumpert had wished it. In fact, there were 18 stages in four legs, the event being based in the Argentine resort of Bariloche, Stig Blomqvist led for the first eleven stages and Mikkola for the balance of the event. Alen's Lancia set two fastest times, but all the other FTDs were shared between the Quattro drivers. Even Shekhar Mehta, who was not familiar with the Quattro in this, his first 'guest' drive in the event, set

four fastest times, as many as Michèle Mouton!

Local driver di Palma retired after he had rolled his ex-practice Quattro on the second day, but there were no other upsets. After the finish, Mikkola had emerged as the leading driver in the World points standing – and would therefore receive preferential treatment later in the season – while Audi was close to challenging Lancia for the Makes Championship.



Hannu Mikkola won the 1983 World Drivers' Championship by taking second place (to Stig Blomqvist's sister car) in the 1983 RAC Rally. Along the way he set 16 fastest stage times, 24 second-fastests and ten third-fastests!



There can have been no more popular winner of the RAC Rally in 1983 than Stig Blomqvist, who was a great favourite with the British crowds. Stig used a car built for him by the David Sutton team, registered 44 CMN, and set no fewer than 36 fastest special stage times. No wonder that Audi ushered him towards the World Championship crown in 1984.

It was almost the same story, with most of the same drivers involved, when the rally circus moved to Finland at the end of the same month, to contest the 1000 Lakes. This time Audi sent three cars to Finland (Mikkola, Mouton, Blomqvist) and supported ex-works cars for Per Eklund and Lasse Lampi. Finland, with its succession of fast and sweeping special stages also attracted works entries from several other teams, though it was only Lancia which was expected to pose the major threats. Neither Opel nor Toyota were truly on the same level of performance.

And so it was. Except for the early stages, where Alen's Lancia led for a time, the event was contested by Hannu Mikkola (29 fastest stage times) and Blomqvist (13 fastest). Hannu's car broke its front differential on the very first jump of the first stage, and did not take up the lead until after half-distance. Hannu also had to overcome an engine fire, a blown turbocharger and a broken engine mounting, though this was as nothing to Michèle Mouton, whose car also caught fire, losing 23 minutes in the process.



By 1983, when this picture of Stig Blomqvist's car was taken on a British international rally, the Quattro was always dominant wherever stages were loose-surfaced. Although the engine bay was certainly full, expert mechanics could usually find space to remedy all minor problems at service points.

Blomqvist, who would certainly have won if allowed to go on unfettered, dutifully cruised around, and allowed Mikkola to take the lead just two stages from the end. At the finish the gap was just 21 seconds, but this had been stage managed and it was enough. Hannu now led the Drivers' Championship, and intended to keep that lead.

Quattro fortunes then slumped in San Remo, which delighted Lancia and the nationalistic Italians, for no Audi finished higher than seventh (Michèle Mouton), and for Lancia it was a 1-2-3-5 walkover on an event where the stages did not, at least, penalise them too much. Even when the Quattros were still running they were struggling. Mikkola's succumbed to – guess what? – an engine fire, of which there had been several in 1983, while guest driver Bernard Darniche suffered a fire due to leaking power steering fluid, and Michèle Mouton's car had fuel injection problems. Blomqvist, as high as third at times, could not make it to the top step, and eventually dropped out after a low-speed accident which nevertheless destroyed the car.

Although Lancia had won the Makes series, there was still all to play for in the Drivers' Championship, and Audi Sport had to send cars to the hated Ivory Coast Rally, where conditions were primitive, jungles thick, and the climate was hot, sometimes dusty, sometimes steamy. For the Ivory Coast, Audi sent Hannu to compete, with Lasse Lampi/mechanic Otto Harsch to 'chase' him, while John Buffum turned up to drive another 'chase car'.

The Ivory Coast story is easily told. With only four competitive cars (one Quattro against three rear-drive works Toyotas), Hannu Mikkola would surely win unless he had mechanical dramas. The Quattro was damaged after striking a tree helpfully placed around a blind corner by locals, which meant the steering needed replacing, and he later went off the road, further damaging the suspension. With a twisted bodyshell, the Quattro was lucky to finish second, just 11 minutes behind Waldegård's Toyota – but Hannu's World

Championship lead was now up to 18 points. The moment that it became clear that Rohrl would not contest the RAC Rally, Hannu's crown was assured.

For the RAC, Audi Sport sent two newly-registered cars for Mikkola and Mouton to drive, while David Sutton's mechanics travelled to Ingolstadt to build a brand-new British-registered machine (44 CMN), which Stig Blomqvist would drive.



David Sutton built a new Quattro for Stig Blomqvist to use in the 1983 British Championship – where he won four of the six qualifying events, and the series outright.



Although the Quattro was still not ideal for tarmac rallying, on the 1983 Circuit of Ireland no-one seems to have told Stig Blomqvist, who led for the first seven stages until his car's transmission wilted under the strain.

Because almost every competitive section of the RAC Rally was held on loose-surface stages, rear-drive cars from Opel and Toyota were quite outclassed. In the end, two-wheel drive cars (all Opel Manta 400s) set only seven fastest times, the Quattros set 55!



No luck for Stig Blomqvist on the 1983 Manx Trophy Rally, which was held entirely on tarmac stages. With only a handful of stages to go, the Quattro was up to third place behind two Opel Manta 400s, when the engine blew and put him out.



A Quattro, head-on and in full flight, was a formidable sight. This, the third of David Sutton's UK-built cars, always looked ready to win in the early 1980s.

This time around it was Stig Blomqvist's turn to win the RAC (using Quattros, Mikkola had already won it in 1981 and 1982), and he set 36 fastest stage times along the way, in a car always serviced by David Sutton's mechanics. Hannu's event started badly when he damaged his car on the first stage (ending it with a front-wheel missing and co-driver Arne Hertz sitting on the tail to try to re-dress the balance), and he never recovered the deficit. 8min 9sec behind Stig at the Windermere overnight halt, he eventually finished second, but nearly ten minutes adrift.

Michèle Mouton suffered when a mechanic refilled her fuel tank with pure water at one point (which meant a time-

consuming drain down, and the changing of various fuel injection pieces), so after she also went off at one point, she abandoned the car in disgust.

Even so, this was an emphatic end to a remarkable season for Audi. Although it had not quite managed to win the Makes Championship (it failed by just two points, behind Lancia), Hannu Mikkola had become World Rally Champion, with four victories and three second places.

Audi, in the meantime, had recently launched the fierce new short-wheelbase Sport Quattro, and was intent on getting it homologated as soon as possible in 1984. Could it do better than before? Audi thought it could.

David Sutton's assault on the British Rally Championship was even more emphatic than it had been in 1982. With Stig Blomqvist as his newly-contracted driver (in a newly-prepared car MVV 44Y), this close-knit team won the Mintex, Welsh, Scottish and Ulster rallies, retired from the tarmac-only Circuit of Ireland with transmission failure, and from the tarmac Manx with a blown engine. Stig, accordingly, became the British Open Rally Champion. As already noted, and to rub in its expertise, the Sutton team also built up a brand new A2 which Stig used to win Britain's World qualifier, the RAC Rally.

Elsewhere in Europe, Quattros won seven other European Championship rallies, and National Championships as widely spread as Finland, Austria, South Africa and the USA: in the USA, for instance, John Buffum won seven events, and no other car or competitor was able to get close.



In a dramatic change of corporate policy, Audi decided to accept outside sponsorship for 1984, from the HB cigarette company; this is how it showed off the A2's latest colour scheme as Stig Blomqvist practiced for the Monte Carlo Rally.

1984

Although World rallying – and Group B in particular – was changing rapidly, Audi was determined to win yet again. In the Manufacturers' competition, the narrow defeat made the team all the more determined to win – and it was confident that the new short-wheelbase Sport Quattro S1 would give it another advantage. For the first time, too, it gained major sponsorship – from the German HB cigarette brand.



The very first time he started a World rally in a Quattro, Walter Rohrl won the event. His victory in Monte Carlo 1984 was his fourth (in different makes of cars) in that event.

The big change in the driver line-up was that Michèle Mouton stepped down from her regular position and only started five events – for she was being courted by Peugeot, which soon made sure that she would drive the new 205 T16 in European events. For 1984, therefore, Audi's main effort was put behind new-recruit Walter Rohrl (World Champion already from 1980 and 1982, in other cars), Hannu Mikkola (World Champion in 1983, don't forget) and Stig Blomqvist (who was still looking forward to becoming World Champion!). It was Rohrl, of course, who had once insisted that even a monkey could win a World rally if he was driving a Quattro: now he would have to prove that he was at least as clever as a monkey.



The short-wheelbase Sport Quattro made its debut on the Tour de Corse in May 1984. Still under-developed, even superstar Walter Rohrl found it difficult to master – and had to retire with engine failure at an early stage.

As it happened, Rohrl only tackled six events at World level in 1984 (in modern football terminology, it was almost as if Audi was operating a 'rotation' team selection policy), and later in the year it became clear that Audi Sport was favouring Stig, who was duly 'team managed' into the title, just before the assault from Peugeot became unstoppable. Technically and strategically, too, the story is simply told. Audi Sport started the year as the dominant Group B team, the big rival – the Peugeot 205 T16 – first competed in May 1984, the short-wheelbase Sport Quattro started its own career in the same event – but the Peugeot began winning in August, in the 1000 Lakes Rally. Thereafter Audi was struggling, and, in spite of many brave words being spoken, knew it.

Even so, it all looked more encouraging in January 1984. In Monte Carlo, where snowy conditions were perfect for the Quattros, three works Quattro A2s started, only two non-Quattro drivers ever set fastest stage times, and the German team cars duly finished in the order Rohrl-Blomqvist-Mikkola. It was, incidentally, Rohrl's fourth Monte victory in five years, each of those victories in a different make and type of car. Lancia, deep in Latin gloom, realised that it could not really match Audi with its mid-engined/rear-drive Rally 037, and redoubled its effort to design a new four-wheel drive contender.

Another walkover soon followed in Sweden, not only because Stig Blomqvist won his home event in the self-same car he had used on the Monte, but because Michèle Mouton took a fine second place, and Per Eklund was third in a Swedish-financed but works-owned Quattro, too. Neither Hannu Mikkola nor Walter Rohrl started, but this did not harm Audi Sport's results, for every fastest stage time was recorded by a Quattro.

Mikkola, Rohrl and Blomqvist all started in Portugal, and this time it was Mikkola who took outright victory, but by only 37 seconds from Markku Alen's Lancia Rally 037. Close, but not close enough – this being the sort of result Lancia was having to accept in 1984. It was not Rohrl's weekend, not only because he went off the road and lost seven minutes at one point, but also because his car briefly caught fire when it tipped over on to its side at another juncture.



This overhead shot emphasises the rather strange lines of the Sport Quattro, whose nose was even longer than that of the well-proven A2, with very little rear overhang and (by definition) little weight at the rear. Stig Blomqvist on San Remo in October 1984.



Only Walter Rohrl truly had the measure of the early Sport Quattro, but not even the talented German could deliver a result in the 1984 San Remo Rally. It didn't help that, on a late stage, he encountered standing water, the result of a flash storm, spun off, and crumpled the car.

Then came the Safari where Audi tried, and predictably failed, to win on only its second outing in Kenya. Mikkola, Blomqvist and Michèle Mouton started the event, and though much-developed A2 cars were definitely competitive, and indeed led the event at various junctures, Hannu's car had to concede victory (by 23 minutes) to two old-fashioned rear-drive rivals – a Toyota Celica Twin-Cam Turbo, and an Opel Manta 400. Michèle Mouton's car disgraced itself with a broken rotor arm which caused the turbocharger to break down too (she retired), while Blomqvist's car broke its oil pump. Later on, Hannu's car broke a differential – this was still happening on the well-proven A2s, so what on earth might happen on the

more powerful Sport Quattro?

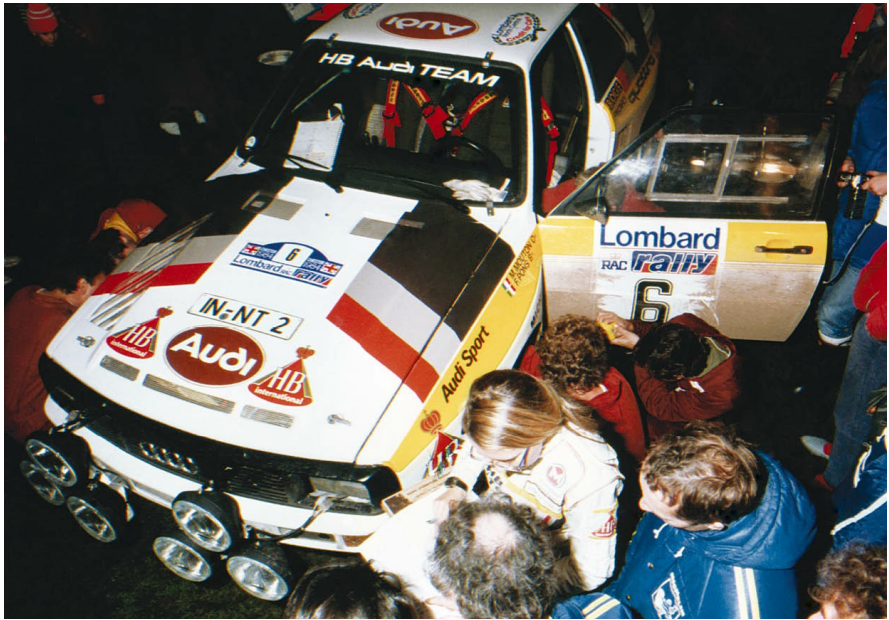
Then came the Tour de Corse, and the original head-to-head fight between newly-homologated cars – Audi's short-wheelbase Sport Quattro and Ari Vatanen in a Peugeot 205 T16. Neither car finished – the Sport Quattro's very powerful (400bhp) engine suffering from overheating on the slow and sinuous stages – but the battle lines had been drawn.

The return match came in Greece a few weeks later, but it was Audi's well-proven longer-wheelbase A2s which dominated the times, and with Stig Blomqvist winning, by three minutes, from team-mate Hannu Mikkola. Michèle Mouton (poor girl) and Rohrl were allocated Sport Quattros, both suffering from engine overheating problems. The Peugeots fell out too, which was a comfort.

Then came New Zealand, where Peugeot did not attend, and a trio of 'long' A2s fought it out against Lancia's Rally 037s. The battle for performance was no contest – only Alen's Lancia could even approach Quattro times on this gravel event – but the gritty Alen split the leading Quattros to take second place, and Rohrl's car first suffered a broken differential, then terminal ignition failure. Stig was steadiness itself, while Hannu rolled his car at one point, crumpled the roof, and lost 12 minutes – though he ended up less than eight minutes behind Mikkola. By winning, Stig notched up his third victory of the year, eased further ahead in the Drivers' Championship standings, and henceforth became Audi's 'favourite son' for the rest of the season.



Audi Sport sent two Quattros to tackle the gruelling Ivory Coast Rally in November 1984. To the team's delight, Stig Blomqvist won the event in the short-wheelbase Sport Quattro – the first success for the 'short' car – which confirmed Stig as the new World Drivers' Champion.



Michèle Mouton and Fabrizia Pons' car carried the number IN-NT-2 on the RAC Rally of 1984. After a fine run they finished fourth overall.

After going on to win the Rally of Argentina five weeks later, once again with Hannu close behind him, there seemed to be little doubt that he would become World Champion. Hannu, being the perfect team player, could see what was happening and, as the existing Champion, was quite relaxed about all this. The third works Audi on this event, incidentally, was driven by local hero Jorge Recalde, who took a fine third place overall.

Then came the 1000 Lakes, where the rallying world changed completely. Not only did a Peugeot 205 T16 win the event, but it was Finnish folk-hero Ari Vatanen who was driving the car. Even the old-technology Lancias seemed to be faster than the Quattros on this occasion. Nothing that Audi Sport could do – fourth place for Stig Blomqvist (which included only three fastest stage times) was its best result – could match the avalanche of Vatanen-adoration.

Blomqvist's A2 at least made it to the finish, for neither Sport Quattro could claim that honour. Michèle Mouton rolled her car, while Hannu Mikkola's car suffered steering failure. Audi was visibly shaken by this fiasco, vowed to make the Sport Quattro into a winner, and forecast that the old-type long-wheelbase cars would be 'retired' once the team had won the Manufacturers' title.



In 1984 Michèle Mouton attempted to improve on her previous best in the RAC Rally (second), but had to settle for fourth place. Along the way she set just five fastest stage times, but was rarely out of contention.



Walter Rohrl's short-wheelbase Sport Quattro was always the centre of attention on the 1984 Ulster Rally. This servicing shot of the winning car shows just how far forward the engine was situated.

As promised, much testing then took place back in Germany, and only two works cars – both being Sport Quattros – pitched up in San Remo, Italy, to do battle with Peugeot and Lancia. It was all in vain. Not only did Ari Vatanen show that his new Peugeot could win on any surface, but the Audis were also humbled by the old-fashioned Lancias. In the end, both Sport Quattros retired (Stig's with a broken engine after an external oil pipe was damaged, and Rohrl's after an accident which occurred after he slid helplessly through standing water after a sudden storm, and mangled the car against a stout wall.

Was it therefore worth sending cars to the horrible, long, dreary, and primitive Ivory Coast Rally? Audi thought it was, because it had to ensure both the major World titles. Ing

Gumpert's team built up two rock-solid heavyweights – a Sport Quattro for Stig, and an old-style A2 for practice and then, after pre-event refurbishment, for Hannu – to do battle with the only other A-priority driver in the event, Shekhar Mehta, who was to drive an old-style Nissan 240RS.



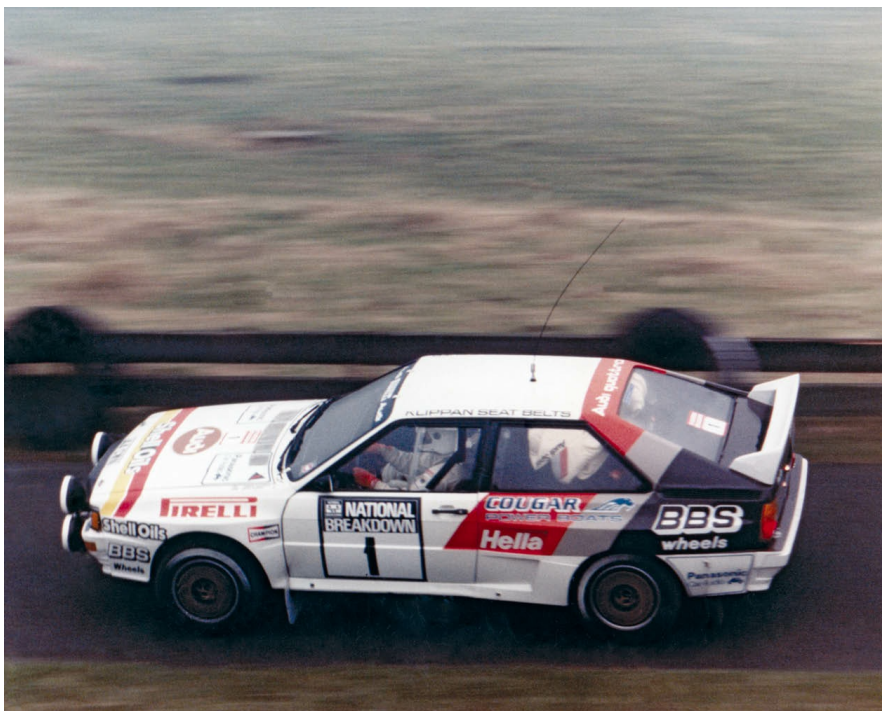
Sending Walter Rohrl to compete in the 1984 Ulster Rally was a great compliment to the event, but for Rohrl then to win, in an early-type Sport Quattro, was an added bonus. Not even on Northern Ireland's bumpy tarmac roads could any of the Opel-driving tarmac experts keep up.



Using the same car which had been built up for Stig Blomqvist to win the 1983 RAC Rally, Hannu Mikkola and Arne Hertz won the National Breakdown (the renamed Mintex) Rally of February 1984. The snowy state of Yorkshire forests was ideal for the A2 Quattro.



Hannu Mikkola (right) and Phil Short enjoying their victory after the finish of the 1984 Scottish Rally.



'Mikkola/Hertz (Audi Quattro)' ... how many times did we read that winning line in the motoring press in the early 1980s? This was February 1984, when Hannu and Arne were on their way to winning the National Breakdown Rally, the first of the British Championship series.

If the Quattros could keep going, they were almost sure to win, which they duly did. Driving the Sport Quattro, Stig led from start to finish, beating Hannu by 22 minutes, notching up the Sport's first-ever victory, and clinching the World Championship for himself. After more than a decade in World rallying, it was no more than he deserved. With the team management making it very clear to Stig that he would be allowed to win if his car kept going, Hannu Mikkola had quite a relaxed event, and took second place without appearing to be in a hurry too often.



44 CMN was a very successful rally car for Audi – it won the RAC Rally of 1983, then three British internationals in 1984, this being the Welsh Rally.



44 CMN's fourth international victory came in June 1984, when Hannu Mikkola (crewed by Phil Short) guided the car to a win in the Scottish Rally ...



... though there were moments when victory looked less likely.

All of this meant that Britain's RAC Rally could settle the Makes' title, for it would have been possible for Lancia to win if the none of the Audis figured in the top of the results. Even though Lancia elected not to come to Britain, Audi Sport still needed a reasonable result to be able to relax. As it happened, just two competitive Quattros took the start, Hannu Mikkola being in the David Sutton-prepared car (44 CMN – a by-now venerable, hard-worked, A2), which he had been using in the British Championship (see below), and Michèle Mouton wrestling with the Sport Quattro which Hannu had already driven in the 1000 Lakes.



Quattros always looked impressive, especially when works- or 'David Sutton'-prepared, and winning rallies on loose surfaces. The only car which Audi thought it needed to improve on this was a short-wheelbase version.

Although both Quattros were competitive, it was the Vatanen/Peugeot 205 T16 which made even more of an impact. Even so, Mikkola's 'Old Nail' set 12 fastest stage times, and took second place, just 41 seconds away from victory (Vatanen had one big accident, which makes that gap look closer than it really was), while Michèle kept going well, and finished a fine fourth.

For Audi's board, though, it was enough. Stig Blomqvist had already confirmed his Drivers' title, and on this event Hannu's second had now confirmed that Audi won the Makes Championship too. Audi Sport had entered all twelve World rallies of 1984, and won seven of them: except for very occasional, and inexplicable, lapses, it was always competitive. The Quattro, indeed, had come a long way from 1981 when it was purely a loose-surface lugger. Now, for 1985, the company

could concentrate on making the troublesome Sport Quattro into a competitive package.

Away from the World scene, the Peugeots did not appear until the season was well advanced, which meant that Quattros (often in ex-works guise) were still the rally cars of choice. As ever, there was so much success that to list them all in detail would take up more than the available space.

In Europe, Quattros started winning wherever there was limited grip – they won five of the first six Championship qualifiers, and in the end took no fewer than thirteen outright victories, along with national Championships in Austria (Franz Wittman), West Germany (Harald Demuth), Finland (Antero Laine), USA (John Buffum) and South Africa (Sarel Van Der Merwe).

In Britain, Hannu Mikkola found time from a busy world programme to drive for the David Sutton team, and win three times – National Breakdown, Welsh, and Scottish, all of them gravel-stage events. Walter Rohrl then came to the UK to tackle Ulster in a full works Sport Quattro S1, and won comfortably, while Hannu then started the Manx rally in another Sport Quattro which unfortunately broke its transmission.

All in all, 1984 was the season in which Audi Sport was at its peak. Not only did the massed ranks of Quattros win the World Manufacturers' title – they were just in time, for the new Peugeot 205 T16 had been homologated, and had started winning – but it was Stig Blomqvist's turn to win the Drivers' title, with Hannu Mikkola close behind him, in second place.

Although the world did not yet know it, of course, Audi Sport was already working the idea of a second evolution Sport Quattro, but this would not be ready until the middle of 1985. Would this car be as successful as its predecessors?



Fast, but not quite fast enough, sums up Walter Rohrl's second place in the 1985 Monte Carlo Rally, where even his Sport Quattro was pipped by Ari Vatanen's Peugeot. The promise, though, was that the 'short' Quattro was reaching towards maturity.

1985

There were many changes for the new season, for Hannu Mikkola made it clear in advance that he would not be entered in all events, while Audi released Michèle Mouton to do her own thing at European level, where she would sometimes drive Quattros (A2s and Sports) in the UK, and Peugeot 205 T16s in other nations.

The works team had consigned the longer-wheelbase A2s to history, so all entries in 1985 were to be of one or other versions of the short-wheelbase Sport Quattro. The team can have had no idea of how difficult it would suddenly become to win with that car for, although it was phenomenally fast in a

straight line, it could be recalcitrant in the corners, and now it had to compete against the new-fangled Peugeot 205 T16. Just one victory (San Remo) and a string of second places, was no reward for a hard-working and methodical approach to the Quattro's fifth year of motorsport.



Audi Sport was out of luck on the Safari in 1985, where Blomqvist's car broke its transmission, and Mikkola's suffered engine problems.

Audi in general, and Walter Rohrl in particular, were rather humiliated on the Monte Carlo, when a combination of poor tyre choices on an event which was largely snow-free, and Ari Vatanen's startling drives in the Peugeot, left Rohrl struggling more than five minutes off the pace, even though Ari had suffered a navigator's timing error which obliged him to be even more spectacular than usual!

It was the same story in Sweden, this time where Stig Blomqvist's Sport Quattro had conceded victory to Vatanen,

where Mikkola finished fifth, and where Rohrl retired with a broken crankshaft in his 20-valve engine. Long faces were now being seen in the Quattro camp, especially after Portugal, where Peugeot and Lancia finally inflicted defeat on Rohrl (third) and Blomqvist (fourth). Rohrl, unhappily, had led the event for much of the distance, and set the most fastest stage times (23 out of 47 stages, many more than Timo Salonen, who won the event), until a broken transmission casing cost him dearly, and a puncture then settled the issue.

At that point, maybe it was inevitable that Audi's spokesmen began to make reassuring noises about the future of the programme, though it would involve cut-backs, with fewer cars entered in every event. Mention was already being made of the E2 derivative which would follow in mid-season, and there were even veiled references to mid-engined prototypes, too.

Should the Quattros have won in the Safari on what was their third visit? They could, and they might have done, but the Sport Quattros let drivers down at an early stage – Blomqvist's car with gearbox problems, and Mikkola's car after only 20 of the 88 controls with a broken engine. As Martin Holmes commented in his authoritative annual:

"This was their [Audi's] third attempt at the classic event but they were in trouble: everywhere they turned there were problems with the Sport Quattro. If it wasn't suspension, it was the gearbox, in pre-rally training the cars suffered endless overheating trouble ... Audi were criticised for taking unproven gearboxes to the Safari, but they had little choice, since their alternatives were unreliable. And as if they did not have troubles enough, Mikkola had a huge accident in training."



Stig Blomqvist won the 1000 Lakes of 1985 in his new Sport Quattro E2, which certainly flew well over Finland's many humps. Stig set sixteen fastest stage times and took second place.

For the Safari, the cars used six-speed transmissions, and very large (200 litre) fuel tanks, while they carried two spare wheels in case of punctures occurring a long way from service.

There was no change of fortune in the Tour de Corse, where the Quattros had always been expected to be too unwieldy to cope with Corsican roads. For that reason, Audi Sport entered only a single car – for tarmac-specialist and master tactician Walter Rohrl – but this disgraced itself after only one stage when a brake disc collapsed, and caused one of the event's very first retirements. Incidentally, this was competition chassis no 22 – yet more confirmation of the way that Audi Sport churned out new rally cars!

Group B rallying

When the FIA re-shuffled the sporting homologation categories at the end of the 1970s, it proposed that the existing Groups 1, 2, 3 and 4 should be replaced by three new and differently-related categories – Group N, Group A and Group B. Group N (‘showroom standard’) and Group A required 5000 cars be built to gain approval, while Group B required only 200 cars to be built. The new groups came into effect on 1982.

Because of the various technical ‘freedoms’ built in to the new categories, and because a build requirement of only 200 was certainly feasible for determined, large-scale, car-makers to consider, Group B attracted a great deal of interest. In the same way that all rally-winning cars of the late 1970s tended to be Group 4 (400-off) machines, it became clear that Group B would provide all the winning cars in the mid-1980s.

Because of the numbers involved, it seemed certain that Group B cars could be very special indeed, could (would have to) be expensive, and would be technically advanced. It soon became clear that any rally-competitive Group B car would need 350-400bhp at first – and by the mid-1980s it was also clear that up to 500bhp was becoming the norm.

All such good ideas, however, have snags which only become apparent over time. It wasn’t long before Audi and Peugeot were joined by Austin-Rover, Citroën, Ford, GM, Lancia, Nissan and Porsche, and once those planners got their teeth into the building of Group B cars it became clear that to build 200 cars (and 20 of the ‘evolution’ variety which could follow) was a very awkward task, even for Audi, which set to and evolved the longer-wheelbase Quattro into the short-wheelbase Sport Quattro.

As one noted project manager once told me: “Any of us can build 10 or 20, we do that by hand – and if the money is there, a million is also feasible, but 200, well, that requires some tooling, but not of the permanent variety.”

By this time team boss Roland Gumpert had begun to fear for his job (and well he might, for his boss, Dr Piech, was notably reluctant to accept failure at any level of the business), for the only valid excuse for his team was that they were heavily embroiled in work to finalise the second evolution Sport Quattro, the E2, of which prototypes were already running. Dr Piech, in fact, then travelled to the next event – the Acropolis, held in the heat and dust of Greece – to see for himself.

In Greece, as it happened, he was almost, but not quite mollified, for Stig Blomqvist would finish a fighting second, though Rohrl's car would let the side down by breaking its suspension on the second stage, and could not be reached or repaired in time to continue. For Stig, it was bitter disappointment, for although he set by the far the highest number of fastest stage times (30 fastest, and 14 second fastest, out of 47 stages), all this effort was negated by one puncture: the jack broke and the car fell off it, and considerable delays ensued. Dr Piech, they say, was not amused, and made it clear to Gumpert that improvements had to be made. But with homologation of the E2 not expected until July, and much development still to do, nail-biting delays were inevitable.

Two cars (existing works machines, re-registered in New Zealand on arrival) made the long trip down under, and the resulting titanic struggle with the might of Peugeot made up for some of the early-season disappointments. Though the Sport Quattros could finish only third and fourth Walter Rohrl and Stig Blomqvist set 18 fastest stage times (of 46) between them, and at the end of four days Rohrl was only 2min 26sec behind the leader.



A famous victory, and mark it well. Walter Rohrl dominated the San Remo Rally of October 1985 in his Sport Quattro E2,

completely humiliating the Lancia opposition, and recording the E2's first and, as it transpired, only victory in a World event.



Rohrl, in fact, led the event for most of the first two days, but was eventually swallowed up by the Peugeots after his car suffered both transmission then turbocharger problems. All this was a sign that the design of the Sport Quattro was near to its technical limit, and that no amount of driver brilliance (and there was much of that) could make up for it.

Audi Sport then saw the radically different Sport Quattro E2 (described in the 'Car and the Team' section on page 29) homologated, and sent just one example for Stig Blomqvist to drive in Argentina at the end of July. Unhappily this was the 'brave pill' which took no effect, for although Stig was noticeably impressed by the advance made from one type to the next, he was forced out after only eight stages with a loss of oil and a broken engine. Even so, this was the only type of Quattro model which the works team would develop for the future.

In the 1000 Lakes, once again it was Blomqvist who drove the new E2 to its limits – 16 fastest stage times, and 25 other podium finishes, out of 50 stages in total – but the problem was that the Peugeot 205 T16 was now a supreme motor car, which allowed Timo Salonen to beat him to the finish by just 48 seconds. Hannu Mikkola crashed his car and swiped a wheel off it, and later an engine oil pipe broke, destroying the motor.

In September, as a diversion, Hannu Mikkola was loaned out to Britain's Andy Dawson, who had been supplied with two well-used A2s and (with the help of the David Sutton team) had prepared them with 555 cigarette sponsorship, and sent out to tackle the Hong Kong-Beijing Rally. Hannu, as expected, put on a consummate performance to win the event (beating works Nissans, Opels and Toyotas in the process), while Dawson, who had never before driven a Quattro in anger, finished fourth.



Did Audi change Michèle Mouton's car during the 1985 Ivory Coast Rally, or not? This was the detail of the car which started the event ...



... and this is the car she drove out of a secret service/rebuilding session towards the end of the event.

Three 'World' events then brought the 1985 season to a scintillating close, and for Audi they brought enormous success, scandal which has been un-resolved to this day, and total disappointment.



Hannu Mikkola and Arne Hertz drove IN NP 31 in the 1985 RAC Rally, but electronics failure eventually caused the Sport Quattro to retire.

In Italy (San Remo) Audi Sport sent just one car, concentrating on Walter Rohrl and the latest Sport Quattro E2. The Germans attacked the 43 stage, four-day marathon with clinical precision, humiliated Lancia on its home ground, and defeated Peugeot too. The E2, therefore, recorded its first and (as we now know) its only 'World' victory, an analysis showing that Rohrl was quite supreme at all stages, and led throughout: the fact that he won by 6min 29sec made an emphatic point.



David Llewellyn and Phil Short took this works-loaned Quattro A2 to tackle the German Hunsruck rally of 1985, where they finished fifth.

Then came the usual unwanted trip to the Ivory Coast, where just one old-type Sport Quattro (not an E2) was entered for Michèle Mouton to drive, against just three other A-Priority drivers, two of them in the truck-solid Toyota Celica Twincam Turbo. All that needs to be said about this dreadfully unpopular event is that the Quattro was never on the pace, that it developed terminal engine problems on the second day, that it was then miraculously restored to health (off route, in the jungle) at exactly the same time as a Sport Quattro chase car mysteriously expired, and that Mouton then carried on almost to the finish!



The Llewelin/Short/Quattro combination sounds familiar, though the detail was very different, for this was the German Hunsruck; the car was works-owned, and the result a fine fifth place.

Accusations that a car swap (at least one seasoned rally writer has pictorial evidence of the 'before' and 'after' repaired car, showing them to be different!) had been carried out were never disproved. The truly observant noted that the car which started as an ex-Safari 'heavyweight' had somehow ended the rally as a 'lightweight' with many obvious differences, along with doors and a bonnet panel which no longer fitted properly, but had the necessary competition numbers still in place! Audi withdrew the car just before the close, and the whole episode fell into ignominy. It is, perhaps, significant, that Michèle Mouton never again drove for Audi and that team boss Roland Gumpert lost his job shortly after. Although Audi made soothing noises, there is little doubt that he was sacked, his replacement being Herwart Kreiner, who had previously been employed in

Audi's development departments.



Michèle Mouton and Fabrizia Pons tackled the British Championship in 1985, but had a miserable time due to reliability problems. This was the team on the Welsh Rally, the pair finished second, immediately behind Malcolm Wilson, who had purchased one of David Sutton's older Quattros.

Finally came the British RAC Rally, a monstrously tough five day event with just one overnight halt and 63 stages. It will forever be remembered as the rally where Lancia's Delta S4 and the MG Metro 6R4 both made their debut and contested the lead throughout, where all other teams were humbled, and where neither of the works Sport Quattro E2s made it to the finish. Although Hannu Mikkola's car led after twenty stages, his electronic systems then let him down, while Rohrl was never happy with an event which still banned pace notes (he had not tackled the RAC for six years). Audi regained some

respectability with privateer Per Eklund taking fourth place overall, in an old-type long A2 model.

Compared with 1984, the 1985 season had been a 'nearly' campaign for Audi. The E2 was nearly a great car, but there had been only one World rally victory, which meant that the team finished behind Peugeot in the Makes series, while Stig Blomqvist and Walter Rohrl were second and third in the Drivers' series. Recently, though, on the evidence of San Remo and the first stages of the RAC Rally, there was hope that the latest E2 could become a regular winner in 1986.

As in previous years, the Quattro was still the car to have at European Championship level on events where there was ice and snow. Quattros recorded seven outright victories, although many qualifying events were held on the sealed surfaces of Mediterranean-based countries, meaning the 'old rivals' – particularly Lancia's Rally 037 – were still competitive. Quattro drivers also won several regional and National Championships – the Nordic, Austria, Sweden, Finland, USA, and South Africa among them.

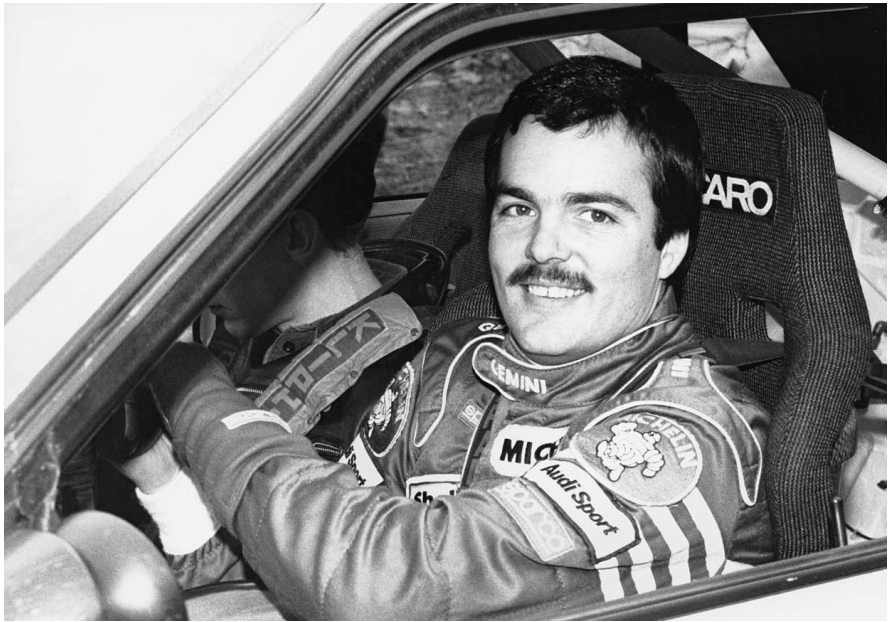


Still learning to drive an unfamiliar car, David Llewellyn soon shot up the leader board of British events. Unhappily, his Quattro's engine blew on the National Breakdown Rally ...



... but not before he swept through the British forests like a true professional in this David Sutton-built car.

The Quattro, of course, was still ideal for use in the British forests. Having had a difficult season in 1984, Malcolm Wilson (who had purchased an ex-David Sutton car) won the National Breakdown, Welsh and Scottish rallies outright, but his works-loaned car let him down in the Circuit of Ireland, another car broke its gearbox in the Ulster, and, unhappily, he destroyed a works-loaned Sport Quattro on the Manx – which meant that he had been totally successful on gravel, but totally frustrated on tarmac. Although all British rally enthusiasts were delighted to see Michèle Mouton out on every event in works Sport Quattros, she had little success, only managing to finish one event (the Welsh) where she took second place to Wilson. If only we had known it, this was the last time anyone would see Michèle behind the wheel of a Quattro in a British event.



David Llewellyn became a great favourite with British rally fans, winning in a variety of Quattros.



Phil Short was a successful and distinguished co-driver, who sat alongside several notable Quattro drivers, including Hannu Mikkola. Later in life, he was lucky enough to own a Sport Quattro road car, too!

1986

The Quattro's final works season was short, and not at all sweet. In three months the team entered just two events, recorded a third on one of them, but then saw the programme abruptly cancelled immediately after the horrible events of Portugal.

Money, in any case, seemed to be tight, for only two world-class drivers – Hannu Mikkola and Walter Rohrl – had been retained, as Stig Blomqvist had joined Ford, and Michèle Mouton was no longer involved with Audi. At the end of 1985, when plans for 1986 were made public, the company forecast entries in six rallies, but both retained drivers would actually

start only three of them.



Because of the horrifying accident suffered by another car in Portugal in 1986, and the total lack of spectator control on the stages, Rohrl's E2 completed only three stages before being withdrawn (along with cars from every other works team). Mark this E2 – registered IN-NR43 – as the last Quattro Sport E2 ever to start a major event.

Audi, no doubt had seen that it could no longer compete, head-on, with Lancia and Peugeot, and was pouring effort into the mid-engined project, on which work proceeded in great secrecy.

Just two Sport Quattro E2s – both of them brand new, if the registration numbers can be trusted – started the Monte Carlo Rally, where they were found to be fast, but not quite fast enough. In spite of the heroic testing efforts made by the analytical Rohrl, it was no longer easy for the 1090kg/2403lb

Audi to keep up with the smaller Peugeots and Lancias, which were at least as powerful, and more than 130kg/287lb. lighter. Over 36 stages, Rohrl set only seven fastest stage times, Mikkola none at all – which compared badly with 13 fastest by Henri Toivonen in the Lancia Delta S4.

Audi then ignored the Swedish completely, and entered just one machine – for Rohrl – in Portugal, but it was here, of course, that tragedy struck. Spectator control in the initial Sintra stages was non-existent: Santos's Ford RS200 plunged off the road, into the crowd, and killed three in the impact, whereupon each and every works team decided to withdraw its cars and take no further part in the carnage. Rohrl, who had not been involved in any unsavoury events, was fastest on one of three stages completed, but took no further part in the event.

Almost immediately Audi announced an end to its Group activities, and the still-improving E2s were instantly retired from the sport. Rivals who charged them with a knee-jerking reaction were immediately humbled when Henri Toivonen was killed on the Tour de Corse which followed, whereupon the FIA announced the impending end of the entire Group B category.



Hannu Mikkola started his 1986 British season by winning the snow-bound National Breakdown Rally in this Sport Quattro – not, please note, an E2 model, for it had been built by the David Sutton team.



The National Breakdown Rally of 1986 was nearly submerged under a snow storm, but Hannu Mikkola's Sport Quattro found it ideal. Hannu won, defeating the MG Metro 6R4s.

And so it was that Audi's Group B programme stuttered to a close, with only eight of the 20 E2s ever seen in public, and one victory to celebrate. Group A competition with normally-aspirated Coupé Quattros was proposed for 1987, but those cars would probably not have been able to match Lancia's new Delta HF 4x4s, and the programme finally lapsed. Rohrl turned to motor racing, and Hannu Mikkola was released (to join Mazda).



Even after Audi had withdrawn from World Group B competition, Hannu Mikkola carried on in the UK, and won the Welsh Rally in this Sport Quattro. That, and his National Breakdown success, were his two British wins of the season.

Past its best? Which rivals took over?

Although the Quattro E2 was close to its best when the axe fell, it was also an ageing design which was surely reaching the limit of that particular mechanical layout, and could never again be expected to beat Peugeot and Lancia in a straight fight. No sooner had major rivals such as the Peugeot 205 T16 and the Lancia Delta S4 come on to the scene than the ongoing, long-term problems of the Quattro became self-evident.

Specifically, by 1986 standards the Sport Quattro E2 was seen as being too heavy, still too front-heavy, and with a rather inflexible four-wheel drive installation system. Work done to improve the car from original S1 to E2 had improved the weight distribution problem, and, even though there was never any

shortage of horsepower, the car still weighed too much. The E2, after all, had wrung as much out of an existing layout as could be expected, whereas cars like the Peugeot T16, the Lancia Delta S4 and (when its planned first evolution model came along in 1987) the Ford RS200 had all been especially developed with Group B rallying in mind.



Once it had withdrawn from the World Rally Championship in March 1986, Audi further refined the Sport Quattro E2 for events like the Pike's Peak hillclimb, where the aero kit was even more extreme than before.

Even if Audi had not announced cessation of the works rally programme in the wake of the awful crash in Portugal in March 1986, abandonment of the E2 could surely not have been delayed for long. As it was, and if one might brutally ignore the bloodshed of Portugal and Corsica for a moment, 1986 belonged to Peugeot and Lancia, for no other Group B car, planned or in existence, looked likely to overtake them.



For a brief period, Audi had high hopes of rallying success for the Group A 200 Quattro, but this model was really far too large and heavy to succeed in rallying. There was one major success – when Hannu Mikkola and Walter Rohrl finished 1-2 in the 1987 Safari – but after that there was little further hope of wins at World level, and the programme was wound down. This was David Llewellyn on a similar, hopeless quest in the 1988 British Championship series.



With the Quattro Group B car banned from motor sport, in 1987 Shell and Audi UK backed David Llewellyn's Group A programme in a normally-aspirated Coupé Quattro – but, with a deficit on the old car of around 120-150bhp, he always struggled to keep up with the powerful opposition.

Why was there no successor?

Let us suppose that Group B had carried on for 1987 and beyond, and that Audi still wanted to be a part of it – in fact, taking part would not be enough, as the company wanted to be seen to be winning once again. On that basis, there is no question that a new model was needed. The only way that Audi could start winning again was by designing a new model, preferably one which eliminated all the irredeemable faults of the E2.

Audi, in other words, would have to swallow the 'brave pill', abandon the well-known, but now obsolete, front-engine/four-wheel drive layout, and design an all-new mid-engined car. As far as the works team was concerned, all this was known, realised, and planned for, but the problem was that the

chairman of Audi, Dr Ferdinand Piech, specifically banned any work on such a project.

Amazingly (for Germans, where obeying a senior's orders is usually a tenet of modern business) the team decided to go ahead anyway – and make sure that Piech did not know what it was doing. We now know that design work began in 1985, that testing was already going ahead in 1986, but that the entire project was cancelled later in that year when Group B came under sentence of death.

If this project had come to fruition, it would probably have had different styling, but the first prototypes which were built (at least one survives later on and is held by Audi where it is often on show in the heritage display at Ingolstadt) seem to have used modified versions of the E2 style, though the five-cylinder/20-valve engine was positioned where the rear seats had once been on that car, and the rear quarter windows had been blanked out, to be replaced by air scoops for the engine bay.

Sport Quattro production – and homologation

Like almost all such Group B cars of this period, the shortened-wheelbase Sport Quattro was rushed through the homologation procedure well before the necessary 200 cars had been produced.

Group B homologation was granted on 1 May 1984, and it now seems certain that less than 50 complete cars existed by that time. According to figures released by Audi many years later, no fewer than 224 Sport quattros were eventually built, but were built in batches, as follows:

Year of manufacture: 1983

Number of Sport Quattro production cars built: 4

Year of manufacture: 1984

Number of Sport Quattro production cars built: 102

Year of manufacture: 1985

Number of Sport Quattro production cars built: 106

Year of manufacture: 1986

Number of Sport Quattro production cars built: 12

Total: 224

Note: Twenty examples of the much-modified Sport Quattro E2 had to be produced in 1985, as 'evolution cars' to ensure Group B homologation. Approval came on 1 July 1985 when only a handful of E2s had been completed. E2s were not built on the assembly lines at Ingolstadt, but in the rally workshops at Audi Sport. According to the records of cars which competed in World rallies, only four E2s appeared in 1985.

Some of the testing took place a long way away from Ingolstadt, at Desna, close to Zlin in the Czech Republic. This small city is 300 kilometres south-east of Prague – in other words a long day's drive from Ingolstadt in the south of Germany! It was here that the local authorities set up a dedicated test track, which was so remote from civilisation, and so far from most motoring enthusiasts that security could be maintained at all times.

Even if Dr Piech had been told of the new mid-engined car, and approved of it going into production as a 200-off Group B car, could it possibly have been competitive? That was almost certainly possible, but it is highly unlikely that it could have been built in numbers before mid- to late 1987, nor homologated before 1988. And what would the opposition have achieved by then?

World and European Championship rally victories by works or supported cars

Event	Car	Drivers
1981		
Sweden	IN-NV-90	Mikkola/Hertz
San Remo	IN-NL-88	Michèle Mouton/Fabrizia Pons
RAC	IN-NM-61	Mikkola/Hertz
There were also two Quattro victories in European Championship rallies		
1982		
Sweden	N-DC-163	Blomqvist/Cederberg
Portugal	NL-NH-42	Mouton/Pons
Acropolis	NL-NU-40	Mouton/Pons
Brazil	NL-NU-38	Mouton/Pons
1000 Lakes	NL-NN-82	Mikkola/Hertz
San Remo	NL-NK-54	Blomqvist/Cederberg
RAC	IN-NV-84	Mikkola/Hertz
– plus seven other European Championship wins		
1983		
From 1 January 1983, works cars were re-homologated into		

Group B.		
Sweden	IN-NN-82	Mikkola/Hertz
Portugal	IN-NM-62	Mikkola/Hertz
– from this point the works cars used small-bore 2135cc instead of 2145cc engines, thus qualifying as ‘under 3-litre’ cars, able to run at lower weight limits		
Argentina	IN-NH-26	Mikkola/Hertz
Event	Car	Drivers
1000 Lakes	IN-NL-12	Mikkola/Hertz
RAC	44 CMN	Blomqvist/Cederberg
– plus eight other European Championship wins		
1984		
Monte Carlo	IN-NX-47	Rohrl/Geistdorfer
Sweden	IN-NR-64	Blomqvist/Cederberg
Portugal	IN-NE-8	Mikkola/Hertz
Acropolis	IN-YD-29	Blomqvist/Cederberg
New Zealand	IN-NJ-5	Blomqvist/Cederberg
Argentina	IN-NC-59	Blomqvist/Cederberg
Ivory Coast	IN-NZ-9	Blomqvist/Cederberg
(Sport Quattro)		
– plus 14 other European Championship victories		
1985		
San Remo	IN-NM-7	Rohrl/Geistdorfer
(Sport Quattro E2)		

– plus seven other European Championship victories

Quattro victories in British international events

Event	Car	Drivers
1981		
RAC	IN-NM-61	Mikkola/Hertz
1982		
Mintex	LYV 4X	Mikkola/Hertz
Welsh	LYV 4X	Waldegård/Short
Scottish	LYV 4X	Mikkola/Hertz
RAC	IN-NV-84	Mikkola/Hertz
1983		
Mintex	MVV 44Y	Blomqvist/Cederberg
Welsh	MVV 44Y	Blomqvist/Cederberg
Scottish	MVV 44Y	Blomqvist/Cederberg
Event	Car	Drivers
Ulster	MVV 44Y	Blomqvist/Cederberg
RAC	44 CMN	Blomqvist/Cederberg
1984		
National Breakdown	44 CMN	Mikkola/Hertz
Welsh	44 CMN	Mikkola/Hertz
Scottish	44 CMN	Mikkola/Hertz
Ulster	IN-WC-46 (Sport Quattro)	Rohrl/Geistdorfer

1985		
National Breakdown	MVV 44Y	Wilson/Harris
Welsh	MVV 44Y	Wilson/Harris
Scottish	MVV 44Y	Wilson/Harris
1986		
National Breakdown	44 WMN (Sport Quattro)	Mikkola/Hertz
Welsh	44 WMN (Sport Quattro)	Mikkola/Hertz
[Note: All British/Isle-of-Man registered cars listed were prepared and maintained by David Sutton.]		

Works rally cars (and when first used)

Note: Although Audi Sport tended to build new cars for many events – which explains the extraordinary number of works cars registered in a six year period – like all other serious works rally teams of the period, some registration numbers sometimes appeared on more than one car. In each case, where a car gained an important victory, I have noted this.

On several occasions, if the monocoque of a works Quattro had been too badly damaged to repair (either by an accident, or by tough use on a rough rally), a new car would be built up and prepared for motorsport, but using the old chassis plate and identity.

The following identities were applied to works Quattros used in World events, the numbers being quoted only in the first year in which they appeared. 'IN' denotes 'Ingolstadt', the German way of identifying new car registration: I understand that, once allocated, such numbers stay with a car throughout its life. Other cars were prepared for practice and testing, so the total quantity produced by Audi Sport in its workshops is even more remarkable.

In this list, those long-wheelbase Quattros only ever used in Group B (rather than Group 4) form are noted as '(B)'. Short-wheelbase versions of the Quattro are noted as '(SQ)' (Sport Quattro), while second-evolution types are noted as '(SQ E2)' (Sport Quattro, Evolution Two).

1980 (2 identities)

IN-NE-3

IN-NE-7

1981 (12 identities)

IN-NJ-10

IN-NJ-40

IN-NL-77

IN-NL-88 (San Remo 1981)

IN-NM-61 (RAC 1981)

IN-NP-40

IN-NP-50

IN-NP-60

IN-NR-87

IN-NU-81

IN-NV-66

IN-NV-90 (Sweden 1981)

1982 (16 identities)

IN-ND-21

IN-ND-37

IN-ND-78

IN-NH-42 (1982 Portugal)

IN-NK-54 (1982 San Remo)

IN-NK-79

IN-NN-82 (1982 1000 Lakes)

IN-NN-84

IN-NU-38 (1982 Brazil)

IN-NU-40 (1982 Acropolis)

IN-NU-84

IN-NV-84 (1982 RAC)

KJ9029 (NZ number, renumbered German car IN-NU-38)

KJ9030 (NZ number, renumbered German car IN-NU-81)

N-DC-163 (1982 Swedish – this car originally IN-NM-61)

651-Z7959 (was IN-NL-88)

1983 (24 identities (21 different cars, three re-registered)

IN-ND-1 (B)

IN-NE-8 (B)

IN-NH-26 (B)
IN-NH-74 (B)
IN-NH-75 (B)
IN-NL-12 (B)
IN-NL-62 (B)
IN-NL-67 (B)
IN-NM-27 (B)
IN-NM-62 (B)
IN-NM-82 (B)
IN-NN-17 (B)
IN-NN-86 (B)
IN-NT-49 (B)
IN-NV-3 (B)
IN-NW-72 (B)
IN-NX-99 (B)
IN-YA-34 (B)
IN-YC-17 (B)
IN-YC-18 (B)
IN-YC-19 (B)

and –

- LB7800 (NZ number) (B)
- LB7801 (NZ number) (B)
- LB7802 (NZ number) (B)

(These were the ex-Safari cars IN-YC-17, IN-IC-18 and IN-IC-19, which had been re-registered for use in New Zealand, before being sold off after the event.)

1984 (15 identities)

IN-NC-46 (SQ)
IN-NC-59 (B)
IN-NJ-5 (B)
IN-NL-1 (B)
IN-NL-2 (SQ)

IN-NR-64 (B)
IN-NT-2 (SQ)
IN-NV-35 (B)
IN-NV-83 (B)
IN-NX-47 (B)
IN-NY-39 (SQ)
IN-NZ-9 (SQ)
IN-YD-6 (B)
IN-YD-29 (B)
IN-YJ-81 (B)

1985 9 (15 identities)

IN-NA-23 (SQ)
IN-NC-25 (SQ)
IN-ND-63 (SQ)
IN-NE-11 (SQ)
IN-NL-8 (SQ)
IN-NL-16 (SQ E2)
IN-NM-7 (SQ E2)
IN-NM-57 (SQ)
IN-NP-31 (SQ E2)
IN-NT-61 (SQ)
IN-NY-18 (SQ E2)
IN-YK-55 (SQ)
ME1109 (NZ number) (SQ)
ME1110 (NZ number) (SQ)
652Z-943 (SQ E2)

1986 (3 identities)

IN-NL-23 (SQ E2)
IN-NR-43 (SQ E2)
IN-NW-4 (SQ E2)

Audi Sport then withdrew the Group B Quattro from World Championship motor sport after the 1986 Rally of Portugal in

March 1986.