

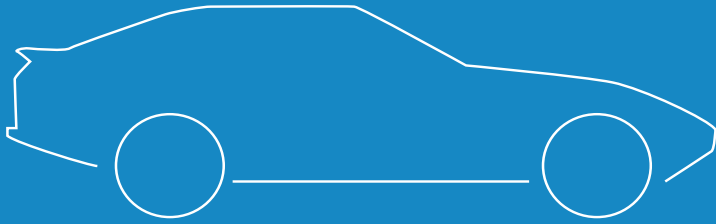
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## CLASSICS WORLD GERMAN PORSCHE 924/944/968

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Welcome to the first issue of a new series of bookazines; ClassicsWorld German. This, along with two sister series focusing on cars from Japan and Europe, will form a collection of publications focusing not on brands, but on individual aspects of our motoring heritage. In this series, we'll be looking at the very best classics Germany has to offer, discussing their stories and driving them to see if they're everything our hearts promised. Our first subject is one for which I personally have a lot of affection - the Porsche 924/944/968 series.

The four-cylinder Porsche transaxle cars have had a mixed reputation in Britain - once seen as cheap, the truth is that these cars are just as competent as the mid and rear engined cars which bear the Porsche name. There are hidden gems within the family, as well as models with which every petrolhead should be familiar. And they're widespread in their appeal too, at almost every budget point from entry level to serious collector, there can be a four-pot Porsche which will meet your needs.



We've looked at some of the best examples of the best models while putting this publication together, we've delved into the history of the marque, and we've examined the cars which came before and after in a bid to try to explain not only why these cars have the appeal that they do, but why the market at the time dictated that this was the best way forward for Porsche.

Thank you for buying this bookazine. We hope you'll have as much fun reading it as we did making it.

**Sam Skelton,**  
Editor

■ Thank you to the Porsche 924 Owners Club and its members, whose assistance has been greatly appreciated in the creation of this title. [www.porsche924.co.uk](http://www.porsche924.co.uk)





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# THE ORIGIN STORY

The development of the first front-engined Porsche; from Volkswagen development to Carrera GTR

WORDS: SAM SKELTON



The story of the Porsche 924 begins in 1969, with the Volkswagen-Porsche 914. This model was a joint venture between the two companies, with each having its own variant. Porsche would fit the six-cylinder engine from the 911 and use it as an entry-level car, Volkswagen would use its flat-four from the Type 3 and use it as a flagship replacement for the Type 34 Karmann-Ghia. This relationship worked well, albeit with some market confusion among buyers who weren't sure if the 914 was a cheap Porsche or a fast Volkswagen. In 1971, both companies began work on the replacement – dubbed EA425; this four-cylinder sports coupe was funded by Volkswagen and developed by Porsche. Internal politics saw the close research and development relationship between the two companies draw apart during this era, and the EA425 project was eventually all that was left by 1974. At this point, changes in the hierarchy at Volkswagen brought in new boss Toni Schmücker, who cancelled the EA425 project following the joint dealer network's disbanding.

Porsche now had a near-complete four-cylinder sports car project for which funding had been dropped, along with



This BMW 2002 is in fact a 924 development mule.

a single model range which was ageing and ill-equipped for a world post-oil crisis. Therefore, it did the obvious thing and made Volkswagen an offer for its intellectual property associated with the project. With the EA425 brought in house, it was assigned the Porsche development code 924. It used several Volkswagen and Audi parts and was built at the former NSU factory in Neckarsulm now owned by Audi. This not only meant that the Audi-supplied parts were available in house but saved the jobs of many at Neckarsulm who

would otherwise have been laid off.

A note on that drivetrain which was lifted from the Audi 100 range – namely the engine and the gearbox mounted as a transaxle at the rear. The motor had also been used in the LT van, primarily because it was longitudinally mounted and as VW's only front-engined rear-drive product it needed to use in house longitudinal engines. It's not strictly accurate to say the 924 used a van engine, as they were in different states of tune and the van was carburetted. The Audi heritage ensured that the 924





Porsche also procured an Opel Manta for testing...

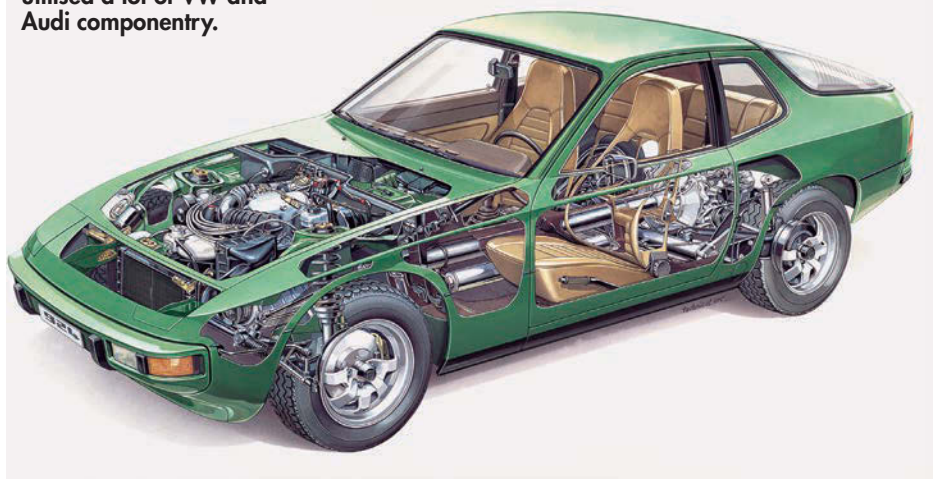
...seen here during cold weather tests.

would be cheap to run and maintain, another boon given Porsche's entry-level position car.

The design process was complicated; at that time, Volkswagen offered the Beetle, the 411 and the K70 – none of which really looked alike. So with a lack of clear brand identity, it was hard to know exactly how to place the car stylistically. Harm Lagaij eventually penned a sharp, timeless shape that he claimed was inspired by Ferrari's work and influenced by the Audi-derived suspension and drivetrain packaging requirements. Development was continued in test mules based upon bought-in cars from competitors, notably a BMW 2002 and an Opel Manta. Under the skin these cars were 924, the bodies used to throw the scent for aspiring spy photographers.

The 924's launch away from a motor show in November 1975 was a departure from tradition – and one which some commentators took as a suggestion Porsche perhaps didn't have faith in its new baby. However, the harbour at La Grand Morte, Camargue, in the south of France, showed that Porsche was bullish about the new sport

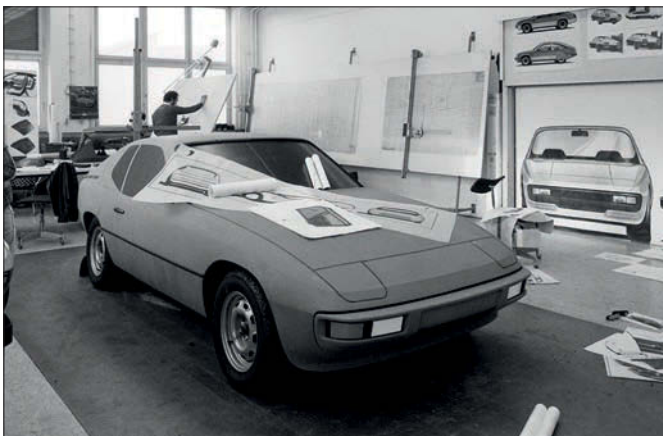
**Under the skin the 924 utilised a lot of VW and Audi componentry.**



GT's target market GT. At the British launch at the Weekend of the Year show in Bournemouth, Porsche fans decried its "Volkswagen engine", but those who attended the 1976 Earl's Court Motor Show felt that its £7,995 entry price brought Porsche ownership within the grasp of thousands of more enthusiasts than the 911 ever could.

And the car was needed. Sales of the 911 in Britain at least had become

so dire that Porsche GB was starting to allow dealers to take cars on a sale or return basis. They were aware that their reticence to purchase a car that may languish in stock was harming the company's sales figures and those for showrooms. The newer and more affordable model turned things around – while it still had its detractors, the 924 arguably saved the Porsche brand in Britain. 924 buyers were typically



Translation into clay was largely successful.



EA425, one of the final VW era design studies.

## HISTORY PORSCHE 924



younger, affluent, and it might be the first sports car for many. This was encouraged by the media; the near 50/50 weight balance made the 924 a comfortable car to drive quickly, and there was less need for developed talent than in something like its big brother 911. While *Motor Sport* may have suggested that the new car lacked character, it was fulsome in its praise for the heater system and for the chassis's communication and neutrality. It was only let down by noise and harshness,

which were rectified on later cars. By 1978 *CAR* could state; "The 924 has probably been improved more, and in a shorter time, than any other car we've encountered. It has the potential to be a really good car as well as an entertaining one, and knowing Porsche, it probably won't be long before it ends up that way."

Over the years Porsche sought to modify and improve the 924 formula beyond such details





as refinement. The first new model to be launched was the Turbo of 1979, which we have driven elsewhere in this bookazine. The Turbo utilised a KKK turbocharger and a Porsche-developed gearbox built by Getrag to boost power and reduce revs at speed. The

Turbo was an entertaining means by which Porsche sought to bridge the gap between the 924 and the 911SC, and sowed the seeds in part for the later 944 model by establishing that there was a market for a car between the entry point and the 911. The Turbo survived

until 1982, though the Italian market continued to receive 924 Turbos after this date owing to advantageous tax rules.

The 1981 Carrera GT was a development of the Turbo, featuring a large scoop to force air into the





**The Carrera GTS took the Turbo formula almost as far as it could reasonably be taken.**

intercooler. Power was now 210bhp courtesy of that intercooler, while 150kg had been saved by fitting aluminium doors, an aluminium bonnet, and polyurethane bumpers. Bulbous arch extensions previewed the design thinking which would lead to the later 944, and wider Fuchs alloys were fitted as standard. Inside, the car lost its electric windows but wasn't devoid of all the standard model's luxuries. The Carrera GT raced at Le Mans in 1981, homologated by a production run of 406 cars. Two hundred were allocated to Germany, 75 to the UK and the rest

to mainland Europe. Despite a price tag of over £20,000, the Carrera GT sold out quickly. Like the Turbo, Carrera GT production ceased in 1982.

1981 also saw the arrival of the race-focused Carrera GTS model. This took the concept of the Carrera GT and turned it up to 11. Just 59 Group 4 GTS models were built, each with 245bhp from a developed version of the same engine. A lower compression ratio was used, enabling greater boost from the turbocharger. Like the Carrera GT, it retained polyurethane bumpers, aluminium bonnet and doors, with

polyurethane front wings and thinner steel for unstressed panels to further reduce weight. Sliding windows were fitted to doors which amounted to shells, along with racing seats from the 935, a three-spoke steering wheel from the 911, and black felt trim in place of plastic. Priced around £25,500 in race-spec or £33,600 in Rallye spec, the latter included underbody protection and increased ground clearance for use on non-tarmac events.

If this wasn't extreme enough, there was the Carrera GTR. Seventeen of these roadgoing banshees were created,

Roadgoing Carrera GTs  
tamer than the GTS,  
but far wilder than  
standard Turbo.



with a compression ratio of just 7.0:1 meaning that boost could be wound up to give a startling 375bhp from the 2.0 turbocharged engine. This race-spec variant owed much to the Le Mans entrants and used the 935 racer's braking system allied to a Porsche-developed gearbox. £41,750 would buy one if this was the car you really wanted.

Porsche had intended to discontinue the 924 for 1985, owing to the 944's strong sales, but they felt that the 944 was too expensive to serve as an adequate entry model. The solution,

Porsche felt, was simple. The 924 would simply receive the entry-level 944 engine, in the same manner as the 914/6 was allotted the base 911 engine back in 1970. The new car, branded 924S, was launched in 1985. Developing 150bhp (160bhp for 1988), the car now used a Porsche-developed engine derived from the 928's V8 and displacing 2.5 litres. In this form, the 924 enjoyed a reprieve, with strong sales ensuring the model lasted until 1988.

The 924 begat the 944 in the end – a wider, more aggressive-looking car designed to take on the 1980s. The two

models sat side by side for five years before the 924S was discontinued in 1988, leaving the 944 as Porsche's entry-level model. A total of 150,864 924s were built, including 16,274 924S models and 12,427 Turbos. Regardless of whether you feel that the 924 is a "proper Porsche", and views on this subject are gradually reaching universal acceptance, it cannot be denied that the model steered Porsche through difficult times. It was a car that revived the fortunes of a marque whose larger and more sporting offerings didn't always align with market trends. ■

# BUILDING ON SUCCESS

How Porsche bridged the gap between 924 and 911.

WORDS: SAM SKELTON



In the late 1970, the gulf between the 924 and the 911SC was large enough for another model. This was Porsche's justification for the 1979 924 Turbo but there was scope for another derivative that would remedy the primary criticism of the original 924. The EA831 may have been a good engine, but in 1976 there were elements of the press and enthusiast communities that felt Stuttgart should not use an outsourced power plant. The Porsche family's work begot the Volkswagen empire was neither here nor there; the non-Porsche engine made the 924 seem like tainted goods to so many.

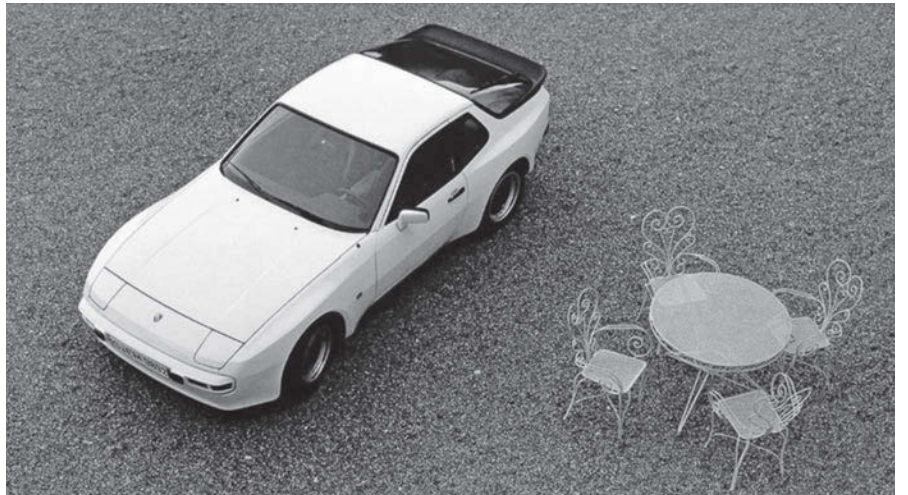
The solution was clear; the 924 needed a Porsche engine. And one was duly provided, courtesy of the 928 range and its V8. That engine was effectively split down the middle to create a slant four, which was to be fitted into a beefed-up 924 and thus bridge the gap. This new range, project 944, shared the bonnet, headlamps, roof, doors and

rear end of the 924, though it sprouted wider, sharper wheelarches as befitted a design for the 1980s. It was felt initially that this new 944 might eventually replace the 924, but the need to price it competitively meant there was still room for the older car at the bottom of the range.

The 944 story began back in 1976, and styling bucks were being trialled almost as the first 924s left the Neckarsulm plant. Aerodynamic tweaks were coupled with the new stance – inspired in later years by the 924 Carrera GT – to create a car that looked little like what sired it despite the high number of shared panels. Under the skin, the new 2.5-litre under-square four was revvier than the 924's unit, while 160bhp was developed from 2.5-litres thanks in part to the Bosch Motronic digital ignition ECU. This was cutting-edge technology by the standards of the early 1980s – reprogrammable memory which could cater to a wide array of

driving conditions. Porsche addressed criticisms of the 924's coarse engine note and harshness by employing twin counter-rotating balancer shafts under licence from Mitsubishi to keep the engine as smooth as a four-pot could be. This technology would later be used to similar ends by SAAB. Despite its origin as half of the V8, no parts ended up as directly interchangeable between the two engines.

The ride was firmer than the 924, due to the extra weight (at 1180kg the same as a 924 Turbo) and a thicker front anti-roll bar. The brakes came from the Turbo, and the tyre size was the same as its forced induction predecessor. Priced just below the 924 Turbo it was to succeed, it received several luxury touches, such as a new heater with optional air conditioning, although the 924's dash and seats remained. The 944 received its own trim options, but it wasn't until 1985 and the "oval dash" models that the 944 got an all-new interior of its own. Electric





and tinted windows were an option, as were myriad steering wheel choices and more.

Where the press had been lukewarm toward its predecessor, to the 944, they were unanimous in their praise. This, Car and Driver contended, was what the 924 should have been. "The 944 is great because it responds crisply and decisively to every command, and it builds up to its limit in perfectly linear

fashion." In Britain, the car was launched just after the 1981 24 Heures du Mans, at a three-day event at Thornbury Castle, Wiltshire. Porsche's director of R+D, Helmuth Bott, was on hand to answer any technical queries.

Bott is on record as having said that the 944 was benchmarked against the 924 Carrera GTS, and on track, it wasn't outclassed. Not that this compromised its abilities as a GT; the 944 remained

almost as efficient as its predecessor while the balance shafts had done their bit to suppress unwanted coarser engine noises.

Following promising sales, and continuing in the same vein as it had with the 924 range, Porsche sought to improve and expand upon the 944 formula. The first new model was the 944 Turbo, launched in 1985. Revealed to the press a month before the 1985







Geneva Motor Show, and to the public at that event, the 944 Turbo enjoyed the accolade of being the first car in the world to produce the same power and torque with or without a catalytic converter, leading to praise as the world's cleanest sports car. Priced slightly above a 911 3.2 Carrera, the 944 Turbo was intended to bridge the gap in the transaxle family between the 944 and the 928S.

The 944 received a 16v cylinder head for 1987, boosting power to 190bhp and improving emissions in one. The larger valve opening area meant better cylinder filling and higher output while ensuring a cleaner burn courtesy of the spark plug's central location. This car was sold as the 944S, supplanting the original 944, and not only had a higher top speed (142mph) and lower 0-60 time (7.9 seconds), but

also returned 5% greater fuel efficiency. As with the Turbo, performance with or without a catalytic converter was identical. By 1987, 944 sales accounted for 50% of the total marque sales, and the three-model range was enjoying halcyon times as scores of city traders sought to buy 944s with ever bigger bonuses.

The Turbo S replaced the Turbo for 1988 only. This car offered a





respectable 250bhp courtesy of a larger turbo and revised engine mapping, allowing maximum boost to be held higher up the rev range. Porsche made just 1,635, 718 of which headed to the US and 917 of which were fitted with a catalytic converter. The engine was effectively that of the Turbo Cup, but the car retained the luxurious trim of the roadgoing Turbo and employed upgraded brakes from the 928 S4. Wider tyres were also fitted – 225 section on the front and 245 on the rear, 20mm wider than those of the outgoing Turbo model.

1989 saw the 944 replaced by a new 2.7-litre variant offering 163bhp and greater torque – a bid to recapture some of the 944S market after that car's discontinuation the previous year. The 944 S2, launched that January would pick up where the S left off. Built into the same slightly more aerodynamic shell as the 944 Turbo, its engine had increased in size again to 3.0 litres. That meant 211bhp and 207lb.ft of torque, enough to make the top speed 150mph and to drop the 0-60 time below 7 seconds. At £31,304 the S2 was expensive at launch, but the sales figures showed that

many felt it was worth it.

Porsche displayed a convertible study at the 1985 Frankfurt Motor Show, and this was put into production in S2 Cabriolet form in January 1989. Retailing at over £36,500, each Cabriolet began life as a coupe shell shipped to the American Sunroof Corporation in Stuttgart for extensive work. The roof was chopped off, the windscreen was raked more steeply and lowered by 60mm, and the door frames modified and incorporated quarter windows. The fabric hood fitted was manually operated at first, but could be





specified with electric operation. The change was striking, and customers rushed to fill order books for this new model which by now looked nothing like the 924 it had once been.

As if refreshing the standard model and S hadn't been enough, Porsche also launched a new 944 Turbo in 1989. This car served as a replacement for the Turbo S, building upon its success with a new turbocharged engine – still, unlike the rest, of 2.5-litres. A new turbocharger and engine ECU once more saw power at 250bhp. The 928 S4 brakes remained as did the Turbo

S wheels, but the car now sat on Turbo Cup suspension. Aircon, ABS and electric seats formed part of the model's excellent specification, and production comfortably surpassed the expected 3,000 examples.

The final model in the 944 family was the Turbo Cabriolet – which, unsurprisingly, offered the new Turbo drivetrain in the shell of the S2 Cabriolet. Produced only in the spring of 1991, this was a sub-6-second car when sprinting from 0-60, and capable of 162mph at full tilt. It offered a standard electric hood over the S2 Cabriolet, in addition to the

Turbo coupe's other luxury trappings. Porsche GB sold just 100 right-hand drive models – and we've driven one for this publication – almost £46,000 was required if you wanted to be one of the lucky few to buy one new.

By 1991, the 944's light was beginning to fade. Porsche had developed its successor; styled once again by Harm Lagaaij, the softer lines harked back to his original 924 while introducing a 928 style nose. This car, the 968, saw the transaxle family through to the end of production in 1995. ■





# THE FINAL FLING

The last front-engined Porsche before the arrival of the Cayenne, the 968 was billed as “the next evolution” to prove you really can teach an old dog new tricks... WORDS RICHARD GOODING PHOTOGRAPHY VARIOUS

One of the most desirable 968 colours is Speed Yellow. It's also one of the rarest, particularly in North America, where only ten of the 'L12G' brightly-hued 968s are said to reside. Originally a standard no-cost colour, cars in this vibrant shade now attract a premium on the used 968 market. Club Sports, meanwhile, mostly came in eye-popping shades of Grand Prix White, Guards Red, Maritime Blue, Speed Yellow and Black. During 1994 and 1995, however, most of the standard 968's colour palette, including the very vibrant Riviera Blue, could be optioned. Club Sport cars specified with M346 trim featured silver wheels, as opposed to colour-coded rims.

The 944 enjoyed success as blistering as its sills. After the release of the S2 in 1989, factory bosses made plans to develop the model even further. The next-gen 944 was set to wear the S3 designation, but so extensive were the proposed changes, it became clear the resulting car would be more

or less an entirely new Porsche. With this in mind, the decision was made to forge ahead with a path that followed the chosen route, but ended with a fresh model. Adopting its development programme codename, the 968 was born.

Launched in August 1991 for the 1992 model year, the new sports coupe from Zuffenhausen comprised a mix of around eighty percent new parts and design elements when compared to its predecessor. Even so, lineage back to the 924 of 1976 was clear to see — the basic profile and window silhouette from the 968's curvaceous wheel arches upwards was inherited from the first model to be listed in Porsche's transaxle range of cars. Keen to forge a 'family resemblance' between its line of products as the 1990s got underway, however, our favourite manufacturer blessed its new model with 928-esque visible headlamps, complete with pop-up functionality and frog-like looks were activated.

## SMOOTH STYLE

The 944's wide rear quarters remained, though now boasted more integrated bumpers, smoother lines and gently curved edges. Neat touches included carefully considered wing junctions, as well as door handles and mirrors that'll be familiar to fans of the 993-generation 911 (they debuted on the 968 before the air-cooled car, fact fans!). There was a Fuba 'bee sting' aerial, plus subtle Porsche script between all-red rear light lenses. 968 nomenclature sat rear-top-centre, though blink and you'd miss it — Porsche's new sports machine romped from rest to 62mph in just 6.5 seconds thanks to an upgraded version of the 944's four-cylinder sixteen-valve engine. Displacement was now 2,990cc, with a power figure of 240bhp in a standard state of tune. New exhaust and induction kit ensured the more powerful engine could breathe easily, while updated engine management electronics and a dual-mass flywheel also enhanced the basic package, delivering super-smooth operation.



Big news concerned the introduction of Porsche's new VarioCam variable valve timing system. Debuting on the 968, the VVT arrangement would become a feature – some would say a defining one – of the 993. Applied to the 968's M44/43 powerplant, VarioCam came on song between 1,500rpm and 5,500rpm, assisting the production of 225lb-ft torque at 4,100rpm. The last four-cylinder Porsche until 2016's 718-series Boxster, the superb 968 had both the power and the technology to match its streamlined appearance.

A new six-speed gearbox was a ratio up on the outgoing 944's transmission. Non-purists who were less than thrilled at the prospect of stirring a stick shift were offered the then three-year-old Tiptronic system as a cost option. Familiar equipment remained, however, in the form of a chassis inherited from

the 944 S2, one that could trace its roots back to the introduction of the 944 Turbo; like the boosted 944, the 968 included Brembo four-pot calipers, while extensive use of aluminium suspension components kept kerb weight down to an acceptable 1,370kg.

### TRADING PLACES

Production was moved from the 944's home at Audi's Neckarsulm plant to Porsche's Zuffenhausen facility. Echoing the 944 family, both hard-top coupe and convertible versions of the 968 were available to buy, but unlike the 944, the newer transaxle looked less 'clumsy' with its roof down, the result of a much sleeker profile and careful consideration of where stowed canvas would reside. To the surprise of the period's motoring press, performance was undiminished when the new rag-top was pitched against its coupe-bodied sibling. Indeed,

those brave enough to have their toupees ruffled could reach 62mph from rest in the same 6.5 seconds as those safely ensconced in a closed-roof 968.

The first example of Porsche's new speed machine hit UK shores in May 1992. The interior of both soft-top and hard-top models was almost 'identikit' 944, but no matter – all the essentials were present and correct. Moreover, if anyone dared dismiss Porsche's new offering as 'same old, same old', they were very much mistaken. As if to prove the point, Autocar declared the 968 as "the world's best-handling car." Car added its voice to the debate: "there has never been a better-balanced front-engined, rear-drive car than the 944 Turbo, yet the 968 is just as good. Fast, sure-footed and manoeuvrable, it's thoroughly entertaining on winding roads." The deal was sealed. Porsche had done what seemed like the





impossible – it had developed the 944 (the most successful model in the Stuttgart car maker's back catalogue up until the arrival of the Boxster) into a model even more admired by the world's leading automotive journalists. Sales success seemed guaranteed.

While there was little to be found wanting with the standard 968, an appetite for a more focused version of the Stuttgart-badged newcomer resulted in the lightweight 968 Club Sport in 1992. Borrowing its name from more extreme earlier Porsche models, this fresh, track oriented 968 offered a purer driving experience thanks to the dismissal of standard luxury equipment, including heavy sound deadening material. Tipping the scales at 1,320kg, the Club Sport was obvious in its intentions. The model's colour palette

was limited to more standout shades, while seventeen-inch Cup alloys were colour-coded to match the host vehicle's body panels. Thanks to 20mm lowered suspension, 225-profile tyres tidily filled their enveloping wheel arches.

The theme continued inside the car. Manual cranks replaced electric window mechanisms, lightweight Recaro buckets with manual adjusters and body-coloured backs took the place of power pews, while an airbag-free three-spoke steering wheel added a racier look. The same weight-saving regime saw the 968 coupe's rear seats binned, as well as the appointment of a small battery and an 'essentials only' wiring loom. This hoon-tastic 968 couldn't be more focused on its enhanced fast-road and track-friendly abilities, qualities it announced to the world in the form of

giant model-identifying body graphics. The benchmark 0-62mph dash was achieved in 6.2 seconds. Top speed was registered at 157mph. An M220 option of limited-slip differential made sure all 240 of the Club Sport's ponies galloped without falter, whatever the ribbon of tarmac they happened to be travelling along.

#### EARNING RESPECT

Just like the standard 968, the Club Sport attracted rave reviews when it was tested by the motoring media. Crowned with a Performance Car of the Year award by Performance Car, the only complaint seemed to be the fact Porsche's new offering wasn't available for all to enjoy: the lightweight Porsche was only available in the UK, Australia, Europe and Japan. The first examples touched





down in January 1993, priced at £7,000 less than the stock 968 — the cost of joining the Club Sport club was listed as £29,975 in 1994.

Buoyed by the warm welcome received by the gym-fit 968, a 968 Sport model was sold exclusively in the UK from 1994 to 1995. Essentially a Club Sport with selected creature comforts reinstated, the £32,995 Sport was priced £5,500 less than a standard 968 and £3,000 more than the Club Sport. Equipment included central locking, cloth Comfort seats, electric windows and the return of rear bum huggers. The Sport's lean-and-luxury personality proved popular, as demonstrated by the model outselling the standard 968 by almost seven-to-one. Even so, only 306 Sports ever found homes, highlighting just how low 968 production was. Even today, outside of



Porsche circles, many don't even know the model exists!

Sport-focused 968s weren't the ultimate incarnation of Porsche's '90s transaxle offering. That accolade is reserved for the 968 Turbo S. Limited

to just sixteen units, the 305bhp quasi-racer looked similar to the Club Sport, but could be correctly identified by its NACA bonnet scoops, brutish front spoiler and adjustable rear wing. The car's three-litre 944 S2-style engine block





featured an eight-valve single overhead-cam cylinder head which encouraged prodigious performance: the 968 Turbo S only needed 4.7 seconds to hit 62mph from a standing start, while top speed was 175mph – 18mph up on the Club Sport! Monster torque of 370lb-ft ensured power wasn't far off the beginning-to-be-developed 996-generation 911.

#### FOUR OF A KIND

Adding to the Turbo S's legacy, a quartet of 968 Turbo RSs were built by Porsche's Motorsport Research and Development division. Essentially a stripped Turbo S, the RS was conceived for Porsche's customer racing teams and offered in two variants. First was a 337bhp car built to meet the rules and regulations laid out by the German ADAC GT series. Ballast was added to bring the car up to a minimum weight of 1,350kg. Second was a 1,212kg 'international'

spec race car making use of a KKK L41 turbocharger assisting with the development of 350bhp. Each of the four Turbo RSs was painted a different colour (red, yellow, black, white) and are recognised the world over as the rarest 968s ever produced. Perceived demand, however, encouraged Australian-based engineering outfit, Fitzgerald Racing Services, to build four of its own RS-themed 968s using factory-sourced RS parts and Club Sport chassis. Each car was priced at more than AU\$225,000 and came customised in accordance with the requirements of each well-heeled buyer.

The 968 proved Porsche's transaxle line still had a decent amount of life left in it, but all things must pass, and along with discontinuation of the 928 GTS, production stopped in 1995 after 12,776 968s were built (8,402 coupes, 4,374 drop-tops). This low volume assembly

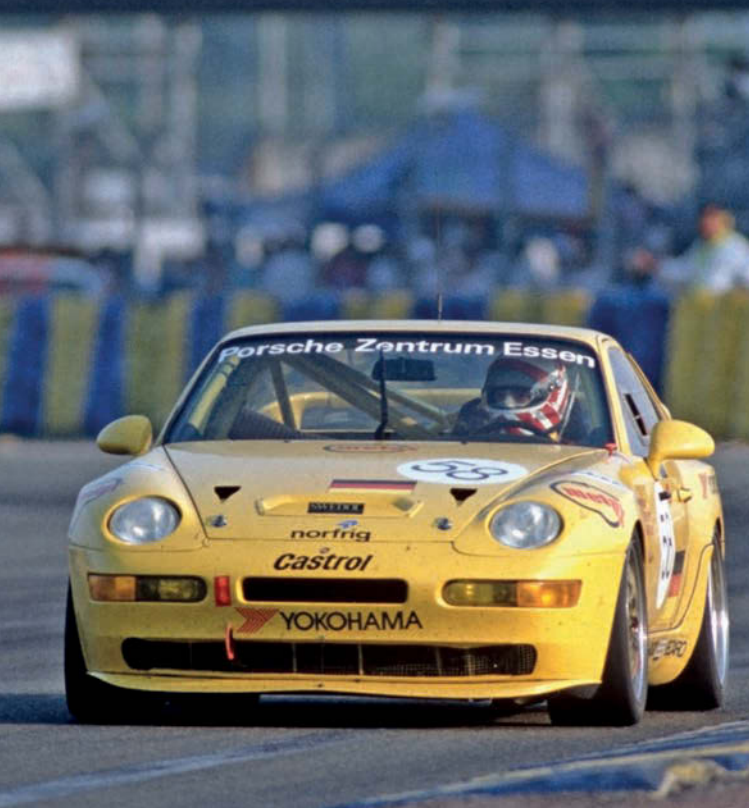
means the 968 is, today, more of an exclusive find than the 944, and like buried treasure, its riches will reward those lucky enough to find their name on a 968's logbook. Best of all, used 968 purchase prices have remained sensible (a mint-condition Club Sport will empty your wallet for the same sum as a ropery 911 SC), so get out there and secure a delicious slice of performance Porsche from the marque's excellent front-engined, water-cooled family of sports cars.

#### ROAD TO RECOVERY

Back in 1992, Porsche experimented with the design of a 968 Roadster, a concept produced to evaluate the enticing prospect of a more glamorous open-top Porsche than any of the company's other al fresco offerings. A beautiful one-off penned by Porsche Style legend, Harm Lagaay (the same man responsible for developing the 944







into the 968 to begin with), the model featured fixed headlights, a Speedster-inspired lower windscreen rake and a widened rear deck. Speedline split rims were borrowed from the 964 range, while vivid Tahoe Blue paintwork and a colour-coded dashboard insert were also added to the experimental Porsche. Despite the Roadster being marked as something special, however, slow 968 sales did little to encourage Lagaay's superiors of the Roadster's merit as a full-on production car. Instead, attention turned to the development of an all-new Porsche. Revealed to the world as the Boxster, its massive success ensured the company's survival. ■



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# BACK TO THE FUTURE



Fast approaching its thirtieth anniversary, the seldom seen 944 Turbo Cabriolet is one of the rarest production Porsches and can be considered a precursor to the 718 Boxster S...

WORDS DAN FURR PHOTOGRAPHY DAN SHERWOOD

**W**here the 924 faced criticism from 'purists' upset at the fact that the popular Stuttgart-badged 2+2 was loaded with equipment highlighting the model's origins as a joint venture between Porsche and Volkswagen, the 944 that followed put paid to any whinging. Here was a Porsche launched with a robust 2.5-litre engine – essentially a developed 928 V8 cylinder bank – from the manufacturer's own stable. The car boasted wide rear quarters (hello to the 924 Carrera GT fans among you), optimised handling and, in true Porsche fashion, was the subject of a continuous development programme that saw various tweaked and tuned coupé and open-top 944s go on sale with either naturally aspirated or forced induction powerplants during the course of a near ten-year production run.

In 1991, Porsche unveiled the 944

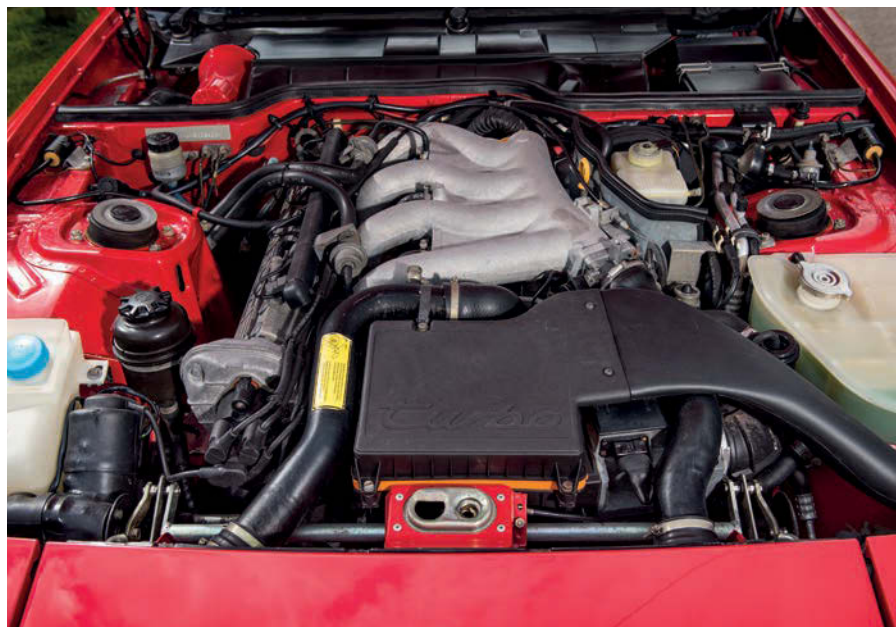
Turbo Cabriolet. By then, the boosted hard-top variant of the front-engined, rear-wheel drive supercar was chucking out 250bhp and had been treated to suspension, brake and transmission upgrades formerly the reserve of those taking advantage of main dealer cost options. The turbocharged 'al fresco' 944 inherited the very same kit from the off. Of the 625 examples made, none were imported Stateside and only a hundred were built with right-hand drive, shared between all applicable territories, making the model a rare sight on British roads (just sixty-two examples are listed at [howmanyleft.co.uk](http://howmanyleft.co.uk), and half of those are declared SORN). Its scarcity has seen it become one of the most desirable Stuttgart drop-tops, a status that's a far cry from the 'not a proper Porsche' accusation often levelled at transaxles by those who have yet to experience the quality of

engineering, performance and comfort these cars have to offer.

Of the 625 examples made, none were imported stateside and only 100 were built with right-hand drive, shared between all applicable territories.

## FAMILY TIES

Of course, air-cooled Porsches and their flat-six engines have been the driving force behind the surge in popularity (and price) of classic German metal in recent years, but you only have to take a look at the current product line-up from our favourite car maker to realise the 944 Turbo Cabriolet represents a formula that works just as well for Porsche today as it did more than a quarter-century ago. Yep, we're referring to the manufacturer's 718 Boxster S offering, a convertible powered by a turbocharged 2.5-litre four-cylinder engine. A step back to



The 944 Turbo cabriolet shares its drivetrain with the coupe equivalent.



the future, or one designed to keep a respectable distance from the sixes? You be the judge, but there's no denying the newer car's following of a tried and tested path offering practicality, power, great handling and fuel efficiency as laid down by the similarly configured 944.

With a quoted maximum speed of 162mph and a 0-100km/h sprint of

less than six seconds, the 944 Turbo Cabriolet promised performance in keeping with that of its fixed head sibling. The cab's chassis was stiffened in order to reduce the kind of body roll and flex so often associated with open-topped sports cars — rigidity was achieved by welding together two floor pans. The work was carried out by American Sunroof Corporation

(ASC) at its base near Stuttgart. In short, 944 coupés were wheeled into the Weinsberg-based facility before literally being cut down to size. A windscreen with a pronounced rake and a 60mm reduction in height was then added, along with a metal boot lid and an electrically operated, manual locking, twin-lined fabric hood.

With classic 911 prices regularly



944  
TURBO CABRIOLET



exceeding expectation, cars from Porsche's transaxle have been riding the same wave. As if to prove the point, the 944 Turbo Cabriolet on the pages before you recently sold for almost forty grand, smashing its lower by a considerable margin. While this particular car's spectacular condition and low mileage were undoubtedly factors contributing towards the respectable sale price, the 924, 928, 944 and 968 are increasingly regarded as cost-effective routes to owning a classic Porsche, with prices starting from less than four grand for a presentable 924 with a fresh MOT.

The 944 Turbo Cabriolet was only in production for few months, but it remains one of the highlights of Porsche's transaxle back catalogue. The 'charged rag-top represents the

pinnacle of the 944's dealer showroom specification, the final chapter in the evolution of the model before it made way for the fresh-faced 968. Even so, recognising the popularity of chopped

944s, Porsche was quick to release a similar incarnation of the 968. In terms of exclusivity, however, the 944 Turbo Cabriolet remains king of front-engined, water-cooled Porsche convertibles. ■



# THERE'S MORE!

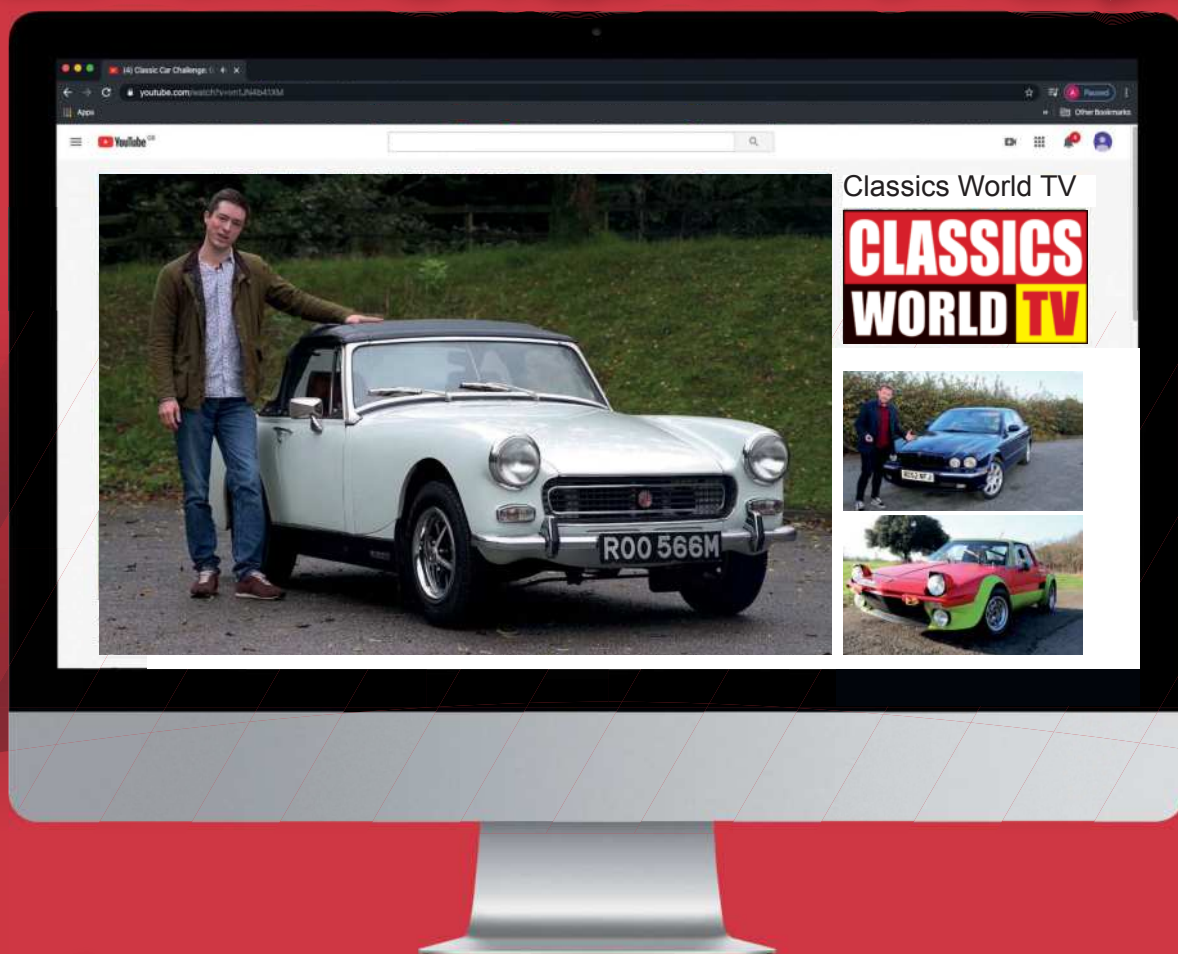
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# BUYING A 924 TURBO

With values of all turbocharged Porsches on the rise, now would be a good time to bag yourself a bargain WORDS PETE SAYSELL

**D**espite the 924's ability to show most cars a clean set of heels down a twisty road, a demand for more power was chanted from the model's launch in 1976. Having already found supercar success with the forced induction variant of the 911, Porsche decided that adding a Kühnle, Kopp & Kausch (KKK) turbocharger to the 924 in 1978 would give their baby sports car the boost buyers were craving.

The resulting 931 (Porsche's internal code for the 924 Turbo) produced 170bhp (up from the naturally aspirated 924's 125bhp) and was the most powerful two-litre production car available at the time. The front-engined marvel was released in the UK in 1979 and was as fast as the 911 SC, yet it was more practical and far more fuel efficient. It may have been as expensive as the 911, but sales of 12,427 924 Turbos highlights the fact that many buyers thought the new car well worth the money. Only available to purchase until 1982 (except as a 'tax break special' in Italy for 1983), the 924 Turbo was discontinued largely due to the fact it was faster than the new 944.

Whether it's a two-tone Series 1 or a

more sober Series 2, the 924 Turbo is a gem in the Porsche back catalogue. The car is more sporting in feel than later models – it's less of a GT than the 944 Turbo – yet the practicality associated with the transaxle family remains. This is a car that flourishes the more it gets used. Go buy one!

## IDENTITY

Telling the Series 1 and Series 2 Turbos apart from one another can be achieved with ease, but the fact parts between models are interchangeable often leads to confusion. In short, the Series 1 Turbo has its chassis number mounted on the offside suspension turret, whereas the Series 2 has its identity mounted to



the offside bulkhead. Series 1 chassis numbers start 93\*\*\*, while Series 2 numbers start WPOZZZ\*\*\*. This is arguably the easiest way to identify which model you've been presented with.

The VIN number can be decoded to glean information on model type and year. For example, on a Series 1 car with the VIN number 93A0141068, '93' represents the 924 Turbo, 'A' references the model year 1980 and '014' plus the last four digits are the car's unique serial number. The engine number can be seen on the left-hand side of the crank case, next to the clutch.

924 Turbos have shot up in value in recent years, so getting hold of a 'matching numbers' example with its original engine should be your chief concern when it comes to buying.

Most UK cars will have been through the hands of 924 Owners Club members. A quick check on the club's online forum ([porsche924.co.uk](http://porsche924.co.uk)) should reveal pretty much all that you need to know about your potential purchase. Don't be shy – these guys are happy to offer guidance and assistance when asked.



### **DUCT AND COVER**

To distinguish the Turbo from all other 924s, Porsche added a NACA duct to the model's bonnet and air intakes in the badge panel. Forged 928-style wheels were a cost option.

### **SUSPENSION**

Aside from its thicker anti-roll bars and firmer dampers, the 924 Turbo has the same MacPherson front struts and rear torsion bar suspension as the standard model.

The front setup is very similar to that of the Mk1 VW Golf, while the rear can be seen as a close relative of equipment found on the Super Beetle. All in all, these parts make for a car that can better many moderns when it comes to handling on twisty roads, and that's with skinny 185-profile tyres! Front wishbones are prone to rust on cars that experience infrequent use. Most Turbos feature wishbones with a mounting lug for the anti-roll bar.

These parts are more than £170 each when ordered direct from Porsche. 1981 cars use the Mk1 Golf's wishbones (and a different mounting for the ARB). These retail at a more sensible £20 from most motor factors. Converting from early to late wishbones is possible, but



non-trivial. The job involves fabricating mounts for the later ARB setup.

An easier way to achieve the same is to remove the lugs from the old wishbones and weld them onto the Golf parts.

If a Turbo (or any 924 for that matter) isn't handling like a dream, then a suspension refresh is in order. Four-wheel laser alignment is an essential first step,

followed by a thorough examination of all suspension rubbers. Thankfully, Porsche is committed to stocking the vast majority of suspension components for legacy models.

### **ENGINE**

The 924 Turbo's engine was hand-built at Stuttgart before being sent to the Neckarsulm factory for installation. The



block, bearings and crank are the same as the standard 924, but the cylinder head was new to the Turbo.

Pistons are different between the Series 1 and Series 2 Turbo (giving compression ratios of 7.5:1 and 8.5:1 respectively). The engine is a tough beast. Even in turbocharged guise, the bottom end should be bulletproof if correct maintenance and regular service intervals are observed by owners.

924 Turbos hate to be left idle. This causes waterways to fur up and head gaskets to rot. More than anything, this is what leads to Turbo engines killing themselves. If you're buying a neglected 924 Turbo, it'd be wise to budget for an engine strip and rebuild.

Unlike the naturally aspirated 924, the Turbo is powered by an interference engine. Its timing belt and tensioner kit

is very cheap (around £20) and takes about twenty minutes to change. There really is no reason why you shouldn't change these components every other year, even though the service manual says you can leave the work for three years.

Detail changes occurred throughout the life of the 924 Turbo as its engine's rudimentary design gained air/oil separators for both the crankcase breather and the turbocharger oil return. The biggest change, however, was for the 1981 model year, when the Series 2 car was released. The pistons, turbo, throttle body and boost tube were all different, but the main change came in the form of a Siemens-Hartig digital ignition timing control (DITC) system.

DITC uses a crank sensor (no longer available) to measure RPM, meaning

that timing can be automatically retarded to prevent detonation. This allows the Series 2's higher compression pistons to operate safely and, along with a revised turbocharger, delivers an extra 7bhp over the Series 1.

The crank sensor is often thought of as the Series 2's Achilles' heel because Porsche no longer stocks the part and no suitable alternative has yet been found. The enterprising fellows at Mittelmotor, however, have the solution! They've managed to package a 123 ignition system into the stock 924 Turbo distributor housing. For around €750, you can have a 'plug and play' replacement for the aging DITC with the added bonus of programmable maps to suit your driving style. Visit [mittelmotor.de](http://mittelmotor.de) or [porsche924.co.uk](http://porsche924.co.uk) for further information.





### ALL PART OF THE SERVICE

Oil and filter changes should be carried out every 6k miles or once a year (whichever comes first). Service parts are readily available from Porsche or independent specialists.

All two-litre 924s use the ubiquitous Bosch K-Jetronic mechanical fuel injection. Parts are readily available. It's a very reliable setup once any bugs (caused by previous owner neglect) have been ironed out. If a car is suffering from hot or cold start issues, then a simple pressure test will reveal the origin of the problem.

Details are beyond the scope of this article, but a quick check on the 924 Owners Club forum will present you with a wealth of knowledge on the subject.

The K26 turbocharger is oil cooled. There are many stories of this particular bhp booster being short lived when it comes to the 924 Turbo. Caring for the turbocharger is essential, and equates to a cool down period of five minutes at the end of a run. This gentle treatment enables the turbocharger's bearings to receive the flow of oil they need for longevity and prevents the calcifying of lubricant in oil channels.

Modern synthetic oils are recommended owing to the massive heat the Turbo's engine generates. Fully

synthetic Mobil 1 extended life 10W60 contains the required ZDDP. Strangely, Porsche continues to suggest 10W40 semi synthetic as the correct oil for the car. While this might be ideal in the naturally aspirated 924, it will result in low oil pressure at hot idle in the Turbo. Don't forget the fact that the Turbo's engine is broadly the same as the unit known to have produced 320bhp at Le Mans. In GTR form, the much maligned block has been known to produce more than 500bhp!

### COLOUR

The car's paint code (and its name) can be found on a decal in the engine bay behind the firewall. It can also be located on a sticker behind the spare wheel in the boot. You'll find the paint code follows the standard VAG configuration for the year (four digit numbers starting with the letter L). If the paint code sticker isn't present, you can order a Certificate of Authenticity from Porsche Cars GB. The document will include your car's factory trim options and its original colour code. Should you not wish to part with the charge for the service, head over to the Porsche 924 Owners Club forum and members will almost certainly be able to identify your car's colour from a photograph.

### BRAKES

The standard 924 has disc brakes at the front and drums at the rear. While these parts provide good stopping power, they're not up to the task of halting the Turbo, a task taken care of by a full complement of vented discs and calipers shared with the 928. This braking system lasted through the 924 S and 944 right up until the 944 Turbo was released with its four-piston Brembo anchors.

Interestingly, the rear calipers on a 924 Turbo are similar to the front calipers on the standard 924, meaning that pads are interchangeable. Don't think a regular 924 front caliper will fit at the rear of a 924 Turbo, though. The part doesn't extend wide enough to fit over the Turbo's large vented rear discs! If a Turbo's rear calipers need rebuilding, make sure you retain the nylon sliders – frustratingly, most rebuild kits don't include them.

Brake fluid should be changed every two years. It should be a clean and yellow in colour. Master cylinders can leak. This complaint usually manifests in a brown stain on the front of the servo. The Turbo's handbrake works with shoes inside the bell of the rear disc. They are known to seize.

### INTERIOR

924 interiors aren't known for being hard-wearing. Some of the cloths used by Porsche suffer badly from sun damage, and it's common to find splits in seats. The Turbo included modelspecific cabin furniture, including a four-spoke steering wheel, while an array of green dash dials is a delight only found in the cockpit of the Series 1.





The 924's dashboard is notorious for cracking. In truth, it's little more than cardboard covered in vinyl. New OEM covers are available, but the preferred solution is a modern reproduction from Werk924 ([werk924.com](http://werk924.com)). The company's new dashboards aren't cheap (budget close to €1000), but they offer the correct grain for period vinyls and can be ordered for right-hand drive cars. Changing the dash is a time-consuming job, but it's fairly straightforward. The task is made easier thanks to the 'how to' guide found at the 924 Owners Club forum.

Werk924 also supplies the original cloth and vinyl to repair or retrim 924 seats. Again, the parts can be expensive, but even Porsche refers to Werk924 when it comes to ordering many of its restoration materials!

If you detect wet footwells, the usual suspects are sunroof drains. They may just need a blast with an airline, but more serious remedial work could be required if they've been left blocked for a lengthy period.

Much like its dashboard, the car's door cards are made from cardboard covered in vinyl. Unsurprisingly, they don't take kindly to being exposed to moisture. Plastic liners stuck to the inside door panels should be present, else the door cards will rapidly disintegrate.

### STATES OF AFFAIRS

USDM 924 Turbos arrived in late 1979, but were down on power due to stringent emissions controls. The cars were also heavier than European models due to federally mandated larger bumpers.

### TRANSMISSION

All versions of the 924 Turbo sold in the UK featured the G31 five-speed manual gearbox. This unit is renowned for poor first and second synchros. If a test drive indicates crunching into these gears, you're looking at a potentially large bill to remediate. Tread carefully.

The synchros are intolerant of transmission oil changes occurring beyond recommended service intervals. If your Turbo has a good gearbox, ensure you change its oil every other year with 80W90 GL4 fluid. The 924 Owners Club can point you towards sources for dog teeth and synchros (these parts are no longer available to buy direct from Porsche). Although the G31's internals are similar to those of the 915 gearbox found in the 911, there are few shared components.

924 Turbos were offered with an option of a limited-slip differential. If your car has this rare factory part fitted, it will have '/12' listed at the end of the gearbox serial number. This identifier can be found on the lowest central spline on the bottom of the transmission casing. Another way to check if you have an LSD fitted (the 915

diff fits, too) is to raise the rear end and spin one wheel. An LSD will spin the other wheel in the same direction, a non-LSD will spin it in the opposite direction.

Bearing wear manifests as a high-pitched whine. As long as it isn't too intrusive, it shouldn't be seen as a big problem; most well-used 924s, 944s and 968s whine from the rear!

The gear linkage is a fairly long one. The locator on the rear has a rubber cup holding it onto the torque tube. A rose-joint replacement makes for a better part than factory rubber prone to wear.

A 924 Turbo's gear lever includes two nylon bushes that are known to wear, resulting in a loose feel when shifting. These bushes are available to buy new and make a huge difference to the driving experience.

The G31's dog-leg pattern is something many drivers struggle to get to grips with, but once you're comfortable, it's a delight on twisty B-roads, allowing you to slot up and down between second and third, keeping boost on song. ■

■ With thanks to the Porsche 924 Owners Club. [www.porsche924.co.uk](http://www.porsche924.co.uk)



# PREQUELS AND SEQUELS





The transaxle Porsche range was both preceded and succeeded by a pair of similar mid-engined roadsters. Was this as mad as it seemed? WORDS: SAM SKELTON

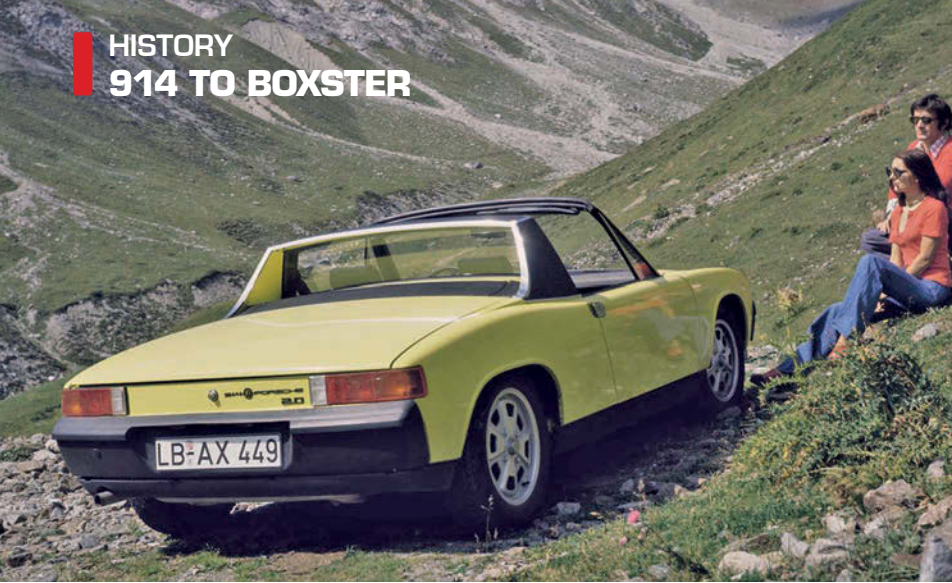
**T**he Porsche 924 was Porsche's first foray into front engines – at least, under its own nameplate. It had originally been developed, as we have seen, as a joint project – sharing parts and budget with Volkswagen, as an intended successor to the VW-Porsche 914 range. Meanwhile, at the other end of the family tree, the 968 was discontinued to make room for the Boxster in 1996. The Boxster and the 914 share a number of traits; both were two seater convertibles rather than the broadly coupe-stocked range in between, both were mid-engined, and both offered broadly symmetrical styling. Moreover, both – if we consider the 914-6 – utilised a detuned 911 powerplant rather than an all new unit, making them genuine small Porsches with a proven link to the “daddy”. But why did Porsche depart from this formula in the first place, why did it return – and was it in truth better than the more conventional layout of the 924 and its successors?

#### **BODY**

The VW-Porsche 914 story dates back to 1965, and Volkswagen's desire to replace its razor-edge Type 3 Karmann Ghia with a new sporting flagship. The project was subcontracted to Porsche, which allocated its development code of EA142 – EA standing for “entwicklungsauftrag” or development contract, in acknowledgement of its VW roots. It was intended that this be the last project developed by Porsche for Volkswagen, in acknowledgement of an agreement put in place when Porsche was founded almost two decades earlier, and the intention for joint model usage made sense given that Porsche needed an entry level model to replace the 912.

The plan was to sell the 914 as a Volkswagen (with the 411's flat four) and as a Porsche (with the 911T's flat six) – though both were sold as Porsches for the American market in order to

## HISTORY 914 TO BOXSTER



command higher prices and ensure no confusion. However, the plan hinged on the agreement between Porsche and Volkswagen remaining valid – which it would as long as Heinrich Nordhoff was in charge of the larger company. Upon his death and replacement by Kurt Lotz, the agreement collapsed. Lotz felt Porsche's claim to joint development was flimsy at best and dishonest at worst, and that if Porsche wasn't prepared to invest in tooling the 914 was a VW

project alone. This meant that prices for 914 bodies to Porsche were raised, and the eventual entry level 914-6 was barely any cheaper than the least expensive 911.

Porsche stopped selling the 914-6 in 1972 with just 3300 made, though the VW engined 914-4 continued to 1976. Porsche's best selling model for the first half of the 1970s, it sold almost 120000 units, though this was still insufficient by Volkswagen standards.

The dual branding saw the 914 viewed as neither fish nor fowl, and a cheaper, simpler, more popular solution would be needed to replace it in due course. As a short term measure the 914-4 drivetrain was used in the 911 bodyshell to create the 912E until the launch of the 924 later that year – a car which was never intended to wear dual branding and whose market position was always set to be more clear cut.

In 1991, Porsche began to give consideration to the forthcoming 968's replacement. The company's fortunes were fading as the cash conscious 1980s drew to a close – Porsche sales slumped by two thirds in barely seven years, and bankruptcy was only just around the corner if something clever couldn't be done. It was clear that the transaxle layout and shell of the 968 were still related to the 924 of twenty years earlier, and this couldn't be extended indefinitely – a new car had to be developed with as minimal budget and high a profit potential as possible. The Mazda MX-5 had proven that the market was returning to the simple small open sports car – something Porsche







had historically done well, and a market it hadn't occupied since the end of 914 production in 1976. As with that car, a mid-engined layout seemed like a wise move, and the shape was planned to evoke the marque's racing heyday. Of four prototypes, the most popular was one inspired by the 550 Spyder and the 356 Speedster of the 1950s – a gently retro take on the Porsche theme which became a concept car for the 1993 North American International Motor Show.

Porsche knew that the trick for sales was to build the car that the market

wanted as inexpensively as possible, but as a low volume manufacturer with several different model ranges on the market this had long proved tricky. The 968, 928 and 911, after all, shared little beyond the badge. Porsche consulted Toyota in a bid to ensure that it could produce the Boxster efficiently and cheaply enough to ensure it remained competitive, and the advice was to share as many parts as possible across a wider range. The Boxster was already set to get a water-cooled flat six – this engine would subsequently be fitted to the 996 911

too. The dashboard and front panels would be shared across the two cars, with the differences predominantly aft of the A pillar. This would allow for economies of manufacturing scale, as well as a relatively inexpensive after sales support network given the need to stock fewer low volume parts. Toyota also implemented a just-in-time system in order to minimise waste by producing exactly what was needed when it was needed. The results were astounding – Porsche claimed that the build time per car had dropped from 120hrs to 72hrs, and the rate of errors had halved.





#### CONCLUSION

Like the 914, the base model evolved over time (The 914 grew from 1.7 to 2.0, the Boxster from 2.5 to 2.7), and like the 914, there was a more powerful variant (The 914-6 was mirrored in the Boxster S). So why did the Boxster revive Porsche to the point where Boxsters are still in production 25 years later, where the 914 project foundered? The politics at play must have had an impact, as

must the costings. The 914 project may have sold well by Porsche standards of the time, but the fact remains that the failed Volkswagen deal meant that the manufacturing costs were vastly in excess of what was projected, and so was the list price as a result. The Boxster on the other hand, was properly cost assessed and savings were made in the right areas to ensure the product remained a Porsche, yet one which could be manufactured to a

tight budget.

The lack of brand confusion also worked in the Boxster's favour, when compared to the Volkswagen-Porsche 914. Was the car a VW or a Porsche? Was it engine dependent? Some markets had clarity, but the Volkswagen hubcaps of the 914-4 and Porsche branding of the 914-6 certainly didn't make things easy. Some people felt the four cylinder an expensive Volkswagen, while the supposedly cheap





914-6 by Porsche standards wasn't so. Crucially, was the shift to a more conventional family of coupes the right move for Volkswagen to instigate and Porsche to follow during the intervening years? In the mid 1970s, certainly. America's fears over convertible safety meant that a hard roof was vital given the importance of the American market for both companies, and the ease of servicing and maintenance made the

924 a better bet for more people. The 924 was the car that Porsche needed at the time, if it was to expand – and the lack of joint branding made for a more coherent marketing strategy than Porsche had enjoyed with the previous 914. The evolution of the family gave Porsche one of the best chassis in the world at the time, but one which by the mid 1990s could realistically be developed no further. The 968's replacement had to be an open

sports car because that's where the market was shifting as a whole, and if Porsche wanted its share of the market then an open sports car was the recipe it needed to do so.

Would a continuation of the 968 have helped Porsche's finances in the same way? We doubt it. But equally it was the success of the 924, 944 and 968 that ensured Porsche remained in business for long enough to develop and launch it. ■





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# MASS MARKET

For so long the entry-level Porsche, the 924's wide appeal has made it a card-carrying classic.

WORDS AND IMAGES: SAM SKELTON

As we've seen, the Volkswagen-Porsche 914 suffered during its production run from an image that wasn't clearly defined. Was it a VW? Was it a Porsche? It was felt too pricey for the former and too heavily influenced to be the latter – especially given it replaced the Type 34 Karmann-Ghia. The next joint venture had to be better-marketed, and owing to internal politics which we've discussed elsewhere the 924

was launched solely wearing the Porsche shields.

Under the bonnet lay the EA831 engine, an Audi unit inherited during the NSU takeover and developed for use in the Audi 100. Let's get the pub expert fact out of the way here and now – yes, the fact Audi used its engine longitudinally made the motor perfect for use (briefly) in the Volkswagen LT van, given its front engine rear-drive layout. But no, it's not a

van engine, the LT had it after the Audi, and it's arguably fairer to say the LT used a Porsche engine. In any case, remember that the block of the Sierra Cosworth's YB, a Pinto block, could also be found in the Transit... In America, the EA831 also found its way into the AMC Concord. In the Porsche, it not only had a unique crossflow cylinder head design but was fuel injected and capable of 123bhp and 121 lbs-ft. of torque.



Inside you got 911 seats, but minor controls borrowed from the Volkswagen parts bin. There was theoretically space for four, though four adults would have to be small to find comfort in truth. The suspension system was now dissimilar to that of the VW Super Beetle, courtesy of Porsche's design plans to share as much componentry as possible when the car was to be a joint project. That meant MacPherson struts at the front, with semi-trailing arms at the rear. Unlike many parts bin cars it was a successful recipe, though not one that met with Porsche fans' enthusiasm at first. The then head of Porsche PR launched the 924 at the Weekend of the Year event in Bournemouth in October 1976, to general disappointment from 911 owners adamant that this car wasn't a proper Porsche. But 911 owners weren't buying 911s in 1975 and 1976, and this new offering opened up a new market for Porsche in the UK. Visitors to

the 1976 Earls Court Motor Show were more positive, though the motoring press were lukewarm.

CAR magazine didn't like the 924 at first. And it wasn't alone. British motorists' overwhelming feeling was that the 924 was a B-minus effort not only because it wasn't originally developed as a Porsche, but because by Stuttgart standards, the fit and finish were decidedly lacking. By 1981 this had been rectified, and cars like our 1983 test-car are very much up to scratch. The magazine also reported that what it had perceived as a thrashy engine at first had been quietened, though was still more raucous than rivals' six-cylinder powerplants. The fact Porsche froze prices in 1978 and hadn't raised them three years later certainly helped the car's popularity on the British market, as the 924's rivals became more expensive.

Contemporary testers liked the driving position – the only one of its rivals to

offer more than enough space for six-footers with the only complaint reserved for the low-set and non-adjustable steering wheel. The chassis came in for near-universal praise owing to its poise, though the engine was still felt to be behind its rivals in terms of overall refinement. The gearchange was singled out for praise in particular; "in a class of its own" according to CAR.

While contemporary testers may have been mixed in their praise, the 924 has always been lauded by the classic press. Initially it was praised as an excellent cut price entry into Porsche ownership; more recently as an astoundingly capable 1970s-1980s coupe in its own right. There's a delicacy to its design which means that the 924 almost transcends eras – it doesn't have the dated look of a 1970s design, nor does it have the macho brutality that 944 embodied for the following decade. It's soft and delicate, simple and timeless as





a result. There's a clear family tie to the bigger 928, but equally, it doesn't look like a budget 928 replica. It's one of the decade's most successful automotive shapes and one which rightly endured in production for twenty years with minimal change as a result.

The Guards Red 924 Lux we're driving belongs to club events co-ordinator Ed Myland. It came from new with several options, including Turbo style alloy wheels, rear mudguards, an alloy undertray and a Porsche Exclusive Blaupunkt radio setup. Almost

£4000 was added to its list price of £10,879 as a result; this car retailing for £14,567. In 1983, a Ford Capri 2.8i could be had for £8653; the Opel Manta GT/E cost barely £7000, the Audi Coupe 2.2 was £9808 while a 944 Lux without options was available for £14,969.

Settle into the seat, and for those over six feet tall, it's a revelation. CAR was right; there's room aplenty which seems odd for a low sports car. Moreover, it's suitable for those carrying extra weight too. There's clear visibility in

all directions, the controls fall nicely to hand, and the low steering wheel is the only thing we'd want to change. That steering wheel has an odd effect too, whether optical illusion or truth we couldn't quite determine but it feels as if the steering wheel is raked slightly in the opposite way to the norm – that is, with the top closer to the drive than the bottom. The smaller controls come from the Golf, yes – but then, these days the Bentley Continental GT can claim the same thing so we can't argue Golf bits are a bad thing.







Humble in origin perhaps, but this engine helps to make the 924 a flawless GT package.



#### 1983 PORSCHE 924

ENGINE	1984cc/4-cyl/OHC
BHP	123bhp
TORQUE	121lb.ft
0-60	9.5sec
MAX SPEED	124mph
ECONOMY	32mpg

Compared to period four-cylinder rivals, the engine isn't as harsh as motoring journalists of the past suggest. Sure, it's no six-cylinder unit, but those expecting something like a B-series will be pleasantly surprised. Yes, it's throaty, but this is supposed to be a sporting experience, and a quiet engine would spoil that. The gearbox is an absolute peach, short throw, narrow gate, and a pleasing diagonal motion moving up the box rather than the dog leg you expect if you're coming from British alternatives. Unlike other period transaxle cars like the Alfa Romeo GTV, it feels really nicely connected, and every change is a joy. There's plenty of torque from the engine too – we're told that it gives its best power right at the top of the rev band, but we felt that the engine characteristics better suited a grand touring style of driving. Yes, you might be doing almost 4000rpm at 70mph, but the noise certainly isn't intrusive, and the overall feel is of a very long-legged cruiser. In terms of refinement, it could almost be a 1980s executive car – and the ride supports that. It truly is



surprisingly good for something marketed as a sports car and could teach saloons of the last fifteen years some lessons in comfort.

When you throw it into corners though, you realise that to label the 924 a GT car is to tell barely half of the story. Knock it down a couple of gears and watch that

tachometer spin clockwise around the lower half of the gauge, chuck the 924 into a bend and put the power on to come out of the other side and you realise that the balance – that 48-52 weight distribution – is perfect, there's plenty of grip owing to the weight over the rear axle and the slight hint of understeer feels

# TEST DRIVE PORSCHE 924



Lux-spec steering wheel smaller than standard.

911 seats are comfortable and supportive.

dialled in for safety's sake rather than an unfortunate side effect of a chassis which can't handle the weight of its engine. Our test car's steering is perhaps a shade weightier than we'd like at low speeds, but as a Lux, this car has a smaller four-spoke steering wheel than the standard three-spoke item. Base 924s may have lighter steering, but given the wheel's

position, we think the extra comfort afforded by the Lux is worth the trade-off.

It won't appeal to the same people as a Capri V6, for instance – and we can understand why many Britons chose to save the £1500 or so over a base 924 and take the extra cylinders of Dagenham's finest. But while they might consider themselves the clever money, the

truth is that the sheer poise of the Porsche puts it into a wholly different league.

Ed reckons that on a run 38mpg is achievable and that in regular use 30mpg is easy to achieve. Service items shouldn't be too expensive either, and classic car insurance makes the 924 a cheap enough classic to run. Porsche's galvanisation meant that they could offer





a seven-year anti-corrosion warranty, and even now it's rare to find a genuinely rotten 924. That makes it a rare machine; a comfortable classic coupe with street cred that could easily be used every day with a little care. And the days of these cars being £500 street corner bargains are over – you may need to spend considerably more to buy one now, but they're not going to depreciate.

If anything, they'll appreciate in value as the years pass, making it every bit as wise – and far more fun – than putting your hard-earned cash in the bank. It's not so much a case of whether you can afford to buy a 924 – more a matter of whether you can afford not to.

Period rivals included the Alfa Romeo GTV6, Mazda RX-7 and Ford Capri V6. It's important to note that period

road testers didn't consider cars like the 2.0 Capri as rivals because neither in price nor in acceleration did they come anywhere close to the Porsche. An Opel Manta GT/E might give the same rush these days for a similar price and with a similar Germanic feel. Still, Porsche trumps Opel in terms of brand desirability and few buyers in period would have considered the two as rivals. ■



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# 944 S2

(1989-1991)



Offering the simplicity and grunt of a large displacement inline-four with the added benefit of Turbo styling... WORDS DAN FURR PHOTOGRAPHY MATT WOODS

**L**aunched in 1982 as a purely Porsche project following the joint Volkswagen-Porsche parentage of the 924, the wide quartered 944 not only inherited its basic shape and styling from the older car, but also much of its interior trim. Anybody stepping into the new Porsche's cabin space, for example, would have noted the decidedly dated presence of the 924's square dashboard and dials. Porsche would get around to updating the 944's cockpit and exterior styling for the launch of 1986's 944 Turbo, when forced induction was joined by a redesigned front end and a beautifully presented 'oval' dash.

Drivers of naturally aspirated 944s would have to wait a further three years for these age-defying features to be rolled out across the range, at which point, engines free of forced induction were boosted to three-litres of displacement. The launch model's 2.5-litre inline-four was briefly enlarged to 2.7-litres prior to the rollout of the

three-litre lump, which arrived with a new model designation: 944 S2.

At first glance, this new breed of 944 looked exactly like the Turbo. Power wasn't far off, either. Where the Turbo kicked out close to 220bhp (an updated Turbo in 1988 added an extra thirty ponies) from its eight-valve beating heart, the S2 produced 208bhp from what was the world's largest four-cylinder production engine. The S2 also received an updated transmission better suited to the demands of the torquey three-litre unit, which helped the Turbo-kitted new arrival to reach 62mph from rest in just 6.8 seconds, topping out at 150mph. Helping to keep power planted was a sporty suspension package with a desirable cost-option limited-slip differential. Flat-faced Design 90 alloys were fitted as standard equipment.

The S2 introduced a cabriolet to the 944 line-up for the first time, though coupes outsold drop-tops by a ratio of almost three to one. S2 sales on the

whole, however, were good, with almost twenty thousand units shifted worldwide in the two years preceding the arrival of the 944's successor, the 968, in 1991. This was exactly the injection of cash Porsche needed at a time when the company was in serious financial difficulty.

## **SELDOM SEEN STAR**

Prior to the launch of the S2 Cabriolet, sixteen prototypes were produced. These concept drop-tops are now recognised as among the rarest Porsches built.

Such high volume production means you won't have trouble getting hold of a 944 S2 to call your own today. Furthermore, a wide range of paint colours and interior finishes were available to Porsche customers when the model was being offered in main dealer showrooms, meaning not only are there plenty of available S2s currently waiting for a new home, you can be choosy about the look of the Porsche you're



thinking about buying. Flick through the following pages for an overview of what you should be aware of before arranging a test drive.

### **ENGINE**

944 S2s make use of the M44/41 front-mounted, water-cooled, three-litre, DOHC, sixteen-valve inline-four, an engine delivering 207lb-ft torque. Well maintained examples with average mileage should provide plenty of hassle-free motoring, but make sure you check the vehicle's paperwork for documentation supporting claims of renewed timing belts and tensioners, which should be changed every 48k miles or five years (whichever is soonest).

The belt drives only the exhaust camshaft. The inlet camshaft is driven by

a chain linked to the exhaust camshaft. Problems don't tend to occur with the chain (although it can wear), more so the plastic tensioner supporting it, which can become brittle with age, cracking and causing the chain to slip free. The resulting damage is much the same as if the rubber belt snapped — a seriously compromised valvetrain. Regardless of what the seller tells you, it's best practice to change the chain and its tensioner at the same time as belt intervals. If the car you're looking at hasn't had this work done, consider it to be living on borrowed time and factor the cost of remedial work into the price you're prepared to pay.

While we're on the subject of belts, there's a toothed belt running between the balance shafts and the crankshaft.

Again, this is another serviceable component. Failure will result in a lumpy-running engine, so replace all belts at the same time.

### **HISTORY**

Make sure you paw through all documentation supporting claims of servicing and maintenance in accordance with Porsche's recommended intervals. Demand to see receipts or invoices proving the seller's suggestion of repair work and replacement parts. Be wary of any unexplained periods of the S2 you're looking at being off the road. If in doubt, have a full inspection carried out by a marque specialist. If you're in an owner's club, check to see if this is a service you can take advantage of as a benefit of membership.



Cabriolet roofs were available in a range of colours, though blue canvas to match blue interiors was a popular option, especially on white cars.

Enter the 944 in question's details into the DVLA's online vehicle enquiry service (visit [bit.ly/dvlaenquiry](http://bit.ly/dvlaenquiry)). It's free to use and will give you key information about the Porsche you're looking at. Additionally, take a few minutes to view information held on the DVLA's excellent MOT history database ([bit.ly/dvlamot](http://bit.ly/dvlamot)). Another free service, it'll provide you with information relating to all passes, fails, advisories and mileage at the time of each test. Check to make sure the details match what's on the car's accompanying paperwork. Don't be afraid to ask questions.



**Check all drive belts, and renew if necessary.**



### DAMP DOWN

The battery is stored in a hidden compartment in the boot space. A corresponding cubby hole sits at the opposite side of the car. Lift the load area's carpet and check to make sure no corrosion has set in through a failed rubber hatch seal.

### BODYWORK

Regardless of trim, 944s like to rust. Check along the sills (both inner and outer sills are known problem areas for these cars) and behind plastic trim. Examine wing bottoms, door bottoms, have a poke inside wheel arches, along the boot floor and the bottoms of rear quarters. Look around the windscreen for signs of a compromised seal or bubbling paintwork. Similarly, have a good look at the sunroof seal, if applicable. Even the youngest S2 is getting on for thirty years old, so these rubber gaskets might not be performing as well as they once did. Fortunately, replacement parts are cheap and easy to come by from independent retailers.

Cabriolet roofs were available in a range of colours, though blue canvas to match blue interiors was a popular option, especially on white cars. The fabric may have faded with time and prolonged exposure to UV rays. Recolouring and

repair kits are available from soft-top restoration specialist, Renovo, but if DIY isn't your thing, speak to a specialist (such as Simon Walters at Cambridge Concours) who can carry out the required remedial work for you.

Lift the boot carpet where it raises against the back panel around the top of the spare wheel. You should discover a factory-applied paper sticker outlining all of the car's original equipment. If the sticker is missing, examine paperwork to see if there's any evidence of a rear end shunt and subsequent repair work.

All 944s suffer corrosion around the lip of the front panel, where it meets the top of the bumper. This area is a magnet for stone chips, so look closely.

### BRAKES, SUSPENSION AND GEARBOX

944 transmissions don't tend to throw up problems, although it pays to listen out for whining noises, which might suggest bearings need to be replaced. Replacement parts are available at low cost from Heritage Parts Centre and Design 911. The same fault might also be encouraging the gearbox to sweat transmission fluid, so get on all fours and have a good look beneath the S2 you're pawing over.

Higher mileage cars may be in need of a replacement clutch, so be sure to observe how easy your prospective purchase is to get in and out of gear, as well as how smooth shifting is while on the move. The same age/mileage condition also affects the effectiveness of suspension components. With this in mind, pay special attention to how the car behaves when driven over sleeping policemen or bumps in the road. Any knocking sound or vibration felt through the chassis or steering wheel indicates bushes are past their best. You can opt for OEM replacement parts or 'fit and forget' polyurethane bushes from Powerflex. Worn engine mounts may produce the same complaint.

S2 aluminium brakes are good, though old pads and tired backing plates can cause calipers to stick. Again, the 944's popularity means all parts are readily available. 944 maintenance specialist, Retro Restorer, is on hand to carry out all your S2 servicing, mechanical and bodywork repairs.

### ELECTRICS

Hey, you! What's that sound? Not the original stereo system, that's for sure. It's highly probable the factory head unit





has been replaced with an aftermarket 1990s CD player and standard speakers are long gone. Check to make sure the door cards haven't been butchered in the process. Also evaluate all in-car electrical systems, including seat movement, switchgear, heater controls and the effectiveness of air-conditioning. Extend your testing to electric window operation, exterior mirrors, central locking and, importantly, remote hatch unlocking. If the lid doesn't pop up, the fault might be a duff solenoid, but the catch itself might have come unfastened, requiring you to climb into the boot via the rear seats in order to open manually.

### STOCKS AND SHARES

Unless the fabric in your S2 is especially rare, a replacement interior might prove more cost effective than repairs. Speak to 944 breakers, including Woolie's Workshop, about their current stock.

### INTERIOR

It's the 1980s! Why go for boring old black, brown or Linen leather when you can have, er, indigo. Pop on your Ray Bans, comb your mullet and get ready to drive all the way to Rumbelows for an Amstrad hi-fi. In fact, why not buy a ZX Spectrum while you're there, such is the generous luggage space you've got at your disposal in a 944 S2.

We've said it before and we'll say it again: Porsche's transaxle range of cars offers a superb balance of practicality and performance. The huge hatch at the rear of an S2 coupe is more than big enough to carry your suitcases on holiday, while the hardwearing seats and door furniture up front will withstand plenty of abuse, although we advise you to check side bolsters for signs of wear where previous owners may have dragged their jeans in and out of the seats.

Fabric seat centres were often optioned with Porsche script displayed across them. This material can become worn and discoloured without proper care. It's also expensive to replace. ■



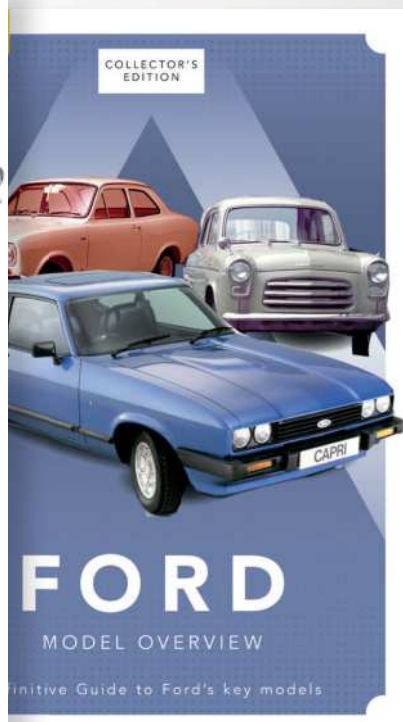
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# HEART TRANSPLANT

Porsche fans looked down their noses at the VW-derived 924 but it saved the company and in Porsche-powered 'S' form was transformed into a credible performer. WORDS: PAUL WAGER PICS: MICHAEL WHITESTONE

**T**here's always one. "Not a proper Porsche though is it?" commented a passing van driver as we were photographing the 924S in this feature. At times like this you want a portable version of the hooter and big flashing words from TV's QI show: for the Porsche 924 is very much a proper Porsche in every way. The link with Volkswagen is the key and just as the 924 was designed in collaboration with VW using its extensive parts bins, so were the very first Porsche cars produced

using the design Dr Porsche had worked up for the Beetle, using essentially Beetle components. That first Porsche-badged car led to the 356, which in turn gave us the 911 and the association continued until the Porsche and Volkswagen companies eventually merged in 2012.

The 924 range also has a vital significance for Porsche in that it was the car which rescued it from financial uncertainty in the '70s and ensured its long-term survival. Having relied essentially on a single model – the 911

– for decades, Porsche was in some difficulty as the '70s dawned and was desperate to widen its product range. That goal had begun with the 928 but the big V8 coupe was a shock to buyers of the air-cooled, old-school 911 and its avantgarde styling wasn't an immediate success.

Meanwhile, historically close links between the two firms meant that Porsche had for a long time been carrying out the bulk of Volkswagen's R&D efforts and was already working



on a proposed VW/Audi coupe. The brief required the use of one of the firm's existing engines which in practice meant the 2-litre EA831 four-cylinder as found in the Audi 100 and being Porsche they couldn't resist putting at least part of the powertrain in the back - in this case the gearbox and differential 'transaxle' unit in the interests of weight balance.

With the 2-litre Audi motor inclined Triumph-style at 40 degrees, Harm Lagaay was able to give his design a low bonnet line complete with pop-up headlamps and the result was a sleek, elegant coupe a world away from the angular 914 or the Beetle-esque 911.

Perhaps best of all, the extensive use of Volkswagen parts made it cheap to manufacture and the car was all set to become a range-topping VW or Audi when plans changed. Encouraged by the early '70s oil crisis and by the success of the new Golf, VW management took the decision to can the Porsche design

and go with the cheaper Golf-derived Scirocco coupe.

All of which worked in Porsche's favour. With the similarly VW-derived 914 at the end of its shelf life, Porsche struck a deal to buy back the design and have it produced at one of VW's under-utilised plants, the NSU factory in Neckarsulm. The deal worked out well for everyone concerned: Volkswagen was in pretty dire financial straits at the time and the revenue from producing the car for Porsche was welcomed, while Porsche gained a successor to the 914 range without the development time or investment required to come up with a design from scratch.

A peculiarity resulting from the unusual development process was the way the car was launched: rather than a concept car teaser at a series of motor shows before unveiling the production-ready item, the Porsche 924 was simply unveiled with a press launch in

November 1975.

By Porsche standards the 924 was an affordable proposition and helped by its practical four-seater hatchback layout was a success for the firm. Despite being hobbled by power-sapping emissions kit which reduced power to 95 bhp and performance to embarrassing levels, the 924 was a success in the important US market too.

The introduction of the 924 Turbo in 1978 addressed the performance issue by upping the game to 170 bhp thanks to a KKK blower and a redesigned cylinder head for the Audi engine. For this range-topping model Porsche moved further away from the basic VW design by fitting uprated suspension, discs all round, five-stud hubs and a five-speed gearbox. The early cars gained a reputation for being unreliable but a series 2 model from 1979 refined the design with a smaller turbo and produced a more reliable 177 bhp. At



last the sleek coupe had the pace to keep up with the lower end of the 911 range but the Turbo was an expensive proposition and not for everyone.

In 1982 the 924 evolved into the 944, built on the same platform but with aggressive wide-arched styling and Porsche's own 2.5-litre four-cylinder engine in place of the Audi unit. The 924 carried on as the entry-level model until VW's decision to cease production of the EA831 engine in 1984 left it with a problem. The solution was to fit the Porsche engine to the 924 in suitably detuned form in which guise it became the 924S. Running a lower compression ratio than the 944 unit allowed the 924S to use 95-octane fuel rather than the 97 RON of the 944 which wasn't a big deal in 1986 but is now something of a bonus.

With 150 bhp at 5800 rpm and 144 lbf.ft at 3000 rpm the 924S was almost as fast cross-country as the peaky 924 Turbo and in the eyes of many was the car the 924 should always have been. For the 1988 model year the S was updated to 160 bhp and with its

lighter weight was a match for the basic 944, but with Porsche now back in profitability the need for an entry-level model was no longer so crucial and the 924 was finally axed in the same year.

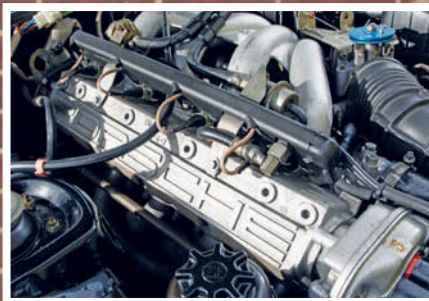
It's the 924S which we're driving here and although I'm pretty familiar with the 924 having driven, worked on and even crashed in them over the years, I've had less experience of the 924 S and it's intriguing to see how Porsche subtly updated the design over the years.

As you can see from its D-registration, the car here is a 1986 example of the breed and so runs the 150 bhp version of the 2.5-litre Porsche motor. For sale at Oxfordshire dealer Attington Classics at the time of test, it's a nice example of what is now a pretty rare car. Although the 924 was a cheap car by Porsche standards it was still expensive compared to the competition and although a steady seller here in the UK was never exactly shifted in Golf numbers. The cooking 924 with the Audi engine is a cheap car to run but the Porsche-engined S was in another league if engine problems occurred and

as a result they just haven't survived in huge numbers.

Which is a great shame: for any fan of '80s performance cars the 924's sleek lines, the curving glass hatch and the inviting interior all add up to something much more exotic than a Golf GTI or BMW 3-Series.

Squeeze the Mk1 Golf handle to open the door and you drop down into the high-backed seat with the high central tunnel and its stubby lever giving you a real sports car feel. If you know your '80s VWs then you'll notice familiar shapes all around: the ignition key is a VW item with a Porsche plastic grip in place of the VW roundel, the heater controls are Mk1 Golf and so is most of the switchgear, while the column stalks are the same as you'll find in a contemporary Polo and the auxiliary gauges are the same as you'll find in a Mk1 GTI. None of which is a bad thing – even back then VW was noted for the quality of its interiors and with the sculpted dashboard and the race-style rev counter (it starts its sweep from 3 o'clock) it feels like a special place to be.



Twist that VW key and the Bosch-injected 2.5-litre fires immediately and settles to a slightly lumpy idle. The all-alloy Porsche engine owes nothing to the older iron-blocked Audi design and was allegedly conceived as half of the 928's 5-litre V8. Taking a four-pot engine up to 2.5 litres does create refinement issues though which is why Porsche adopted a pair of belt-driven balancer

shafts to smooth things out. The result doesn't mask the fact that it's a four-cylinder engine but does give it a much more sporting nature than you might expect from a big-capacity four and feels smoother at higher revs than it does at traffic speeds.

It's a muscular unit and the 924S feels a lot more lively from a standstill than the basic 924, with the gearshift

a nice precise action compared to the often rubbery action in similar transaxle layouts from Alfa Romeo for example.

The result of siting the gearbox at the rear was a 48/52 front/rear weight bias which gives the 924 very balanced handling and also places a useful amount of weight over the driven wheels to enhance traction – not such an issue with a feeble US-spec 924 automatic





admittedly but a handy feature in the 924 S and certainly in the later 944 Turbo.

As with most modern cars, in standard form the 924 is set up to tend towards mild understeer but the semi-trailing arm rear gives it behaviour similar to an '80s BMW where abrupt lift-off mid-corner will see the tail squirm round. We didn't drive this pristine example far or fast enough to examine its handling but previous track forays in these cars have shown us that they can be pretty nimble as long as you remain decisive with your inputs. Back in the day, Autocar's road testers criticised

the car for being too soft but this was in many ways missing the point – the 924S was aimed at buyers seeking a fast GT style car rather than a hardcore performance weapon in the mould of the 911.

In this respect it succeeded – on the road the S feels like a much more developed car than the basic 924 and a very much more grown-up proposition than any of the '80s hot hatches. Mind you, it needed to be to justify its price tag: back in 1987 a 924S was listed at £19,222 when a VW Scirocco GTX was £11,298 and even the five-cylinder, four-wheel-drive Audi Coupe quattro just

£17,645. In fact this example retailed at £21,000 with options including the power steering.

On the other hand, it was a hefty £4300 cheaper than the basic 944 Lux which was barely any faster than the 924S. In fact at the price level of the Porsche a fully optioned BMW 325i Sport (£17,495) was probably the closest competition but none of these quite offer the mix of attributes the 924S does – the exotic badge, the sports car handling, elegant coupe styling and solid build quality which means you can use it every day. A proper Porsche? It would seem so. ■



The 924S used a detuned 944 engine, not the earlier EA831.



Interior similar to contemporary 944 model, though with different trim.





# LAST STAND



The final evolution of the 924/944 line, the 968 was the last gasp of the front-engined Porsche sports car. WORDS: MATT BELL PHOTOGRAPHY: MATT WOODS

**W**hen you think front-engined rear-wheel drive Porsches you think 928 and 944. The 968 seems to escape the minds of the majority of petrol heads but not Porsche enthusiasts. The body is almost identical to the 944 but incorporates the pop-up lights from the 928 (visible, rather than covered like on the 944). Those that do know about the 968 will probably allude to the Club Sport variant as well, the all-guns-blazing, bared-back car. As a result, the 968 Sport can be regarded as a forgotten classic that deserves praise in its own right, separate to its predecessors and Club Sport model.

## HISTORY

The 968 is essentially the successor to the 944, featuring the same iconic front engine, rear-wheel drive layout. The 968 retains the earlier cars' rear transaxle giving it almost perfect weight distribution, which helps to explain why the car feels so well planted in the corners. Porsche Guards Red compliments the low nose and the wider wheel arches helping to push the eyeline towards the rear of the car for a sleek and muscular look.

The change of pop-up headlights from covered to open helped to bring the car more in line with the original

928 and in turn the 964 911, 993 911 and then the newer 996 911. The front end became synonymous with the rest of the Porsche line-up, although the 911's headlights were fixed.

The interior remained much the same as the 944. The oval dash remained in place as well as the all-leather seats. The materials used are again very similar to its predecessor, which is a good thing as they've been praised with being robust and durable passing the test of time. Which is true, this 1994 968 pictured has covered 79,000 miles yet its interior is neat. The only criticism for this particular example is the seat



**The UK-only Sport shared its drivetrain with the Club Sport, yet offers a greater degree of luxury. 306 were built.**

bolsters on the driver's seat have become cracked and worn; we would look to have this retrimmed to match the rest of the interior.

The great thing about the UK-only Sport variant is that it's essentially a Club Sport with added luxuries and more than half the price in today's market. In fact, it was in 1994 and early 1995 that Porsche GB ordered 306 Club Sport cars for import. On order, Porsche GB branch specced the cars with the luxury package option as well as the removal of the rear 968 CS badge. As a result, Porsche Germany still listed the cars as Club Sports, even down to their Certificates of Authenticity. The Sport badge was subsequently added to the rear (specifically a UK-only label), which has led to some

confusion today as to the car's identity; many of them are wrongly labelled as standard 968s, which feature slower performance specifications.

The power remained the same, nonetheless. The actual differences in weight are most likely limited due to luxuries being added back in, such as a rear bench and leather seats; however, the reworked chassis helps to improve the characteristics over the standard car.

#### ENGINE

The engine is a very sophisticated version of the four-cylinder, 3-litre, 16 valve unit first used on the Porsche 944 S2. The 968 was heralded as the first to use Porsche's VarioCam variable intake camshaft control for optimum power

throughout the rev range. Improved combustion chamber and inlet manifold design gave the engine an extra 20hp poke, bringing the total up to 240 bhp at 6200 rpm and 225lb.ft of torque at 4100rpm. At the time of production the engine had the highest displacement per cylinder of any car engine and also the highest torque output of any unblown 3-litre engine – quite some achievement. Clearly Porsche had invested massive development on this engine which shows in its results. As with previous engines, twin balancer shafts keep vibration and noise down to more than acceptable levels.

The rear-mounted gearbox is a six-speed manual or a four-speed Tiptronic, the first ever on a Porsche production car.



ROAD TEST:  
**PORSCHE 968**



The Tiptronic utilises the research and development done jointly by Porsche and Bosch to manufacture a unit that combines the best qualities of a manual gearbox for the open road with the best qualities of an automatic gearbox for town driving.

Steering wheel mounted paddles allow gears to be selected manually by the driver without the operation of a clutch pedal. We would argue that the manual box is much better as the Tiptronic boxes of this era can act a

little lazy, being essentially a regular automatic. The gearchange on the six-speed is magnificent and gives a glorious satisfaction when pressing on.

The chassis is a delight with a near-on perfect weight distribution and very stiff characteristics helped by the torque tube connecting the engine to the gearbox, aiding rigidity. The 968 benefited from the 911 parts bin, too, which helped its driving dynamics. All-round independent suspension, MacPherson struts up front with semi trailing aluminium arms at

the rear using torsion bar springs and separate dampers add to the cornering abilities of the 968.

Porsche brakes have always been the envy of most road sports car manufacturers, as this is usually where sports cars start to fail; no matter how fast they are in a straight line if you can't take a bend at the right safe speed then you can't use the car's speed. The 968 carried forward this important philosophy with little or no discernible fatigue even under harsh use. Self-





ventilating discs, open ventilation alloy wheels and a study of the air flow around the discs contributed to more than adequate cooling and so minimal fatigue and brake fade.

Of course, on the road you're never going to trouble a set of brakes for fading, but this is important for track use and even more-so on the Sport and Club Sport models, given its lenience towards track use. ABS adds even more safety to the already excellent braking system.

### OWNING ONE

Luckily for Porsche owners, Porsche has parts readily available for most classic vehicles. All parts can be found in an official 968 parts document easily accessible via its website, listing part numbers and sometimes cost.

The introduction of 3D printing has

also enabled previously unavailable Porsche parts to become available; using modern technology to continue the life cycle of classic cars, we can't think of anything better.

As we've mentioned previously, much of the 968 is taken over from the 944, or is at the very least a development of it, even though Porsche claimed that 80 per cent of it was new. This is a benefit for potential 968 owners as the number of 944s on the road is much more substantial than 968s and there are plenty of cars being stripped for parts on sale. The other benefit of it being very similar to the 944 is that Porsche made every effort to fix the common problems for the 968; as a result, you're getting a car that's right at the end of its production life-cycle and therefore suffers less from the common problems.

To buy one, potential owners should realistically budget anything from £15,000 upwards. The rarity of the 968 has driven prices higher, particularly in comparison to 944s that can be had for less than £10,000. That being said, owners who have made the switch from 944 to 968 have praised the 968's abilities and concluded the jump was worth it, particularly when considering its rarity. This particular model that we drove was for sale with Purser & Luxford for £26,995.

For potential owners, the 968 Owners Club ([www.968uk.com](http://www.968uk.com)) is active and has affiliation with Porsche Club GB, both of which will have a wealth of information to put minds at rest. You'll also meet like-minded people with enthusiasm towards the 968, who plan out regular drives and meets.



Luxury Pack option fitted to UK Sports returned the standard 968's trim options. These cars are still officially Club Sports, though.

ROAD TEST:  
**PORSCHE 968**





weight across the car, despite being front-engined. It would appear upon inspection that the long nose would contribute to a heavy front end that droops under braking.

However, when you lift the bonnet you'll notice just how far back the engine is placed; it's almost front-mid-engine in its layout. The low nose accentuates the length of the bonnet to give it the GT appearance; in some ways it complements the rest of the car. If you look closely from the front towards the back, the lines push your eye-line naturally towards the rear.

Today, 240 bhp isn't a particularly strong figure, but given there are very few occasions you can actually use the full amount of power, 240 bhp is more than enough to enjoy yourself without breaking the law, crucially. Performance feels strong in the 968 though, to the point where you never feel like it ultimately needs a bucket load more power. The power band is progressive throughout the entire rev range thanks to its VarioCam camshaft and a healthy 225lb.ft of torque and the throttle response is textbook without the intrusion of a turbo. Gearing ratios in first and second are fairly short which help it with acceleration while third feels much longer by comparison.

I found myself using third gear for most corners because of the length of it, with fourth and above for longer straights and sixth for cruising. The six-speed is welcomed as in fifth at 70mph you're creeping towards the 3000 rpm mark, where sixth brings the revs back down to a healthier 2000ish, helping with economy.

The ride is somewhat compromised with stiffer suspension to aid cornering; however, when you do attack the

corners it all fits together nicely. Again, it's not as sharp as a 911, but it does a good job of bridging the gap between GT and sports car. In fact, it balances the two very nicely and, arguably, the compromises in performance are more than made up in practicality, which compromises the 911. You could go as far as to say that it's the perfect balance between the two.

As I pieced together quiet B-roads, the car brought out another personality that I'd not experienced when carefully driving it through its warm-up cycle. It wanted to press on and felt very comfortable doing so. It felt as light as a hot-hatch while being much more capable in between the corners. Like I mentioned before, 240 bhp is more than enough to experience foot-to-the-floor driving without the risk of exceeding the speed limit.

Press on the brakes on arrival at the corner and dip the throttle down the gears and changes slot into place beautifully. The synchro is delightful in this and will leave you wanting to continue pressing on.

## VERDICT

As a modern classic the rarity, performance and the practicality of the 968 Sport are all plus points in its arsenal. The cost can put off potential owners who want the shape of the front-engine, rear-wheel drive Porsches, but the differences in performance and ability bridge the gap between this and the much cheaper 944s. Given it's the last of the front-engined rear-wheel drive sports cars from Porsche and you can bag yourself a pretty piece of Porsche history. Look at the 968 as a cut-throat 911 with added practicality and you'll immediately look at it as a brilliant buy. ■

## DRIVING THEM

The 968 Sport we drove was built in 1994 and had covered 79,000 miles. As mentioned above, the Sport variant is essentially a Club Sport but with luxuries, which tells when driving. The 968 feels unmistakably Porsche in the way it drives. In fact, it's not all that dissimilar to a 993 911 of the same era. The 993 is sharper and ultimately quicker, but the dynamics are very similar. Porsche had done a great job at balancing the



# BOOSTING APPEAL

The 924 Turbo might have been expensive,  
but it was worth it. WORDS AND IMAGES: SAM SKELTON







It almost seems like a redundant concept; for Porsche to produce a car with 911 levels of performance at a near 911 price, that wasn't a 911. Doesn't it? And today on the classic market, the concept seems equally redundant owing to the existence of Porsche's later 2.5-litre 924S, as also tested in these pages.

But to dismiss the 924 Turbo as an irrelevance would be a catastrophic error. The story of the 924 has been told elsewhere in this publication, so there's no need to repeat it here. Our focus can be the Turbo model alone – often forgotten, but due its spot in the

limelight. Launched in 1978, the 924 Turbo was Porsche's attempt to bridge the gap between its well-loved and widely acclaimed 911 series and the smaller, lighter 924, which was more junior GT than sports car. Up-rated suspension was fitted, along with rear disc brakes, five stud hubs (beware if sourcing alloys for a standard model), and a five-speed Getrag gearbox as standard equipment. The compression ratio was reduced to 7.5:1, with a KKK turbo boosting at 10.15psi. This meant 170bhp at 5500rpm, 140mph flat out and a circa 7 second 0-60 time.

Britain got the 924 Turbo for 1979, following delays in engineering a right-hand drive conversion. All standard UK cars came with the Lux pack, including electric windows and a smaller four-spoke steering wheel. Visual differences included a series of slots in the nosecone to aid under-bonnet cooling, a NACA duct on the bonnet, a subtle rubber rear spoiler and the fitment of cross-spoke alloy wheels as standard. Changes in 1981 created what was effectively a 924 Turbo Series 2 – a smaller turbocharger reducing lag was the major alteration. An increase in compression ratio to 8.5:1 made possible by a new ignition system and a power hike to 177bhp meant that this was a more

usable and entertaining package. The following year saw production cease for almost all markets in favour of the new 944; a wider, more aggressive-looking car whose four-cylinder 2.5-litre engine was derived from the 928's V8. Italy remained the exception because the 2.0 engine slotted perfectly beneath its punitive tax threshold.

Contemporary testers in the UK praised the car's performance and its improved fit and finish over earlier 924s. However, they expressed reservations about the steering (geared lower through longer steering arms, possibly to offset weight induced by the smaller Lux wheel), and about the ZF gearbox with its dog-leg first gear. Overall Motor

magazine was impressed – the character it had felt lacking from the base 924 was back – and its road test concluded with the certainty that the 924 Turbo was the direction in which all modern supercars should aspire.

To criticise the 924 for a lack of character is perhaps a shade cruel, but there's no denying that the 924 Turbo has charm in spades. The cosmetic differences may be subtle, but they really work. This car doesn't look like the 924s which were once an entry-level classic bargain; it seems more purposeful and more menacing despite sharing the same shell. This is what Porsche was trying to achieve with the wider arches of the later 944, though we're not sure which



of the two offers the more successful styling upgrade. The 944 is undeniably of its era, yet the 924's delicacy means that even now it's hard to place precisely to which decade the car belongs. The differences are subtle; much of this car's shell is shared with little brother 924 making repairs relatively inexpensive, but they add up to completely change the car's character. Despite the shape's overall similarity to the 928, it doesn't look like a would-be 928 either. It has its own definite identity.

The Surinam Red Series 2 we're driving belongs to serial Porsche enthusiast David Olverson. David also owns a Series 1 924 Turbo undergoing restoration, and an early 928S. That

makes it one of the last UK examples, though technically it's not UK spec. The wind-up windows and three-spoke steering wheel are giveaways; this car was ordered in Germany in RHD by a first owner in the Forces, who kept the car once back in Blighty. In 1979 in the UK, a 924 Turbo was £13,129, while a 911SC cost just north of £16,000 and a Lotus Eclat £14,000. And SAAB could sell you turbo technology for under £10,000.

From behind the wheel you could be in any other 924. You still have the steering wheel which creates an odd optical illusion of being closer to you at the top than the bottom – a negative rake, though in truth it's vertical. You

still have the same dials, the same control layout – much of which is nicked from the Golf and Polo parts bin. It's all business as usual right up to when you absentmindedly engage first gear and find yourself going backwards. The dogleg shift is common to many performance cars of the 1980s to use a Getrag box; like the later BMW M3 and Mercedes 190 2.3-16 it aligns second and third and fourth and fifth to ensure swifter changes between these gears for brisk driving. Once you're used to it, the system that works well and is more intuitive than you'd think.

But unlike most 924s, what happens when you drop it into second and nail it is almost alarming. First, there's the lag –



TEST DRIVE  
**PORSCHE 924 TURBO**



**This Turbo is an import: UK cars had the four spoke Lux wheel. Forced induction meant 170bhp... and turbo lag!**

this is an early turbocharger setup, and we counted four seconds before the 924 realised we were summoning up extra grunt. But the explosion of power and torque belied its 177bhp on paper – this car on boost really does feel like it's got closer to 200bhp to play with. While the 944 replaced it on paper, it really doesn't offer the same brutality of surge, the same thrill as you realise you've timed everything perfectly, or – quite – the same Cheshire cat expression. Take your time over the gearchanges, make neutral a definite step each time rather than trying to be clever. The box won't reward you if you rush but if you're definite it's a joy to use. And if you can keep that turbo spinning

it's an astoundingly rapid car by the standards of its day. One pleasant side effect in this particular example is the far lighter steering than you would expect; a combination of those longer steering arms reducing gearing and the larger non Lux steering wheel, but this is not common to true UK spec 924 Turbos. The steering in those should still feel lighter than a naturally aspirated Lux owing to the gearing, though by less of a margin. We found this car perfectly communicative – while Motor would have preferred more direct gearing in period, we didn't push David's beautiful example hard enough to appreciate the benefit for which they might have hoped. What helps of course is the

weight distribution – the transaxle gave the standard 924 a 48/52 split, though the weight of the turbocharger nudges that a little closer to an even weight balance in the turbocharged model we have here. This means a well-balanced, poised chassis, and a car which imbues confidence in every corner.

It's hard to see why anyone back in 1979 would have willingly shelled out the extra for the by then fifteen-year-old 911 design over this. People used to joke about the 924 having a van engine owing to the very brief period when the LT shared the EA831 inherited from NSU – this car is less van, more Van Halen. As the revcounter continues its





### 1982 PORSCHE 924 TURBO S2

**ENGINE:** 1984cc/4-cyl/turbo

**BHP:** 177bhp

**TORQUE:** 184lb.ft

**0-60:** 7.0sec

**MAX SPEED:** 144mph

**ECONOMY:** 30mpg

sweep round the bottom half of the dial the car really starts to come alive, and it's toward the top of its rev band where the most power can be felt. You find yourself almost giggling at the fun you can have when you learn to keep it on the boil.

So its sportscar credentials are well-established, but what's even better is how much better than a naturally aspirated 924 it is at being a GT car. The higher gearing – around 24mph/1000rpm – means that the extra power doesn't bring an economy penalty when you're cruising on the motorway, and that cruise will be more relaxed too given the lower revs.

It's firmer than a naturally aspirated 924, but not firm in and of itself. It's well-damped too, and could teach a lot of modern saloons a thing or two about ride comfort. David hasn't done any brim to brim fuel consumption tests, but suggests that high 30s would be a reasonable return from every motorway gallon. In period Motor only returned 21mpg, but by the tester's own admission, the car that was on test was pushed extremely hard. It's plausible to expect an average of somewhere around 30 today. Which, for a 1970s car that can put a smile on your face the way the 924 Turbo can, ranks as some sort of efficiency miracle.

It's hard to know what cars to suggest as alternatives to the 924 Turbo. You could look at turbocharged SAABs as an alternative perhaps, one with more practicality but less of a sense of speed and less overall poise. Possibly a Lotus Eclat would be a good competitor, but the turbocharged shove would be missing, and we're not sure they'd have appealed to the same buyers. A 911? A little too expensive, and far more of an enthusiast experience than a 924. The beauty of this car is that while it takes time to learn, driving it hard isn't dangerous, you can't overcook it as easily as a 911, and it's a better all-rounder. Perhaps the TVR Taimar Turbo was the closest period equivalent – but then that car doesn't feel as well-assembled, nor as versatile as the 924. A 944? A different animal entirely, and dare we say it, less fun. Don't forget to read our buying guide if we've tempted you. ■

■ With thanks to the Porsche 924 Owners Club.  
[www.porsche924.co.uk](http://www.porsche924.co.uk)



# ENTRY LEVEL



It's 45 years since Porsche released its first front-engined car but cult Ford following means the Capri is fast overtaking it in value. Which makes the winner as a classic today?

WORDS: PAUL WAGER PHOTOGRAPHY: CHRIS FROSIN, PAUL WAGER

It can be a cruel and slightly fickle business, the process which determines whether a car gains full-blown cult status as it ages into classic territory. The rise of '70s and '80s Ford values is a perfect illustration: first the Mk1 and then Mk2 Escorts soared in value thanks to their motorsport heritage and then the '80s Cosworth models followed suit, taking the front-drive RS Turbo models with them. Even the humble Cortina is a sought-after car these days and its sporting offspring the Capri now enjoys full-blown cult status

which puts it a world away from Del Boy's infamous Capri Ghia.

Back in the days of the Mk2 Capri though, the car was very much a mid-market offering, priced to appeal to the mainstream and sold to buyers for whom a Porsche of all things was impossibly exotic And impossibly costly, too: in 1980 a Capri 2.0 GL was yours for £4673, while the Porsche 924 was a hefty £9,103. Today the situation is reversed, with pristine 2-litre Capris fetching over £10,000 and the regular

(non-Turbo) 924 hovering around the £8000 mark. In truth, prices are all over the place either side of this rough average, but it appears that the demand for the Ford means its ceiling price has crept above the first of the front-engined Porsches.

All of which means that for around five grand you could conceivably be faced with making a choice between the Capri or the Porsche... with maybe a Manta or Scirocco thrown into the mix to confuse things. Which makes the better classic choice today?

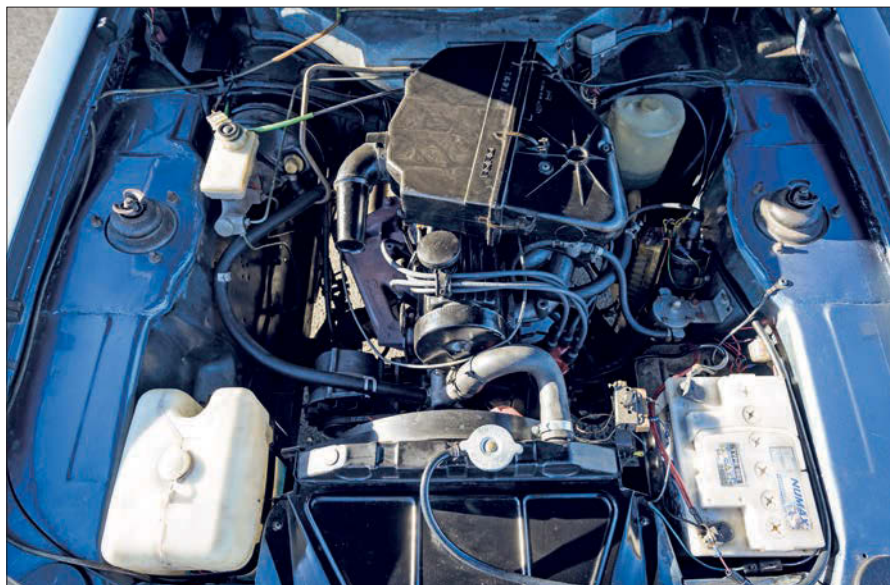


## FORD CAPRI

The headline auction results for the Capri are invariably the V6-engined 2.8i, in run-out '280' spec commonly referred to as Brooklands on account of its paint colour.

In reality though, the 2.8 Injection may have been the poster-child of the Capri range but the volume seller was the 2-litre, with the 100 bhp Pinto engine offering decent pace with manageable fuel economy and running costs. To all intents and purposes it was a Cortina coupe but like the majority of coupes offered so much more glamour than its saloon sibling.

The Capri story begins of course not with the Mk2 and not even with the Mk1 but with the Mustang, which proved such a success in the US market that



Ford Pinto also saw service in Cortina and Transit.



Ford offers more upright driving position.

Ford attempted to repeat the success in its European offshoot.

Development began in 1964, the year the Mustang was launched and was one of the earliest collaborations between Ford of Britain in Dagenham and Ford of Germany in Cologne, with the car scheduled to be produced in both locations.

The choice of the 1969 Brussels Motor Show for the launch may have been an odd one, but the car was a success, with the UK range spanning the 1.3-litre 'Kent' crossflow, with the 1.6-litre Kent, the 2-litre V4 and the 3-litre Essex V6 also on offer while the Capri Custom Planning scheme offered a massive array of personalisation options.

The original Mk1 became the Mk2

– or Capri II as Ford named it – in 1974, with the evolution being more than a facelift and involving some major changes to the bodywork which was now wider overall, with a shorter bonnet and a hatchback with folding seats.

An updated dashboard and folding rear seat were also added, with the car now offered in L, XL or GT flavours, with 1.3, 1.6 or 2-litre Pinto engines plus the 3-litre V6. It was a relatively short-lived model though, with the Mk3 car arriving in 1977 as an effective facelift of the Capri II.

Although the engine range was initially carried over from the MkII, the Essex V6 was replaced in 1981 by the injected Cologne 2.8.

Incredibly, even the long Capri options list didn't include a fifth gear



until 1982, while in 1984 the 2.8 Injection Special was introduced, with an LSD, stiffer suspension, half-leather seats and RS-styled seven-spoke alloys. The 2-litre was now offered as the 2.0S with similar suspension, while the 1.6 became simply the 1.6LS.

By 1984 the Capri was lagging behind in a market which wanted more than leaf springs and pushrod V6 and European sales were discontinued. Ironically, sales remained sufficiently strong in Britain for the Cologne factory to continue production from 1984 to 1986 in right-hand drive form only for the UK market, the last examples being registered in 1987. A special run-out model was produced to mark the event, the Capri 280 which was essentially a 2.8 Injection with LSD, full leather

Recaro interior, 15-inch RS alloys and special Brooklands Green paint which gave them the nickname 'Brooklands'.

Today, as it did back in the day, the Capri feels very different from the Cortina with which it originally shared so much and it's the low-slung driving position which really makes the difference. With the dashboard sloping away and that long bonnet visible through the screen, it's a world away from a rep-spec 2-litre saloon, yet one look over your shoulder reveals proper four-seat accommodation. Despite its two-door silhouette, the Capri can swallow four adults which isn't something you could say for any of its competitors. Indeed, it wouldn't be until VW released the Corrado in 1988 that the trick would be repeated.

Cranking the eager Pinto motor into life is where the comparison with the Porsche becomes interesting. To dismiss the 924's powerplant as a van engine is to make a schoolboy error of journalistic fact-checking but the truth remains that it's not exactly in the VTEC league when it comes to rev-happy thrills and although the Ford 2-litre can get thrashy when extended, it does have a slight edge on the 924's Audi-derived design.

Breathing through a twin-choke Weber, the headline figure was 101 bhp at 5200 rpm, backed up with 112 lbf.ft at 3500 rpm, with a surprisingly slight kerb weight of 995 kg translating to a top speed of 111 mph and 0-60 sprint in ?? seconds.

That's in a straight line of course





Porsche offers 24bhp more than 2.0 Capri.



A more sporting, if Germanic, driving environment.

and the Capri's capacity for tail-out antics is legendary. With a live rear axle and leaf springs, it's not surprising that its limits are lower than the more sophisticated Porsche and on the road the Ford does feel the less precise of the two, more easily upset by road imperfections and happier to spin up its wheels in the wet. On the plus side, the relatively low levels of grip are what make the car easy to drive hard without a sudden terrifying breakaway to catch out the unwary. And that of course is what adds to the fun of the Capri. In later life that became something of a selling point too, with most of the opposition having turned to front-wheel drive and the Capri's traditional layout being offered only by the Manta and Alfaetta GTV, both more expensive cars.

As an ownership prospect, the Capri is an easy car to live with, demanding no specialist maintenance, although owning a decent example is a very different proposition from restoring a rough example. Ford is notorious for not supporting its older cars and the Capri is no exception, with trim especially being tricky to come by. On the other hand, the running gear is well served by the tuning firms and it's easy to build a 2-litre Capri with far more pace than the V6 models. Despite this, the rarity of this particular car is what encouraged owner Mick Gibson to keep it in standard form and with values of original standard cars climbing it's proved a wise move. How though does it compare to the Audi coupe with the exotic badge?

## PORSCHE 924

This year marks 45 years since the first front-engined Porsche appeared in the shape of the 924. The affordable front-engined coupe saved Porsche in the same way the Boxster would later bolster its finances, yet it very nearly didn't happen. The car had originally been developed by Porsche on behalf of the Volkswagen group, the Stuttgart firm at the time handling the bulk of the group's R&D work. The brief was to create a VW/Audi coupe and required the use of an existing powerplant which was eventually narrowed down to the EA831 2-litre unit as found in the Audi 100.

Moving the transmission to the rear as a gearbox/differential transaxle design allowed the engine to sit further

**TWIN TEST:  
CAPRI 2.0 V PORSCHE 924**



back and with it inclined at 40 degrees, stylist Harm Lagaay was able to achieve that low nose. With pop-up lights, the result was a sleek, sporty shape which was a world away from the air-cooled Porsches.

Extensive use of Volkswagen group parts kept the production costs down and it was all set to become a range-topping Audi when the early '70s oil crisis bit, at which point an anxious VW management took the decision to go with the more conservative Golf-based Scirocco instead.

This worked neatly in Porsche's

favour, since the 914 – a similar VW/Porsche joint venture – was coming to the end of its shelf life. Porsche struck a deal to buy the design back and by happy coincidence VW's ex-NSU factory in Neckarsulm had the spare capacity to produce the car. This outcome worked well for all parties: VW was strapped for cash at the time and revenue from the production work came in handy, while Porsche gained a successor to its entry-level 914 without having to invest the resources in developing a car from scratch.

Despite emissions kit sapping

**1982 FORD CAPRI 2.0 GHIA**

<b>ENGINE:</b>	1993cc/4-cyl/OHC
<b>BHP:</b>	101bhp
<b>TORQUE:</b>	112lb.ft
<b>0-60:</b>	9.9sec
<b>MAX SPEED:</b>	111mph
<b>ECONOMY:</b>	28mpg

power to an embarrassing 95 bhp in the US market, the 924 was a winner for Porsche and sold in much bigger numbers than the more expensive 911.





In European trim, its 125 bhp gave it useful pace and although performance wasn't up to 911 levels, it was a lively car with modern looks and a practical appeal. OK, so it didn't offer the space of the Capri but it could at least accommodate children in the rear and that glass hatch meant a useful boot too.

In 1982 it would gain a wide-arched makeover and Porsche's own 2.5-litre engine to become the 944, with the bigger engine being dropped into the 924 in 1984 when VW ceased production of the EA831 engine.

Meanwhile, the 924 Turbo had been introduced in 1978 running a KKK blower on the Audi motor for a 170 bhp (later 177 bhp) result, transforming performance to the point where it could keep up with the lower end of the 911 range.

The regular 924 however is a rare sight in the UK – plenty of 944s have survived and there are a healthy number of 924 S's around, but the basic 2-litre 924 is a rare sight now.

This example in stock at German classic specialist UKD Auto near Bristol is a superb illustration of the

car's appeal though and feels very different from a Capri. Despite the early '80s VW group door handles and switchgear, the 924 feels very much like a purpose-built sports car rather than a cut-down saloon, something which is obvious as soon as you settle in behind the wheel.

The high-set centre console and wraparound fascia gives you a traditional sports car feel, the stubby lever on top of the high tunnel feeling more Elan or MGB than Cortina or Audi 80. The heater controls and column switches may be shared with the Golf but the rev counter starts its sweep race-style from 3 o'clock and the sculpted dashboard moulding looks more Porsche than VW. There's not one but two Porsche logos on the dash, too: one on the wheel and one in the centre of the (Golf) glovebox lock.

The 2-litre Audi motor may have disappointed Porsche purists but in truth it's an ideal unit for the lightweight 924 which tips the scales at 1080 kg and with 125 bhp on offer it gives the car decent pace: Porsche quoted a 124 mph maximum and 0-60 in ?? seconds for the five-speed car. Maximum torque

#### 1982 PORSCHE 924

ENGINE:	1984cc/4-cyl/OHC
BHP:	123bhp
TORQUE:	121lb.ft
0-60:	9.5sec
MAX SPEED:	124mph
ECONOMY:	32mpg

of 122 lbf.ft is on hand at just 3500 rpm so there's no real need to thrash it hard and a well-driven 924 can be surprisingly quick across country.

Handling is nicely balanced as you'd expect from a car with a near- 50/50 weight distribution but it's more saloon than outright sports car in its spring rates: drive a 924 on the edge and there's a fair degree of body roll, with the car becoming lurchy as it lets go.

All of that's rather irrelevant to most drivers though and in the real world, it's a neat-handling, well riding car with the pace to equal a modern warm hatch. And the same badge you find on a million-pound Carrera 2.7 RS. Is that enough to lift it above the Capri as a classic proposition?



## TWIN TEST: CAPRI 2.0 V PORSCHE 924



### VERDICT

It's tempting to pick the Capri as the winner but the 924 is such an intriguing prospect that I'm irresistibly drawn to it, the more so because of the excellent value these cars offer right now. The car in our photos at UKD is one of the nicest examples I've sampled in recent years and its selling price of £4499 is roughly half what you'll see an equivalent Capri advertised for in the same condition. It's not quite in MGF territory but a classic Porsche for this kind of money gets my vote.

### OWNING THEM

Both these cars are a curious mixture of easy and tricky. As far as the bodywork goes, the galvanised Porsche is the better prospect for longevity, while the Capri is as rot-prone as any other Ford

of the era. Panels are available for both, with Porsche still supplying some parts for the 924 – at a cost. The many aftermarket specialists can supply most things you might need and Porscheshop ([www.porscheshop.co.uk](http://www.porscheshop.co.uk)) reckons there's not much you can't obtain for the cars. The Capri meanwhile is well served by the aftermarket panel suppliers like Ex-Pressed and Magnum although trim is harder to obtain than it is for the largely VW-based Porsche. Under the bonnet though, neither car presents much of a problem, with service parts still widely available – and in the case of the 924, often in stock at VW/Audi specialist factors like GSF and Euro Car Parts.

### THANKS

To Mick Gilbert for providing his Capri 2.0 Ghia for our photos. Enthusiastic

member of the Mansfield and Notts Capri Club, Mick acquired the car some 10 years ago in a rough condition but when he took it to the bodysheop to be sorted out, the rarity of the car was noted – it's one of only 50 made and very few surviving in Ghia spec with this interior – he was advised to keep it standard.

A minor restoration followed, including attention to the arches, wings and inner wings ("the general Ford stuff," reckons Mick) plus a pair of good used doors. The front panel and floors were good and the engine required only a precautionary rebuild, while the four-speed box was left alone. With a repaint in the original colour, the Capri looks superb and is a great example of what is an increasingly rare car.





### BUY ONE

Thanks to UKD Autos in Yate, near Bristol for providing the 924 in our photos. UKD is known for specialising in 1980s VWs, which explains why they tend to stock a few 924s and if you're a fan of the Wolfsburg output from that era then a visit to their showroom is a real treat. On

the day of our visit, they had not one but three 'breadvan' squareback Mk2 Polos in stock, plus a real timewarp Derby – the booted Polo saloon. With just 17,000 miles the metallic mint green VW was an arresting sight. Alongside these we also tripped over a Mk1 Golf diesel, an ultra-rare supercharged Mk2 GTi G60 and a

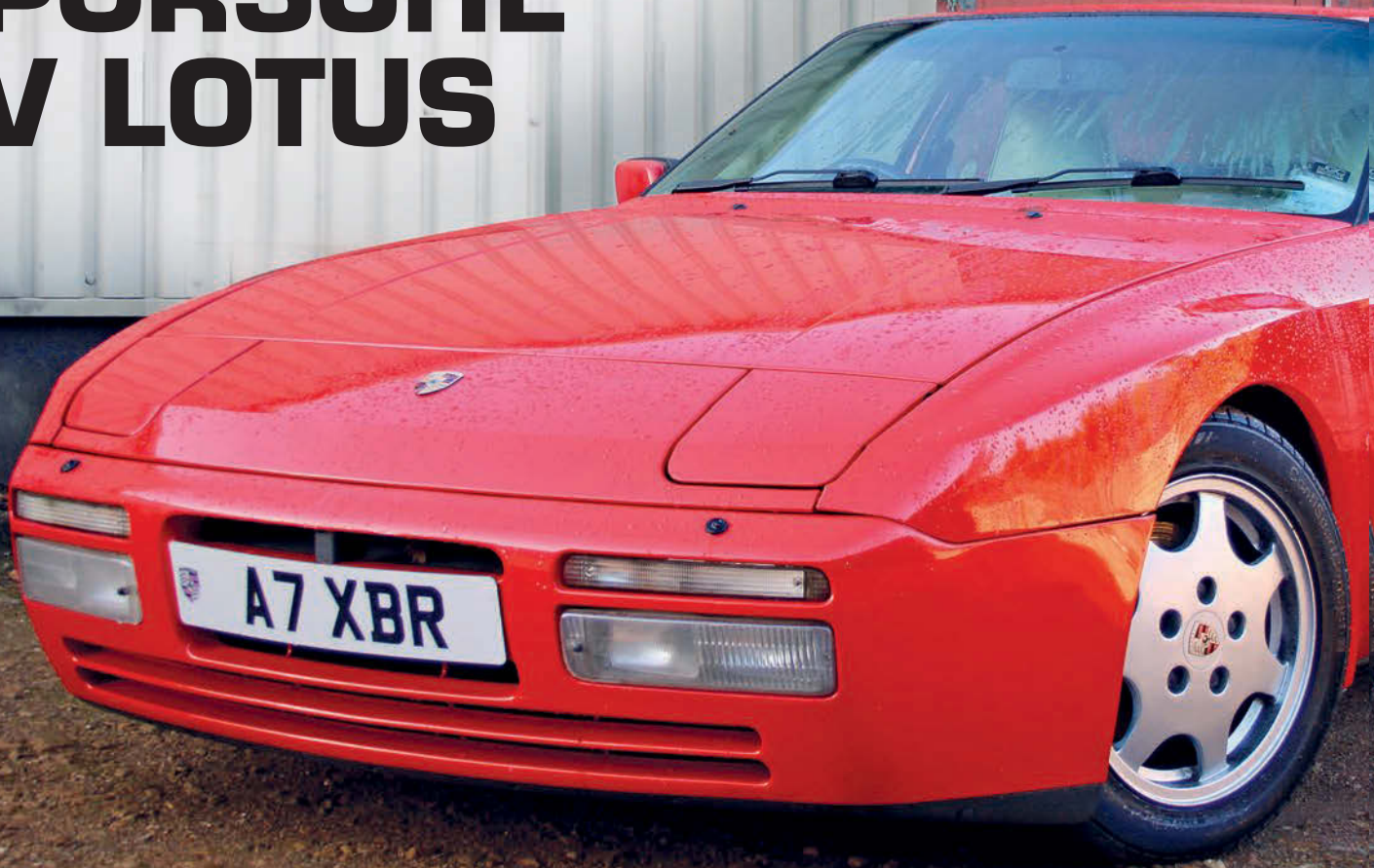
mid-90s Vento as well as a couple more Mk1 Golfs, a newer Polo GTi and a Mk2 Polo Coupe S.

The 924 is a 1982 example which means it comes with the benefit of the five-speed box and is impressively original down to the factory option radio-cassette.

Find out more at [www.ukdauto.com](http://www.ukdauto.com).



# PORSCHE V LOTUS



We try to pick a winner from Lotus and Porsche's four-cylinder 1980s line-up.

WORDS: PAUL WAGER PICS: MICHAEL WHITESTONE, MATT WOODS

Lotus may have lost its sense of purpose as a road car builder in the last couple of years, what with its ambitious model plan followed by the swift departure of its chief executive, but back in the late '80s its focus was clear: Colin Chapman wanted to move upmarket and set his targets pretty high. The Esprit in turbo form tilted ambitiously at Ferrari, while the four-seater Excel had the Porsche 944 in its sights.

Was this pure folly from the Norfolk maker or an entirely justified attempt to enter the mainstream? After all, Lotus had proved itself on the F1 circuit and had gained respect for the giant-killing handling of road cars like the Elan. On the other hand, the Germanic solidity of Porsche products backed up by its ability to borrow from the giant VW group's parts bins meant that its 924 and 944 offered the same hassle-free ownership proposition as a mid-range Mercedes saloon. To find out how the Porsche



and Lotus approaches compare, we reacquainted ourselves with the Porsche in 944S form but as we discover, there's more than one Lotus product in the frame as competition.

## PORSCHE 944

You don't need to be a Porsche expert to know that the 944 is very obviously descended from the 924, which was itself developed originally by Porsche as



a sports car for Volkswagen. When VW bosses became twitchy at the thought of poor demand for the car and realised the Golf was going to be a success, the design reverted to Porsche, which produced it in a conveniently spare former NSU factory belonging to Audi.

Harm Lagaay's elegant glass hatchback shape was powered by the EA831 2-litre Audi engine, slanted Triumph-style at 40 degrees to squeeze under the low bonnet. The transaxle gearbox was mounted in the rear, giving the car superb weight distribution and the use of VW/Audi componentry wherever possible made it cheap to produce... and thus cheaper to buy than existing Porsches.

The car was a winner for Porsche, bringing in new buyers to the brand and generating much-needed cashflow. It began life as an entry-level model but was soon developed into the 924 Turbo and then in 1982 evolved into the much more serious 944.

Based on the same platform, the 944 gained more aggressive wide-arched styling and in place of the old Audi engine was Porsche's own 2.5-litre

four-cylinder. An all-alloy unit, it was essentially one half of the V8 developed for the 928 and to improve refinement from what was a sizeable capacity for just four cylinders, Porsche added contra-rotating balance shafts inside the block. Rated at 150 bhp, the engine was a torquy unit and gave the new car 130 mph pace. In the marketplace, the kudos of the Porsche badge on the nose made up for the lack of six or eight cylinders for buyers coming from other marques even if Porsche die-hards did prefer air cooling.

Initially the interior was very similar to the older 924, but the facelift in 1985 ushered in the 'oval dash' much coveted by enthusiasts, these later cars identified by the 'phone dial' wheels replacing the original Fuchs alloys. The 944 Turbo was introduced in the same year, a formidable weapon packing a 220 bhp punch which made it quicker than the normally aspirated 911 of the day and almost as fast as the 911 Turbo: 0-60 mph was despatched in just 5.9 seconds. The Turbo was updated to become the 247 bhp Turbo S in 1987, with this engine spec becoming standard from 1989.

In 1987 the 944S was added, offering 192 bhp courtesy of a 16-valve head on the 2.5-litre block, with the entry level 2.5 150 bhp engine further uprated in 1989 to 2.7 litres and 165 bhp.

Shortly afterwards in 1989, the 944 S2 was introduced, running a 16-valve, 3-litre development of the engine and 208 bhp.

In 1990, a convertible version of the car was introduced, later made available with the Turbo engine and in 1991 944 production ended, with the car replaced by the 968.

In purely technical terms, the 944 range was streets ahead of any model produced by the Stuttgart firm to that point: faster than the 924, yet more modern and easier to drive fast than the 911 and less extravagant than the 928, all with the practical advantages of four seats and a useable boot.

Despite that, the Porsche faithful never seemed to warm to the front-engined cars: they preferred their Porsches air-cooled and rear-engined, leaving the car to attract buyers from other marques. This of course was an era before BMW was offering a 3-Series coupe and the



M3 was a very specialised machine, meaning that the 944 was competing mainly with faster saloons like the Cosworth-engined Mercedes 190E, with coupe opposition limited to the much more expensive Ferrari Mondial... and of course the Lotus.

The example we have here is a 1985 944S. The 944 was one of the first cars to be entirely galvanised and the bodywork does last well. The interior trim is durable too and wears the years far better than anything with a Lotus badge. There's a curiosity in the boot, in the shape of the spare wheel: back in the '80s Porsche's idea of a space saver spare wasn't the skinny wheel we see today but a clever collapsible tyre on a standard-size wheel. The sidewall cleverly concertinas to allow the wheel and tyre to be stowed vertically in the same space designed originally for the smaller-diameter 924 spare.

The big four-pot always has a characteristic whirr in the background of its soundtrack, a legacy of the many belts involved in operating ancillaries, camshaft and balance shafts.

Like the Lotus, the Porsche has a proper sports car feel to it, with the stubby gearshift sitting on a high central tunnel and the big dashboard wrapping around. Pete's car uses the original dashboard, complete with the 'upside down' rev counter designed to place the redline race-style at the top of the dial.

It was a clean, modern design back in 1982 and the interior really hasn't dated much, thanks to its essentially plain style.

Despite mounting the gearbox at the rear, the 944's gearshift is much easier to use than the obstructive shift found in the transaxle Alfa Romeo Alfetta and 75 and with a light, positive shift action the car is as easy to drive as any '80s saloon.

The ride is firm, but not as firm as some sports options on modern cars – BMW's late '90s M Sport option for example – and the 944 handles modern

roads without crashing and banging, the German build quality making itself felt through the absence of rattles and squeaks. As for handling at the limit, we didn't take this car to the edge but previous experience with 944s has shown them to be very predictable and capable of very credible cross-country pace without the nervousness of many high-powered rear-drivers. The 944 was of course developed into the 968 which sired the track day-focused Club Sport, widely held to be one of the best-handling cars of modern years.





## PORSCHE 968

By the late '80s, Porsche was already well into developing a third generation of the 924/944 line, but the changes required to keep the new car competitive in the face of opposition from both competitors and from a constantly evolving 911 proved to be sufficiently extensive to warrant a new type number altogether. The bodywork was extensively restyled for a sleeker look, with the company claiming that 80 per cent of the car was new. Production was moved from the former NSU plant to Porsche's own plant at Stuttgart and the car received mechanical upgrades pioneered on the 911, including the VarioCam variable cam timing and the option of the manually-selectable Tiptronic automatic. The manual option was now a six-speed box but the majority of the chassis layout was carried over from the 944S2.

The model for which the 968 is remembered though is the ClubSport, which was aimed firmly at the track day enthusiast or racer. With much of the luxury kit deleted including lightweight manually adjusted seats, the ClubSport was some 100 kg lighter than the regular 968 and sat on uprated, lowered suspension. Capable of 0-60 mph in 6.3 seconds and a top speed of 160 mph, the ClubSport was the ultimate incarnation of the 944 theme and in this form it was more than a match for the Esprit. The torquey 3-litre engine is a fine effort by Porsche and the 968 has a great muscular feel to it, while the handling feels very much like a more focused 944 - which is of course exactly what it is under the restyled body panels.

The 968 was produced until 1995 at



which point Porsche gave up trying to convince its sports car buyers that rear-mounted boxer engines were a thing of the past and introduced the Boxster as an entry-level model.

## LOTUS ESPRIT

On price it was Lotus's Esprit which competed with the 944, the cheapest Porsche the 944 Lux retailing at £23,504 and the Esprit HC at £20,570. In Turbo form the Esprit would have set you back £25,980 which was head-on with the 944 S at £26,012.

Although the Porsche offered four seats against the Esprit's two-seat cabin, there were a great many 944s sold to people who never intended to use the rear seats and just like the 911, they're neatly trimmed on the back, allowing them to look neat when lowered to create a two-seat style.

By the time of the 944 era, the Esprit was in its 'S3' incarnation with Giugiaro's stark wedge profile modified to create air intakes behind the side windows and an integral front spoiler. With the new 2.2-litre engine, it was good for 180 bhp in normally aspirated form and 210 as the Turbo Esprit and with its lightweight construction it was a quick car.

The Lotus's construction was quite unlike the Porsche: a backbone chassis carried a fibreglass body and with the engine mounted behind the seats it offered similar weight distribution but in a much more uncompromising package.

In S3 guise, Lotus was keen for the S3 to shake off the firm's kit car roots and establish itself as a mainstream player, so the bodyshell was revised for greater leg and headroom and the interior was made more plush.





There's no argument that the Esprit feels much more exotic inside than the Porsche, but it also feels more dated: the interior is wrapped with leather but it's hand-finished, composed of simple straight panels and it's very obvious that Lotus's development budget didn't stretch to the big expense of chunky plastic dashboard mouldings in the way Porsche's did. The bodyshell may betray its glassfibre origins in the thickness of the door skins and the odd unfinished edge behind the scenes, but it's a very high quality production and by this time Lotus certainly knew how to make plastic bodies properly.

Fire up the famous Lotus twin-cam and it's a very different beast from the Porsche unit. Lotus didn't fit fuel injection to the Esprit until the late '80s and it shows in the razor-sharp throttle response from its twin Webers against the Porsche's K-Jetronic.

Responsive it may be, but the Esprit isn't anything like as user-friendly as the Porsche at slow speeds where the carb-fed engine needs more care to drive smoothly in traffic and the limited visibility from the mid-engined layout makes angled junctions tricky.

Find an open road though and you find out what the Esprit is all about. Even in non-turbo form the Lotus engine is a screamer and begs you to drive the car hard, with the car feeling more manageable the faster you travel. If it's the Turbo Esprit you're driving, the pace is vicious and exhilarating in the old-school way: there's noticeable turbo lag but the trade-off is the rush when it comes on boost with an audible whoosh.

Where the Porsche feels like a very capable fast performance saloon in its nature, the Lotus feels more like a racer tamed for the road and when it comes to handling it's a more focused tool than

the Porsche, with sharper turn-in and a more neutral balance than the more mainstream Porsche. It does feel nicely balanced and its limits are clearly very high but at the back of your mind you're always aware that when you do find the limit it's likely to be over pretty quickly.

Of course for buyers wanting a sharper-handling Porsche, the firm duly obliged in 1992 with the 968, while for those buyers needing four seats in their Lotus, there was always the cheaper Excel.

### LOTUS EXCEL

The four-seater Excel was altogether more conventional than the Esprit, using the same 2.2-litre Lotus twin-cam but mounted conventionally in the front end. Priced at £20,570 in 1987 against the £23,504 Porsche wanted for a 944 Lux, it was usefully cheaper but offered an interesting alternative, especially for those wanting



to buy British and fancying a dose of exclusivity: even in the UK, the Porsche 944 sold in greater numbers than the Excel.

The origins of the Excel are fascinating: it was launched in 1982 as a facelift of the Eclat and badged Eclat Excel, allegedly to avoid the cost of type approving a new model. Over time the 'Eclat' was gradually dropped, the model becoming marketed simple as Excel.

This was a time when Toyota held a stake in Lotus and the Excel took advantage of this by raiding the Japanese firm's parts bins, mainly for Supra components: the car provided the front brakes, alloy wheels, seats, gearbox, ignition lock/keys and the Marina-style door handles. Meanwhile, the Mk1 MR2 provided the interior door pulls and the



Rover SD1 provided the rear lights (used upside down) and the door mirrors.

Using the same backbone chassis design as other Lotuses of the era, the Excel's fibreglass wedge offers if anything more generous rear legroom than the Porsche, although ironically the front footwells are more cramped. The door hinges are inset from the leading edges, meaning they don't open very wide,

while the boot is a deep but square shape similar to an MGF. It's eminently practical though, even if some of the detailing seems a little clumsy next to the mass-produced Porsche.

From the driving seat, the Excel initially feels far more user-friendly than the Esprit, with great visibility and an airy cabin which lends itself to everyday life more readily: oddments, coats and other junk can easily be accommodated in the larger cabin and the Toyota gearbox is easy to live with.

Despite running the same engine, the Excel is easier than the Esprit to trickle along in traffic, too. When the traffic clears though, the Dellortos can be cracked open and the Excel feels much more like the Esprit as the twin-cam piles on the revs and it takes on an



TWIN TEST:  
PORSCHE V LOTUS



eager bark. The Excel is a lightweight by modern standards at 1135kg and the 160 bhp gave it a 0-60 mph time of 7.2 seconds. With the redline set at 7000 rpm it's great fun and begs you to drive the wheels off it in a way the more sober Porsches don't. Rather scarily, the road testers of the day discovered the maximum 129 mph corresponded with maximum revs in fifth gear: none of your economy overdrive ratios here, thanks...

It feels sharp in the bends like the

Esprit, too although the mid-engined car has obviously very much higher limits. The steering winds just three turns from lock to lock and is nicely weighted, while in the finest Lotus tradition the handling is achieved without a harsh ride, the Lotus tradition being relatively soft springs but firmer dampers. Experience has shown us that several hours behind the wheel of an Excel isn't the tiring business you might expect – and it's certainly less wearing than a long trip in the Esprit. On the





motorway though, it can feel low-g geared which is where the Porsche does win, a legacy of it being developed for the autobahn rather than British back roads. The Excel's 'best kept secret' appeal is perhaps best summed up by an interview I read recently with a former Lotus executive who admitted that the Excel was streets ahead of any of the firm's '70s offerings – Esprit presumably included. All of which leads me to wonder why the firm didn't offer the turbocharged engine in the Excel.

#### VERDICT

Having worked on, raced and even crashed 924s and 944s, I've always liked the front-engined Porsches and felt they made the 911 era look decidedly old hat. Sampling Pete's 944S reinforced what great cars they are and what a practical performance classic they represent today. What does surprise me though is the Excel and every time I try one, I'm reminded of how close Lotus

came to being a real competitor for Porsche if only it could have sorted out details like the trim. Of course Lotus eventually went the direction of the lightweight Elise and radically upgraded V8 Esprit, while Porsche abandoned the front-engined sports car entirely but for the money required to source a pristine Turbo Esprit, I'll take a 944 Turbo cabriolet and buy a ropey Excel project with the change. ■



# THE FAMOUS FOUR



Somewhat ignominiously for Porsche, already famed for its engineering prowess by the time the 924 was launched in 1976, its very first production car to feature a water-cooled engine used a powerplant provided by another manufacturer.

That was Volkswagen of course, and those that look down on the 924 are all too happy to point out that its engine was also used in a Volkswagen van. That is true, but the 924 and its successors were incredibly important to Porsche's continued existence through the 1970s and 1980s, so we should be grateful for it, regardless of its roots.

But there's no denying those. The 924 project kicked off in 1970, a joint project between Volkswagen and Porsche to create an inexpensive mass-produced sports coupe, potentially to be marketed separately under the Audi and Porsche brands. Porsche's expertise in the field allowed it to take the technical lead and, for its part, it wanted a

modern replacement for the 914.

Volkswagen, however, stipulated that an existing engine from its portfolio must be used, in a bid to keep costs down. The chosen powerplant, codenamed EA831 by Volkswagen, was earmarked for use in the new Audi 100, mounted longitudinally.

Porsche took it and its manual gearbox as a starting point for the project, though it moved the transmission to the back axle to distribute the weight differently and give the 924 rear-wheel drive.

For various reasons, Volkswagen pulled out of the deal before production began, and Porsche bought back the rights to the design. Nonetheless, it was an amicable break-up, as Porsche agreed to manufacture the 924 at the redundant Audi factory at Neckarsulm in Germany, in return for favourable prices on the required Volkswagen components.

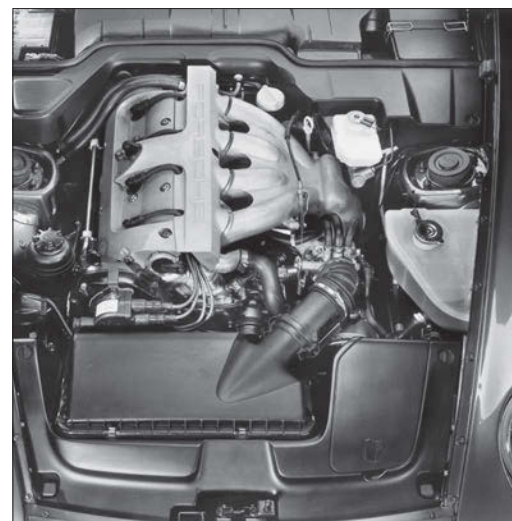
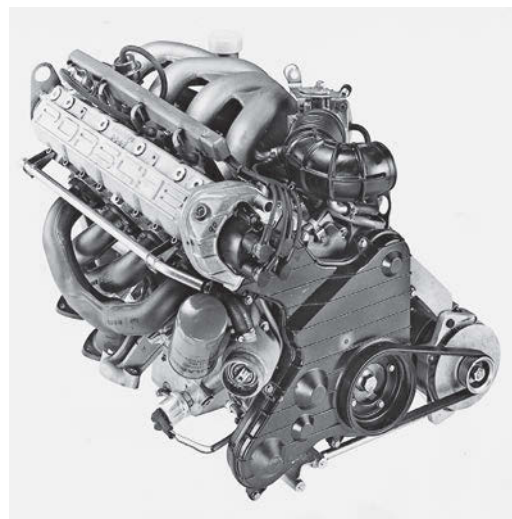
This suited both companies as Volkswagen didn't have to shut a plant

and Porsche's own production capacity was already stretched with the incoming 928 model.

Porsche being Porsche, it wasn't content to take the Audi engine unchanged. Its bore and stroke were left well alone, though, measuring 86.5 x 84.4mm for a swept capacity of 1,984cc. It also suited Porsche that the engine, an inline four-cylinder design, was canted over by 30 degrees, as this reduced its installed height, allowing Porsche a low bonnet line for the 924. Nonetheless, Porsche favoured Bosch K-Jetronic fuel injection over the Audi's Zenith carburettor, and it also designed its own cylinder head, though kept the single overhead camshaft layout with a toothed belt drive. Despite a reduced compression ratio (down from the Audi's 9.8:1 to 9.3:1), the first Porsche 924 engine put out 123bhp at 5,800rpm in its European state of tune, backed up by 122lb ft of torque at 3,500rpm. These figures compare with 114bhp at

# Porsche's first water-cooled engine in production wasn't even its own creation, but it came a long way from the early days of the 924.

WORDS: SHANE O' DONOGHUE PHOTOGRAPHY: PORSCHE



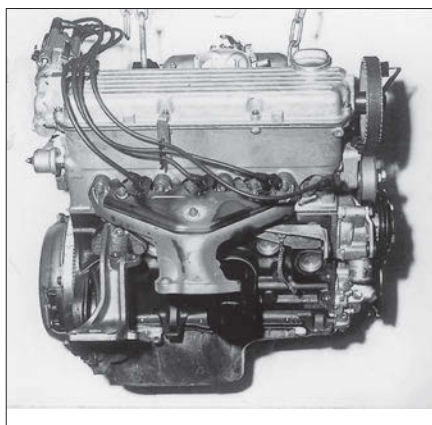
5,400rpm and 122lb ft at 3,200rpm for the Audi, clearly revealing that Porsche expected its drivers to use more of the available revs. Not startling numbers, even by the standards of the late seventies, but the 924 was quite light, so it was pleasantly quick rather than overtly powerful.

Despite criticism from the motoring

press of the day, the 924 was an immediate hit with buyers, selling well for the next three years with minimal changes to the engine. In 1978, Porsche made minor modifications to the fuelling to reduce issues with hot starting, but there were no attempts to up the 924's performance until the development of the 924 Turbo later that same year. A brand-

new cylinder head was designed and manufactured by Porsche in Stuttgart for this car, with a hemispherical combustion chamber, new spark plug position and a reduced compression ratio (as is the norm for turbocharging) of 7.5:1. A KKK turbocharger was fitted and maximum boost set to a modest 0.7 bar. Peak power rose to 168bhp at 5,500rpm with 181lb ft of torque at 3,500rpm. There was a minor weight increase due to the turbocharging hardware and extra equipment, but even so, the 924 Turbo knocked nearly two seconds off the 0-62mph time of its naturally aspirated sibling, at 7.8 seconds. Interestingly, Porsche gave the 924 Turbo's engine an internal engine code, M31, which it had not done for the original unit.

The 924 Turbo was well-received, but it came with reliability issues, so Porsche revisited the setup for 1981, fitting a smaller turbocharger running higher boost. The injection and ignition systems were modernised at the same time (the





**Porsche's first water-cooled model used an Audi engine, via VW**

latter moving to the 'Digital Ignition Timing Computer' – or DITC), allowing an increase in the compression ratio and hence the performance. This 'series 2' 924 Turbo produced 174bhp and 184lb ft of torque at the same engine speeds as before, but also proved to be more robust.

In amongst all that work on the series production 924, Porsche, inevitably, took it racing. The original plan was to homologate the 924 for Group 4 racing, with an eye on the 1980 Le Mans. To enable that, Porsche needed to produce a road-going version, and the 924 Carrera GT was born. Like all 924s, it

used the same 1,984cc capacity and cast-iron engine block. The rest of the specification was based on that of the 924 Turbo, with its alloy cylinder head, but with several updated components, including a larger KKK turbocharger (running 0.75-bar boost), forged pistons and, crucially, the addition of an intercooler. The road car produced 206bhp at 6,000rpm and 206lb ft of torque at 3,500rpm.

Due to internal politics, the homologated racer didn't compete until 1981 (Porsche did enter the 924 in the 1980 Le Mans, but in 'GTP' spec instead). That's when the 924 Carrera







The model was well received when new, though a new sector for Porsche

GTR surfaced, with a massive 370bhp and 299lb ft of torque. Still from the same core engine I might add. It was moderately successful, too. That was effectively the swansong for the Audi-based 2.0-litre engine, as Volkswagen stopped manufacturing the blocks in 1984. It wasn't the end of the 924, though, as we'll get to in a moment.

In the same year that the 924 Carrera GTR was competing, Porsche wheeled out the curiously named 944 GTP Le Mans, powered by a new turbocharged 2.5-litre engine of its own design. It was canted over at 45 degrees and it featured a novel balancer shaft system,

along with an advanced Bosch engine control computer that centralised processing for the injection, ignition and boost pressure. This was, effectively, the forerunner to the Porsche 944.

That came to market in 1982, when it became apparent that the new 2.5-litre engine, designated the M44, was, in effect, the right cylinder bank of the V8 engine fitted to the Porsche 928. The production engine in the 944 used a refined version of a new Bosch engine control system and retained the racer's balancer shaft system. This featured two counter-rotating shafts turning at twice engine speed, designed to smoothen out

the inherent vibrations of a four-cylinder engine. Porsche actually paid royalties to Mitsubishi Motors for using its patented design for the system.

As in the 5.0-litre V8 of the 928, the 944's new 2.5-litre engine had a 100mm bore and 78.9mm stroke. The block was made of an aluminium-silicon alloy, which didn't require separate crankshaft liners, while there was a forged crankshaft and sintered steel connecting rods. All this was quite exotic in the early eighties. The first iteration of the naturally aspirated version of this engine produced 161bhp at 5,800rpm and 151lb ft of torque at 3,000rpm.



By the 968 the Porsche four-cylinder unit had been pushed to 3.0.



**944 used a new four, effectively half a 928 V8**



**The Porsche engine was more powerful than the outgoing VW engine. The example is to 968 specification.**

This is where the 924 comes back into the story, as the 924 S was launched in 1984 with a detuned version of the 944's 2.5-litre engine, producing 147bhp and 140lb ft of torque. Porsche upgraded the 924 S's engine in 1988 with new pistons, bringing the compression ratio up (to 10.2:1 from 9.7:1), along with up to 158bhp and 155lb ft on tap. That was the last year of Porsche 924 production.

At the other end of the performance scale, it didn't take long for Porsche to get the turbocharged version of the 944 to market, arriving on the scene with the

same 2.5-litre block and dimensions, but its compression ratio backed off to 8.0:1 (from 10.6:1), and it used a KKK turbocharger. Peak power was 217bhp and torque maxed out at 243lb ft.

A larger turbo brought those figures up to 247bhp and 258lb ft in the 1988 Porsche 944 Turbo S, which was derived from the 944 Turbo Cup racer, and that engine became the standard 944 Turbo powerplant to the end of the model's life. Meanwhile, Porsche continued to develop the naturally aspirated unit. In 1987, the 944 S was introduced, keeping the same

2.5-litre capacity, but with an advanced new four valves per cylinder, double overhead camshaft cylinder head, in line with what Porsche was using in the 928 at the time. A larger capacity oil sump and revised exhaust were also fitted, as was the latest Bosch engine control unit with two knock sensors. That allowed Porsche to up the compression ratio to 10.9:1 and quote figures of 188bhp at 6,000rpm, with 169lb ft of torque at 4,300rpm. Compare the engine speeds those peaks are produced at with the pre-S engine and you'll get an appreciation for its high-revving nature.



**Turbo model brought even more power to the four cylinder Porsche range.**

Indeed, Porsche altered the gearing to suit this change.

Just two years later, Porsche went one further, increasing the bore and stroke of the naturally aspirated engine to 104 x 88mm for a 2,990cc swept capacity. Apparently, this made it the largest four-cylinder production engine in the world at the time. It went into the 944 S2 in 208bhp form, with a useful jump in torque up to 206lb ft as well. This had the same compression ratio as the 944 S's engine and also used a double overhead camshaft head design.

The final chapter in this story covers the relatively short-lived Porsche 968, a comprehensive overhaul of the 944 before it, and the only model of the trio to be made at Porsche's own factory in Stuttgart. The 968's engine was, understandably, an evolution of the 3.0-litre unit found in the 944 S2. However, Porsche's engineers lightened the internals significantly, including the crankshaft, connecting rods and pistons, while enlarging the intake valves and enhancing its cooling. The 968 was also the first Porsche to get the VarioCam system, in its first iteration altering the inlet timing by a range of 15 degrees. This allowed for more torque at lower speeds and more power at higher speeds rather than a compromise somewhere in the middle with the



**A 3.0 Porsche four, installed in a 968.**

timing. The Porsche 968 and 968 CS both used this engine, making 236bhp at 6,200rpm and 225lb ft at 4,100rpm until the model's demise in 1995.

There was one last hurrah for the 968, as it too received a turbocharged engine, though it was built in exceedingly small numbers for motorsport – as two different versions of the 968 Turbo RS – and as a 968 Turbo S road car. The engine kept the regular 968's 3.0-litre capacity, but reverted

to the 944's single overhead camshaft cylinder head. Nevertheless, the road legal version still made 300bhp and 369lb ft of torque, enabling a 0-62mph time of five seconds dead.

Appropriately, given the importance of the transaxle cars, the 968 was the last front-engined Porsche until the Cayenne SUV was introduced in 2003. Neither were massively loved to start with, but they've both enabled the survival of this great brand. ■

# CLASSICS WORLD

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