

Brothers in arms

They may owe their roots more to Wolfsburg than Weissach alone, but both the 924 Turbo and the 924S are great fun to own and drive – even if you're accustomed to far quicker and more modern Porsches. This guide explains how to find and buy the good ones

Story by Chris Horton Photography by Matt Howell

Genealogy – tracing and studying your ancestors – is one of the fastest-growing hobbies in the UK. And no wonder: all you need is a computer with access to the Internet, and one or two older family members with reasonably long and reliable memories. After that you are on a journey that can figuratively, and sometimes literally, take you just about anywhere. We all love to know where – and who – we have come from.

Cars have family trees, too. It's hard to imagine (one hopes, anyway...) future historians getting too excited about the 'DNA' of the current crop of anodyne and anonymous small hatchbacks, most of which have about as much personality as something you might buy at Comet or Curry's. But many older vehicles have pedigrees no less fascinating than any human being's.

And there can be little doubt that come the day of reckoning the Porsche 924 will be a major element in a great many automotive family trees. It has never been the main event at Zuffenhausen, but without this front-engined, rear-drive hatchback – at one time so nearly an orphan – there would have been no 944 or 968, no 928, and possibly no 964-, 993- or 996-model 911. It's as sobering a thought as realising that you owe your own

existence to the chance meeting of any number of people whose names – despite your best efforts – you may simply never know.

There is, of course, one big contradiction in this particular analogy. In the beginning the 924, whether naturally aspirated or Turbo, wasn't a Porsche at all. As a project it dates from 1972, when the Stuttgart firm was commissioned by Volkswagen to design and develop a front-engined, two-litre, rear-drive sports car to be marketed as an Audi. Two years later EA425, as it was known in-house (EA stands for *Entwicklungsauftrag*, or development contract), was reaching the pre-production stage, and VW was even buying in the tooling to build it. But then the company's management had a dramatic change of heart and abruptly terminated it.



924 Turbo (foreground) is distinguished from the naturally aspirated car by additional front grilles (also in lower apron), NACA duct on the bonnet, and not least by its five-stud wheels (924's had four-stud fixings). The 924S, for its part, was essentially a naturally aspirated 924 shell with the 944's engine and running gear. This one's a special-edition Le Mans, but differences were mainly in colours and trim

The 924 Turbo & 924S timeline

November 1975

The naturally aspirated 924 enters production for the 1976 model year

August 1978

Basic 170bhp RoW 924 Turbo enters production for the 1979 model year

August 1979

The 143bhp US-specification model goes on sale for the 1980 model year. All 924s now have a fuel filler covered by a round flap

August 1980

The 177bhp RoW 924 Turbo enters production for the 1981 model year; US models rise to 154bhp; fuel tank enlarged from 66 to 84 litres; body guarantee extended to seven years

January 1982

Production of US-market 924 Turbos winds down

June 1982

Production of Rest of the World models is scaled down

December 1983

Batch of 1983-model Italian-market

cars in Zermatt Silver marks the end of 924 Turbo production

July 1985

Standard 924 ceases production

August 1985

The 150bhp RoW 924S is introduced for the 1986 model year; body-shell warranty is extended to 10 years

June 1986

The (150bhp) US-model 924S is introduced for the 1987 model year

September 1986

The first right-hand-drive 924S models are brought to the UK as 1987-year cars

August 1987

The 1988-model RoW cars are updated to the same 160bhp engine as used in the contemporary 944

July–September 1987

The special-edition 924S Le Mans is built for the 1988 model year

June 1988

924S production is halted to make way for the new 2.7-litre 944

The result was that in early 1975 Porsche bought the entire project for Dm160 million. Many might now suggest the money would have been better spent on the g11, but it was far less than VW had blown on the venture, and crucially that venture itself also happened to be precisely what Porsche needed. The 10-year-old g11, by now with a 2.7-litre fuel-injected engine, was selling well enough (even if it would soon start to show its age again), and the g28 would carve out a niche for itself at the top end of the market, but the company's only 'affordable' model was the idiosyncratic g14 – itself essentially another VW – and by the mid-1970s that was going nowhere.

Not that even the g24 was ever truly mainstream. The styling, with its trademark tapering nose and pop-up headlamps, was in part the work of Dutch-born Harm Lagaay. But VW's chief executive, Rudolf Leiding, had his say, too. Under his direction the wheelarches were enlarged and tightened, the rear side windows changed their shape, and the crease along each body side became more pronounced. Most significant, though, were Leiding's inspired suggestions for the distinctive glass hatchback, whose modest expansion gave the rear of the car a lighter, daintier appearance. It was in this form that in mid-1974 the VW board signed off the shell – little different to the car that would go on sale in 1976 – and by February 1975 the car was officially a Porsche; adopted by foster parents even before it was born.

No less fascinating than this tale of how the g24 acquired its now familiar looks is that of its mechanical configuration. So far Porsche had famously used only rear- or mid-engined layouts, but this time it went for a front-mounted motor, with the gearbox and final drive in unit at the rear, and driving the rear wheels only. This thinking would almost certainly have been influenced by the fact that Porsche's own g28 – already on the drawing-board – could use a similar set-up, but it was no less brilliant for that, especially when you saw how it was planned to link the two assemblies.



Alfa Romeo (for example) had used a similar transaxle arrangement for its Alfetta, but with a heavy propeller shaft, a rear-mounted clutch, and a long gear-shift mechanism, it wasn't a great success. Porsche not only put the clutch in its conventional – some would say rightful – place, behind the engine, where it wouldn't be adversely affected by the inertia of the heavy propeller shaft, but also took the drive from there to the gearbox via a lightweight shaft running in bearing races inside a larger-diameter steel tube. This had the benefit of rigidly uniting engine and transmission, and thereby significantly sharpening up the gear change. It was an engineering masterpiece.

But which engine to use? Which gearbox? Audi or VW units, obviously – Porsche's brief had always been to use as much existing hardware as possible – but there wasn't much to choose from. VW's only water-cooled motor (the g11 notwithstanding, air cooling, like front-wheel drive, wasn't even up for discussion) was from the front-wheel-drive K70 saloon, introduced during the early 1970s, and no doubt this could have been adapted if necessary, but it would have been expensive, not least to extract from it the reliable 120–130bhp needed for what was to be, after all, a sports car.

The only Audi engine available was an overhead-valve, in-line four from 1965, when as a 1760cc unit it first appeared in a boxy saloon – the Audi Super 90. By the early 1970s it had grown to 1871cc and, after a development programme that would take it to 1984cc and give it a belt-driven overhead camshaft, was earmarked for both the new Audi 100 saloon due in 1977 and – in a lower state of tune – for VW's LT panel van. (And from which comes the infamous urban myth about all g24s; that they're powered by a commercial-vehicle engine.) Given some tweaking at Weissach – and Bosch's simple and reliable K-Jetronic fuel-injection system – it might just work.

It would certainly fit beneath EA425's – the g24's – low, sloping bonnet. Viewed from the driving seat the engine was canted way over to the right, a bit like the starboard half of a V8, with the exhaust manifold underneath the cylinder head, and with both the ignition and induction systems up top for easy maintenance. With hindsight you could even suggest that it was made for the job. It was certainly a very fortunate marriage.

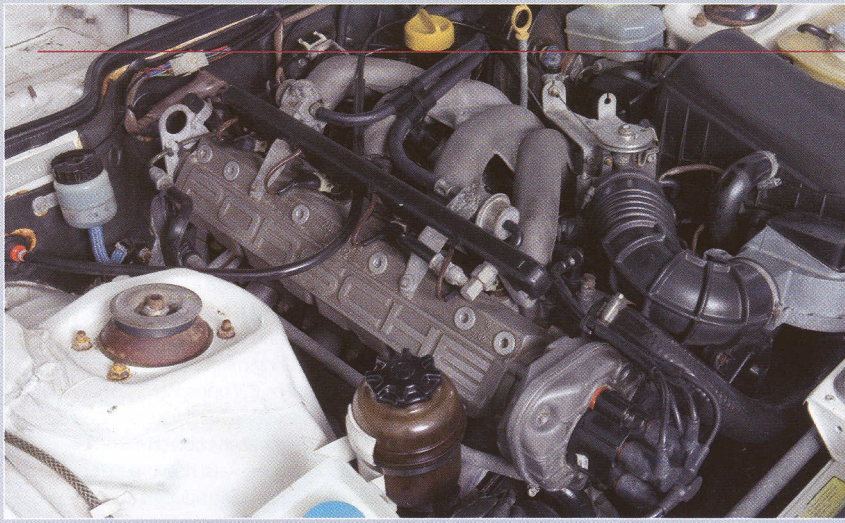
Which was more than could be said for the Audi-sourced, all-synchromesh O-88 transaxle. It worked well enough – although with only four forward speeds it wasn't necessarily what you would have expected of a late-1970s' Porsche – but the now redundant clutch housing cast into the light-alloy casing occupied a lot of space under the rear of the car, and the floor of the luggage compartment was as a result three or four inches higher than it would otherwise have needed to be. But this did at least offer somewhere to put the fuel tank, which even in the earliest cars was an unusually large 66 litres, or 13.5 gallons.

In 1978 Porsche did begin fitting its own five-speed transmission to the g24, without that cumbersome bellhousing, as an extra-cost option prior to launching it as standard equipment in the forthcoming g24 Turbo, and for a time Weissach planned to use the opportunity to lower the floor to match. But the Porsche unit was expensive, and as a result most customers continued to specify the Audi transmission. (Even the g44 and g68 had variants of it, complete with its redundant bellhousing.) Audi then strengthened the gearbox and added a fifth gear, and Porsche pragmatically elected to retain that for the mainstream naturally aspirated models rather than use its own transmission. As a result even the g24 Turbo, which (apart from some later US models) only ever had the Porsche transaxle, had that high rear floor, too.

Much of EA425's other hardware was taken from the VW and Audi parts bins, too. The semi-trailing-arm rear suspension, with torsion-bar springing, was plainly influenced by the g11, but up front the MacPherson struts, the pressed-steel wishbones and the non-assisted rack-and-pinion steering were much as you would find under the sharp end of a Mark 1 Golf or a Scirocco. The drive shafts came from the VW type 181 cross-country vehicle, the front disc brakes from an Audi, and the rear drums from the VW K70.

The g24 went on sale at different times in different markets. But some 5000 cars had been built – at Audi's Neckarsulm plant, with engines assembled at VW's Salzgitter facility, and transmissions at Kassel – between February 1976 and that summer's shutdown, and most were sold in Germany, technically as 1976 models. The US was an unusually early recipient, and the car went on sale there in July 1976 as a 1977 model. Here in Britain we first saw right-hand-drive g24s at the October 1976 Motor Show at London's Earls Court, and orders were taken for deliveries during January 1977.

It would be an exaggeration to suggest that the g24 sold like cold beers in the desert, but it was more than popular enough to justify Porsche's faith in



Balance-shaft in-line four in 924S was initially detuned slightly to prevent car being faster than the wider, heavier and more expensive 944, but for 1988 both used same 160bhp unit. All 924S models had so-called tele-dial wheels, in the case of this White Le Mans with Ochre-coloured detailing (see panel, opposite)

the project (if not VW's conspicuous lack of it). Production for the 1977 model year reached 23,180, beating even the 986-model Boxster's best-ever figure during the late 1990s, and a further 21,000 had been assembled by the end of its second year, in August 1978. That took the total well past 50,000.

The standard 924's big problem was always cost versus decidedly average performance – and, let's be honest, a rather frumpy image. UK prices started at £6999, and while that was considerably less than a 911 Carrera 3.0, and thus a relatively inexpensive way into Porsche ownership, it was still a lot of money. You could buy a V6-engined Ford Capri 3.0S for £4000. And however attractive the 924 looked, however well balanced it may have been, however well built, the simple truth was that it wasn't lavishly equipped – and with a maximum speed of only around 125mph it just wasn't overly fast, either.

It was much the same story in the United States. Sales there climbed steadily during 1977, reaching nearly 14,000 by the end of that calendar year. But that momentum was never likely to be sustained – the remarkably similar-looking (but again both quicker and cheaper) Mazda RX-7 appeared during 1978 – and by 1981 annual sales in America had fallen back to around 5000, taking the car's five-year total there to about 50,000 units. It wasn't bad, but then again it wasn't exactly fantastic, either.

The answer, as Bob Dylan so memorably suggested in the 1960s, was blowing in the wind. Forced induction – turbocharging – had from 1974 made the 911 Turbo a huge commercial success for Porsche, and there was no reason why a turbocharged 924 shouldn't enjoy similar popularity. It would – of course – be more expensive still than the naturally aspirated 924, but with performance – and a power-to-weight ratio – now approaching that of a typical standard 911 Carrera buyers certainly wouldn't feel short-changed.

The result of this thinking, the 924 Turbo (or 931 to give the car its correct in-house Porsche type number), was announced in the spring of 1978, with assembly – as for the 924, in the Audi factory at Neckarsulm – beginning in August for the 1979 model year. Both externally and internally the car was very obviously a 924, but a number of differences distanced it from the naturally aspirated model, and undoubtedly helped it begin to shrug off its VW-Audi roots, and to become accepted as a genuine and thoroughly deserving member of the Porsche dynasty. (Although it's probably fair to say it has never quite managed to get its feet fully under the family table.)

At the front, for instance, the Turbo featured a row of four black-plastic intake grilles in the sloping panel above the bumper (they fed air to the new oil-cooler soon found to be essential for the health of the turbocharger), and a further set of vertical slats in the lower panel, beneath the driving-light/indicator units. Whether the latter really supplied useful quantities of cooling air to the front brakes is open to question, but there's no doubt that they looked good.

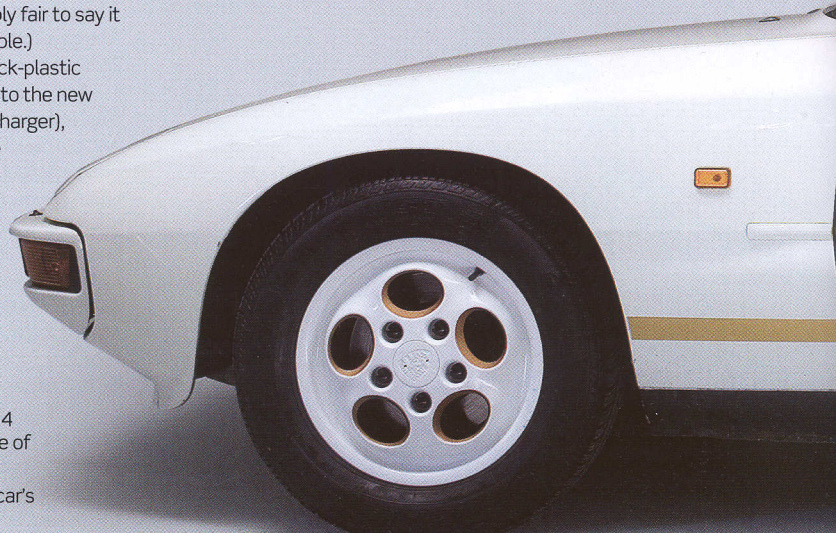
No less exotic was the so-called NACA duct over on the right-hand side of the bonnet, designed to draw air over the exhaust-driven turbocharger beneath it when the car was moving, and then to allow hot air to escape from the engine compartment when the vehicle was stationary. This air-management process was further aided by a new aluminium undertray for the engine compartment. For the first time on a 924 there was also a discreet moulded-rubber rear spoiler at the base of the tailgate, and this had the dual benefits of not only reducing aerodynamic drag compared to the 924, but also improving the car's previously rather beetle-backed appearance.

Mechanically the biggest changes were under the bonnet. The engine – assembled at Zuffenhausen, using parts shipped in from the VW plant at Salzgitter, and then trucked up the *Autobahn* to Neckarsulm – was essentially the same overhead-camshaft, iron-block, in-line four as in the naturally aspirated 924, but with both a new aluminium-alloy head and a compression ratio reduced from 9.3:1 to just 7.5:1 (by means of new pistons) in order to cope with the higher combustion-chamber pressures generated by the turbo. There was also a new cylinder-head gasket, and larger exhaust valves.

The turbo itself was a truck-derived KKK unit mounted on the exhaust manifold, and linked to the throttle body and plenum chamber by a cranked, cast-aluminium duct over the camshaft cover; there was never an intercooler in the mainstream Turbo. Maximum boost pressure was 0.7 bar (0.45 bar for the US models), controlled by an exhaust bypass valve, and a so-called pop-off valve when the throttle was closed. There was also the aforementioned oil-cooler, mounted in the nose immediately ahead of the main engine radiator, but this was only ever partially successful in preventing the turbo's oil-fed bearings failing prematurely. (The 924 Turbo never had a boost gauge, by the way, although those concerned about the longevity of the engine could specify an oil-temperature gauge as the middle of the three dials in the centre console, albeit at the expense of the standard clock.)

Ignition and fuelling were handled initially by the existing 924's transistorised distributor and Bosch K-Jetronic injection system, with fuel delivery cranked up to a maximum of 170 litres per hour at 6.0 bar, and in this state of tune the engine developed 170bhp at 5500rpm, and 244Nm at 3500rpm. Even the rather emasculated US model managed 143bhp and 199Nm. In January 1980 the UK's *Motor* magazine recorded a 0–60mph time of exactly seven seconds, 0–100mph in 17.9 seconds (against 30.4 seconds for the naturally aspirated car), and a top speed of 140mph. Not bad at all.

For the 1981 model year, though (the sometimes so-called Series 2 cars), the Turbo was given a new and (for the time) state-of-the-art digital management system known as DME, for Digital Motor Electronics. The result – thanks also to a higher compression ratio (8.5:1), but with maximum boost pressure down to 0.64 bar – was 177bhp and 250Nm, and a useful improvement in fuel consumption, too. Again the figures for the US models were down on these RoW (Rest of the World) maxima, but even with an 8.0:1 compression ratio and maximum boost of only 0.44 bar these versions managed 154bhp at 5500rpm, and 210Nm at 3300rpm.



In both cases there wasn't a dramatic difference in performance (some road-test figures even suggest a slightly slower 0-60mph time for these later cars), although the engine was certainly more flexible; the car generally far more 'driveable' – and definitely more economical. More to the point in the real world, perhaps, was the fitting of an improved crankcase breather system that, by allowing the oil to circulate naturally after the engine had been switched off, was said to have significantly extended turbocharger life.

The g24 Turbo's transmission, too, was subtly but substantially different to that of the standard, naturally aspirated car. There was both a larger clutch than in the ordinary g24, and a larger-diameter drive shaft to the rear-mounted transaxle, itself a brand-new Porsche-developed Getrag unit which not only had five forward speeds instead of the g24's even then rather limiting four, but also improved synchromesh (and for the first time in a g24 a limited-slip differential as an extra-cost option).

The only real downside was a competition-style dog-leg shift pattern, with first gear out on its own on the left of the gate, and while this made fourth-to-fifth shifts (and back) both quick and easy (and again gave the car a very useful image boost) it was – and remains – nothing less than a nuisance in stop-start urban conditions. No wonder that for 1981 the US-market cars received the Audi-derived five-speed transmission, with its 'conventional' shift pattern, that would soon be used in the forthcoming g44.

Chassis tweaks for the g24 Turbo consisted primarily of stiffer springs and dampers (Konis up front, Bilsteins at the rear), and beefed-up wheel bearings. The front anti-roll bar was thicker, too, although that at the rear was actually reduced in diameter to cater for the slightly lighter Getrag gearbox. In all cases the steering-rack gearing was changed to help overcome the additional effort needed to turn the wider front tyres at low speed. Power-assisted steering was never fitted to the g24 Turbo, but this was quite normal for the period.

Braking was by ventilated discs all round (with parts from the contemporary g11 at the front, and from the g28 at the rear) and g28 calipers both front and rear. There was also a vacuum-assisted servo and a diagonally split hydraulic system. For some rather odd reason the first US cars retained the naturally aspirated g24's front discs and rear drums, but many customers rectified this oversight by choosing the so-called Sport option, which provided both the RoW car's ventilated discs and by then optional 16-inch wheels (see below).

Wheels – attractive but hard-to-clean multi-spoke jobs – were initially 6.0J by 15 inches in diameter with 185/70VR15 Pirelli CN36 tyres (with 21mm spacers at the rear to make them fit between the suspension arms and the body), and because of the g11/g28 origin of the hubs famously came with five-stud fixings instead of the previous four. This remains one of the quickest methods of distinguishing a genuine g24 Turbo from a naturally aspirated car. From the start of the 1980 model year customers could also choose similarly styled 6.0J by 16-inch rims with 205/55VR16 Pirelli P7 tyres, and these were

THE SPECIALS

The g24 Turbo formed the basis for two uprated road-going homologation specials: the 1980-model, 210bhp g24 Carrera GT (which was rather confusingly known in certain markets as the Turbo Carrera) and the 1981-model g24 Carrera GTS, this with no less than 245bhp. There was also a still more powerful GTS Club Sport and a GTR, but neither of these was road-legal.

For the full story about these fascinating machines (which are quite different to the standard cars) see first the January 1999 issue of *g11 & Porsche World* (*Rare breeds*, pages 34-41), the June 2001 edition (*Porsche from the archives*, pages 60-62), and more recently the buyers' guide in the August 2006 issue (pages 80-88).

There was also, as mentioned elsewhere in this guide, a run of just 88 cars built in September 1983 (and so technically as 1984 models, even if they weren't actually designated as such) for the Italian market. All were finished in Zermatt Silver metallic paint, with black leatherette seats featuring Porsche's then new 'logo' material.

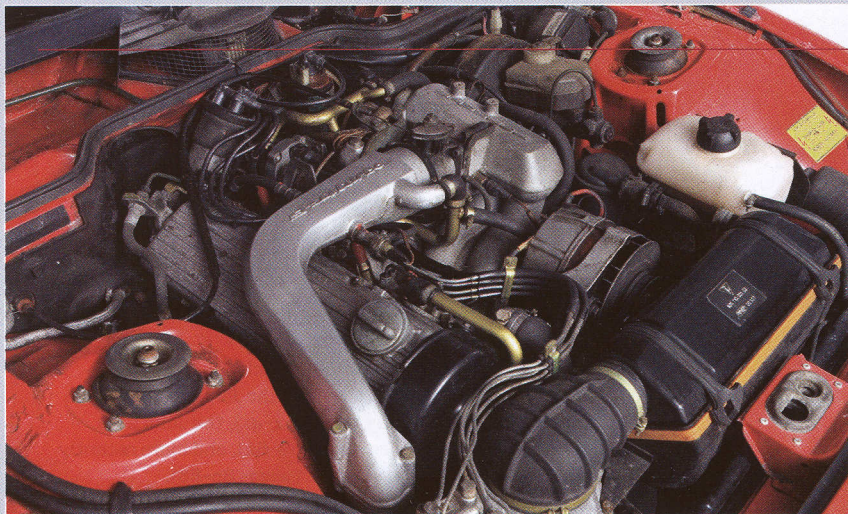
The only variation on the g24S theme was the Le Mans version shown here. Built between July and September 1987 for the 1988 model year, and to celebrate Porsche's 12th outright win at La Sarthe in June of that year, it had lower, stiffer suspension front and rear, 6.0J x 15-inch and 7.0J x 15-inch telephone-dial wheels at front and rear, respectively, and by default the later 160bhp engine.

Its most obvious feature, though, was its colour scheme: Alpine White with white-painted wheels and Ochre and Grey detailing (as here), or Black with silver-finished wheels and Turquoise detailing. In both cases the 'Le Mans' decal on each door (a 'delete' option if specified by the customer), together with the rims of the cut-outs in the wheels, were in the appropriate Ochre or Turquoise.

Inside the cabin there were heavily bolstered sports seats with upholstery and door trims in the appropriate Grey and Ochre-striped flannel, with Ochre piping, or Grey and Turquoise flannel, with Turquoise piping. All cars came with the four-spoke steering wheel and a tilt/removable sunroof, the latter usually an extra-cost option. Production ran to precisely 980 vehicles: 200 Black and 50 White cars for (West) Germany, 500 Black cars for the US, and 113 Black and 117 White cars for Rest of the World markets, including the UK.

Unlike standard g24S, Le Mans-spec car also has moulded plastic trims behind the rear wheels. Standard g24S also has thin black side trims rather than thicker body-colour items shown here. Rear wiper was always an option on both g24 Turbo and g24S: useful but by no means essential, suggests Horton





NAME, RANK AND SERIAL NUMBER

Chassis numbers for both the 924 Turbo and the 924S – stamped on the engine-bay bulkhead – follow standard Porsche practice for the period, albeit with a number of interesting quirks.

Both 1979- and 1980-model Turbos use the company's old-style 10-character system, with numbers beginning either '92' (for 1979), or '93' (1980). For the 1981 model year, however, Porsche adopted the now universal 17-character VIN or Vehicle Identification Number system, an (early Rest of the World) example of which might be WPOZZZ93ZBN100026.

Here the '93' is the first part of the car's 931 type number, 'B' indicates the model year (1981), and 'N' that – like almost all of these front-engined Porsches, up to and including the 968 – it was built in Audi's Neckarsulm factory. The next digit, '1', is the final part of the type number. Crucially, though, the rare and much more valuable Carrera GT variants were built at Zuffenhausen, and so their VINs show the letter 'S' after the model-year indicator.

The run-out Italian-market cars (the only 924 Turbos to be built during the 1983 model year) are easily identified by the letter 'D' in the middle of their VINs.

The 924S VIN shows a variation on this convention, primarily in its use of a 924 type number. Thus, for example, WPOZZZ92ZHN400085 for a 1987-model RoW car. (For 1986 the 'H' would be replaced by 'G'; for 1988 by 'J'.) The Le Mans, effectively a factory-fitted option rather than a model in its own right, has no identifying characters in its VIN.

also part of the aforementioned US-market Sport package.

Trim and paint, meanwhile, to a certain extent followed the lead set by the naturally aspirated 924 – hence the replacement of the early 'cog-wheel' fuel-filler cap by the now familiar round flap for the 1980 model year; also the addition of side-mounted repeater indicators on the front wings for the 1981 model year – but additionally marked out the Turbo as something quite different. Two-tone paintwork was a unique (and popular) if today rather quaint extra-cost option, and there was a similarly avant-garde theme inside the cabin, with both Herringbone and Pasha trim (the latter a sort of wild psychedelic check) for those who genuinely dared to be different.

Badging consisted of first a simple '924 turbo' decal on the right-hand side of the panel beneath the tailgate, and then from the 1981 model year a moulded 'turbo' script. In all cases the word 'turbo' appeared on the tops of the sills, and in the earlier cars 'PORSCHE' was embossed into the door cards below the windows. It's also worth noting that while the early cars had a contemporary 911 Turbo-style three-spoke steering wheel, for the 1981 model year this was replaced by the smaller four-spoke item later used as standard equipment in the majority of other Porsches throughout the 1980s.

Production of the 924 Turbo (together with that of the special Carrera GT derivatives) continued until as relatively recently as the 1983 model year, when some 88 cars, all in Zermatt Silver paint, were built for the Italian market. The first US cars were built in August 1979, for the 1980 model year, with production for that market winding down during the early part of 1982, and of Rest of the World cars during the middle of the same year. In all – and including the Carrera GTs – some 13,351 were built. It was a highly creditable achievement for a car that for much of the time since has been almost completely – and unjustifiably – overlooked by enthusiasts.

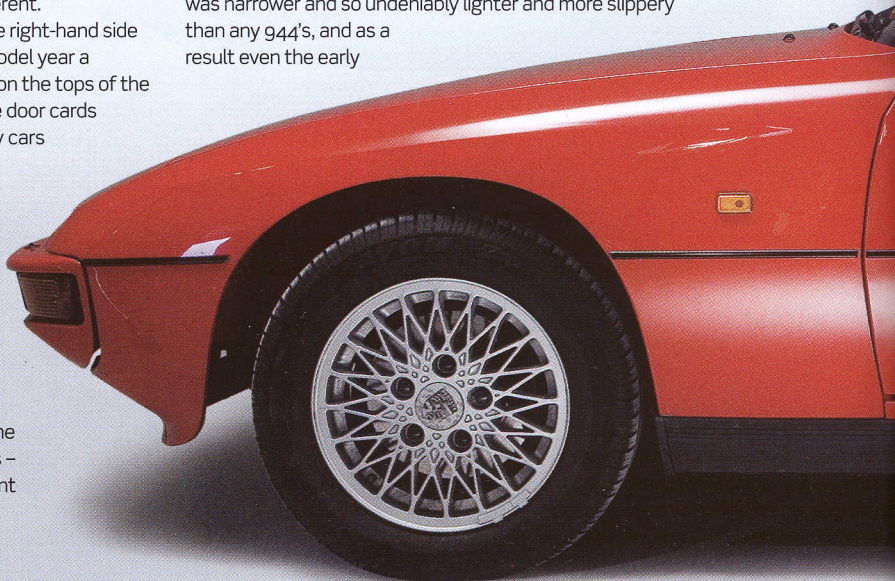
If the 924 Turbo had been born out of Porsche's desire to rid the naturally aspirated car of its staid image (and what some buyers unfairly considered the 'shame' of that VW-Audi ancestry), then the 924S brought the wheel just about full circle. Primarily by being more or less the car the engineers had envisaged when they set about designing the 944 in the first place; secondly, and despite always selling moderately well, by making many observers question Zuffenhausen's commitment to innovation and value for money.

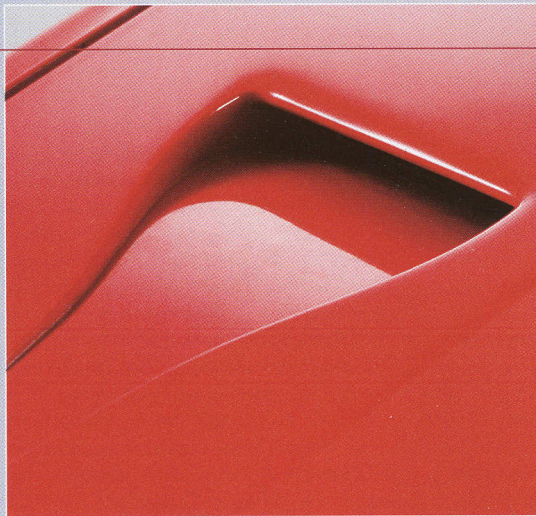
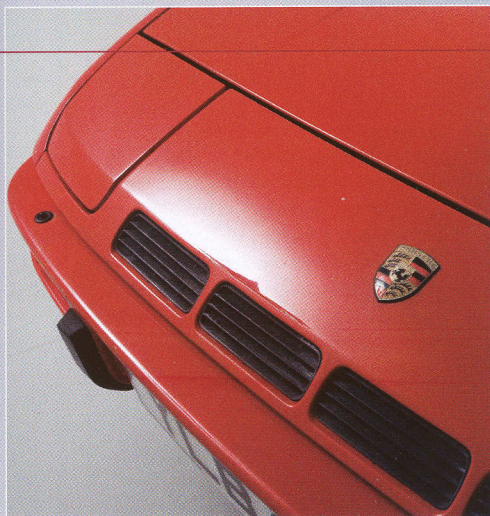
The problem was that even by 1984 the naturally aspirated 924 was successful enough to justify keeping it on the books, but at the same time that Audi-derived in-line four was getting ever longer in the tooth. It may have been as tough as old boots, but it was also harsh and rather noisy, not particularly powerful, and – perhaps most crucially – not overly fuel-efficient. More important still, though, was the fact that VW itself was by then moving on to bigger and better things, and given the small number of cylinder blocks Porsche would require couldn't – or wouldn't – guarantee future supplies.

With the inestimable benefit of hindsight it would undoubtedly have made far more sense in the circumstances for Porsche to drop the 924 and ratchet up 944 production instead. But the company, always keen to turn a Deutschmark or two, decided to give the now long-amortised 924 body and chassis a new lease of life by fitting it with the relatively new 2.5-litre balance-shaft motor of the 944. Relatively cheap to build, it could be sold cheaply, too, making a useful entry-level offering below the 944, and given the simple physics of the equation – big engine, plus lighter, slimmer and thus more aerodynamic car – wouldn't be lacking in all-important performance.

And that, with one major caveat, is pretty much what took place. The new balance-shaft engine – turbine-smooth, torquey and, with full DME management from the start, remarkably fuel-efficient – quite literally transformed the 924, and with what amounted to the contemporary 944's suspension, steering and brakes the already beautifully balanced chassis no less suddenly became even more surefooted, even more fun to drive.

As for that caveat, it was simply that no 924 could ever be allowed to overshadow the 944 – which is what would have happened – and so, to begin with, at least, the 2.5-litre engine was detuned from its 944-specification 163bhp to just 150bhp. (The 1988 model year saw this figure raised to 160bhp, with the same unit also fitted to the last of the 2.5-litre 944s.) But this was still 25bhp more than any naturally aspirated 924 ever had, in a shell that was narrower and so undeniably lighter and more slippery than any 944's, and as a result even the early





'S' had a pretty respectable turn of speed. Standstill to 62mph came up in 7.5 seconds, with a top speed of 137mph, and taking an average of road-test figures of the time suggests that this performance was virtually identical to (or in some cases slightly better than) the original 2.5-litre 944's.

The bad news – and this was 1985, remember, with the recently introduced so-called oval-dashboard 944 benefiting from a raft of major improvements – was that in just about every other major respect the 924S was just that: a 924 with a bigger, beefier engine. OK, so you got the 944's five-speed gearbox, too, with a conventional and more user-friendly shift pattern, together with 944-style telephone-dial wheels, a rear spoiler (albeit a shade smaller than the 944's), and 'invisible' benefits such as a now 10-year (instead of the previous seven-year) anti-corrosion warranty.

But that was it. In many other respects the 924S was actually quite primitive, with that ugly recessed windscreen (the 944's was by now flush-mounted), that suddenly clumsy and rather dated three-pod instrument panel and its matching centre console, nowhere near as much sound-deadening material as in the 944 (with a marked effect on overall refinement), a very basic heating and ventilation system, and in right-hand-drive cars windscreen wipers that parked over on the 'wrong' side of the glass. There was also the major inconvenience (to be fair, shared with all right-hand-drive 944s, and even the 968) of a bonnet-release lever over on the left-hand 'A'-pillar. The standard car didn't even have a passenger-side mirror, or wiring for a radio, and despite the 944 brakes there was never the option of ABS. For some reason the 'S' was also never fitted with the larger (84-litre) fuel tank of the later 924 Turbo, retaining instead the old 66-litre item.

924 Turbo engine is recognisable by the aluminium-alloy duct from the exhaust-mounted blower over to the inlet manifold. Multi-spoke wheels look good, but are difficult to clean. So-called NACA duct (above, middle) is a nice touch, even if possibly not that effective. Rear lip spoiler is much smaller than on later 944

That's not to suggest that the 924S was a commercial failure, or even a fundamentally flawed car. Despite a mere three-year production life, from August 1985 to June 1988, over 16,000 were built, 980 as special-edition Le Mans models to celebrate Porsche's 12th outright win in the 24-hour endurance classic, and as anyone who has ever owned one – this writer included – will tell you, a good, well-driven example of even the earliest cars is a highly entertaining little machine, with more than enough performance to hold its own against more recent and more powerful Porsches.

“ Forced induction had made the 911 Turbo a huge success, and there was no reason a turbocharged 924 shouldn't enjoy similar popularity ”

Should you buy a 924 Turbo or 'S'? Why not? Chances are that even today you'll be able to find a good, usable example of either – both now coming to be appreciated for their rarity – for less than the price of a set of after-market wheels and tyres for a 997, and barring any major mechanical problems run it on a shoestring. They make an appealing, practicable and sensible way into Porsche ownership, particularly for the younger enthusiast with a limited budget that won't stretch to a 944, and even if you're fortunate enough to own a 997 or the like already you probably wouldn't have to try too hard to justify one of these understated and underrated little hatchbacks, if only to park at the station, or perhaps to ease yourself into the burgeoning trackday scene. Try one. You will be both surprised and delighted.



CHECKPOINTS

Body structure

The biggest enemy of both cars is rust, either because of wear and tear and/or neglect, or else exacerbated by previous accident damage that wasn't repaired as well as it should have been – and this despite the initially seven- and then 10-year anti-corrosion warranty. The youngest cars are now 20 years old, remember, the oldest more like 30, and even once first-class repairs could have started to reveal their true colours by now.

Generally it's the lower parts of the structure that begin to perforate first: the lower front valance (and particularly the seams where it meets the front wings); the lower rear portions of said wings (watch out for a build-up of mud in the deep recesses leading back towards the doors); the sills; the double-skinned rear wheelarches (this a particular problem if the area has ever been filled); and finally the deep well behind each rear wheel (although you can easily see inside this area by lifting the rear corners of the boot carpet).

The lower edge of each sill often seems remarkably untidy, even when it's not actually rusty (far more so than the redesigned and much smoother profile on the 944), and we suspect that this is most often caused by careless use of a jack or garage-style lift. On which note it obviously pays to check that the single emergency jacking point per side – roughly below the rear edge of the door – is sound. Many, unfortunately, are not.

Earlier accident damage to the rear end of the car manifests itself as corrosion in the vertical seam towards each corner of the upper rear panel,

immediately below the glass hatch, but again you can check the inside of this area for signs of repairs by pulling forward off its press-studs the vertical section of the moulded boot carpet.

Original cars should have a self-adhesive paper sticker on the inside of the rear panel, and while its absence isn't necessarily sinister it ought to make you at least a little cautious.

At the front, meanwhile, open the bonnet and look not only at the longitudinal chassis members, but also at the various stiffening members on the upper sections of the inner wheelarches round the strut mounts. Creasing here is usually a giveaway that the car has been in a front-end shunt.

Other now well-known body issues include water leaks from the rear side windows and/or sunroof (either way, you end up with wet rear seats and potential floorpan corrosion), dropped doors (but try adjusting the striker mechanisms first), seized door handles (take them apart and lubricate them; alternatively buy new ones), and perhaps most famously leaking, creaking and generally clunky tailgates. The cure for that is a new perimeter seal and two sets of latches and their matching pins; they're not difficult to fit.

Likewise both the bonnet and tailgate struts relatively quickly lose their strength, possibly allowing either panel to drop painfully on your head when you least expect it, but once again they're neither expensive nor unduly difficult to fit.

Engine and transmission

Despite their many obvious similarities the engines used in the 924 Turbo and the 924S are in detail significantly different.

The most likely problem you'll encounter in the former is straightforward wear and tear; total failure is rare. The heat generated by the turbocharger places a lot of extra stress on the lubrication system, and while the engine is generally capable of dealing with that, long-term neglect of oil and filter changes will eventually take out the crankshaft bearings, and then possibly the camshaft, too. So although the motor is never what you could call quiet – unlike in the 'S', valve clearances have to be adjusted manually – it certainly shouldn't rattle too much.

Turbochargers wear out, too (look for smoke in the exhaust, although this can also be the result of worn valve guides and seals), but rebuilt units aren't prohibitively expensive. The only other major concern is the toothed rubber belt driving the camshaft, which should be replaced every 36,000 miles or so to prevent breakage in service, and the possible drama of valves hitting pistons.

The 924S, meanwhile, has the famous Porsche-designed engine with belt-driven contra-rotating balance shafts. Again it's inherently reliable, and with hydraulic valve adjustment a remarkably low-maintenance unit, too, but once again servicing is important. That means changing the oil and filter at the required mileage or time intervals, and not least renewing (and correctly

tensoring) the two toothed rubber belts.



BEST BUYS – AND HOW MUCH TO PAY FOR THEM

It's not our intention here to suggest that either of these cars might be better than the other; despite their many similarities they're different enough to appeal to completely different groups of enthusiasts. That said, we would have no hesitation in suggesting that the 'S' is today, and for all sorts of reasons, by far the more usable of the two. It's newer and better equipped, for a start, and while still without the much-improved build-quality (or specification) of the post-1985 944 somehow feels more substantial and robust than the 924 Turbo. It usually has a considerably nicer interior, too.

Other than that, any best buy inevitably has to offer the usual combination of condition and service history, the right colour inside and out (whatever that might happen to be for you), and not least price – with the added and perhaps obvious warning that it's just not worth trying to do up a shabby car. Spend a bit more on a good one to start with, one that you can drive and enjoy from the very beginning, and you'll save yourself not only a lot of heartache but also quite a lot of hard-earned cash.

And it's not as if any mainstream 924 Turbo (excluding the highly sought-after Carrera GT, in other words) or 924S will break the bank. You'll find restoration projects and other non-runners for an initially attractive £1,000 or so (but avoid the real wrecks; they're really just not worth the effort), but around £3,000–£4,000 will easily buy you a good example of either, and even the best specimen (and including a relative rarity such as the Le Mans shown here) is unlikely to set you back more than £4,500–£5,000.

Breakage of the camshaft belt will definitely result in valves hitting pistons. End of story.

Other issues with this motor include a right-hand engine mount that has collapsed after prolonged exposure to the adjacent exhaust manifold (evidenced by excessive vibration, and possibly the engine leaning still further to the right, to the extent that in right-hand-drive cars the exhaust manifold rattles against the steering shaft), and the intermixing of oil and coolant that might look like a failed cylinder-head gasket, but which is, in fact, the result of a faulty seal in the integral oil-cooler. The multiplicity of oil seals at the front end of the engine can also lead to some fairly drastic-looking leaks, but these can generally be dealt with when the belts are replaced.

Gear selection should in all cases be smooth and precise; suspect what's known as the intermediate shift mechanism on the gearbox itself if not. Most transmissions will be a little noisy (usually most noticeable with the sunroof or the windows open), but you can ignore all but a real banshee wail (and much of the noise may be from the torque-tube bearings anyway). Oil leaks from the transaxle's output-shaft seals are not unknown, but since replacing the worn bearings that usually cause them means removing and stripping the unit it's again worth trying to live with the problem. Have a look, too, at the rubber cover over each of the two constant-velocity joints per drive shaft: a split will mean an MoT failure.

Suspension, steering and brakes

Few problems here. Wheel bearings don't last for ever, and likewise the ball-joint at the base of each front-suspension upright eventually wears out, but replacement (unlike in the later 944, with its cast-aluminium lower arms and integral joints) is a quick, simple and

almost laughably cheap job. Rear suspension can sag, but the torsion-bar springs can usually be adjusted to compensate, or else after-market coil-over spring/damper units installed instead.

Steering is for the most part non-assisted, although the 'S' was optionally available with power-assistance. Look for split rubber gaiters over the ends of the rack housing, worn ball-joints at the ends of the tie-rods, and – in those cars with assistance – fluid leaks from the pump. Rebuilding that is almost as easy as replacing the front-suspension ball-joints. Fitting a 944-style power-assisted rack to the 'S' is feasible, too, but you'll need (among other things) the mounting bracket for the pump, which is part of the front housing for the lower balance shaft.

Brakes? Calipers seize up and/or leak, but rebuild kits (for both types) are available. Steel hydraulic pipes corrode, too, yet all but those running between the rear-suspension torsion-bar housing and the body are easy to replace – and even those are only moderately difficult. (Look for corroded fuel feed and return pipes, too. They also pass between the spring housing and the body, but are not quite as straightforward to fix.)

Wheels and tyres

No insurmountable problems here, either, other than (obviously) making sure that they're all round, as well preserved as possible, and not least with the right offset (and bearing in mind, too, that the Turbo routinely has 21mm spacers at the rear).

That's not so difficult for the 924 Turbo – the standard multi-spoke wheels have an unusually flat outer face, which obviously any replacements must replicate – but its unusual negative-offset steering geometry means that despite their apparent similarity not all 944-derived telephone dial wheels will properly fit the 924S. That said, this writer knows from experience with his own 'S' that the slightly wider wheels from a 1986 or later 944 fill the arches just that little bit better than the standard telephone dials, and without any significant increase in low-speed steering loads. Try them!

Interior trim

Climb out of a so-called 1985/2-model 944 with its oval dashboard into a 1986-model 924S, and you could be forgiven for wondering whether you've slipped through some wormhole in the space-time continuum: it's all pretty primitive.

Real problems, though, are rare. The dashboard top often splits from exposure to the sun, the glovebox lid feels like it's held on with sticky tape, the instruments are difficult to read (especially at night), and the seats might often look like something out of a mid-1970s Leyland bus, but generally speaking it all still works. You just have to be a little less fastidious than you might normally be, or prepared to hunt around at autojumbles and in specialist breakers' yards for better-quality panels and mouldings. **I**

FURTHER INFORMATION

There has been no shortage of relevant features in *g11 & Porsche World* over the last 17 years, from buyers' guides to DIY repairs, and in recent years including running reports on this writer's own 924S project.

Our own recommendations would be Issue 42 (a retrospective specifically about the 924 Turbo), Issue 65 (a general 924 buyers' guide), and Issue 72 (a look back at the development of the naturally aspirated engine). In Issue 124 we compared the 924, the 924 Turbo and the 911SC (with the last two a lot closer than you might think), and Issues 146 and 148, respectively, included detailed analyses of first the 944/924S engine, and then the 924's power unit. Issue 151 celebrated 30 years of the 924 (including a detailed section on the Carrera GT derivatives), and also featured an eight-page 944 buyers' guide, which naturally contains much pertinent information about both the Turbo and the 'S'. You get the picture.

All of the above still in print are available from our back-issues department at www.chpltd.com/shop for just £4.95 each plus UK postage, or else by calling 020 8655 6400. In the case of an issue no longer in print we can supply good-quality photocopies of the relevant stories at modest cost.

As far as books are concerned, our own choice would be *Porsche 924, 944 & 968; A Collector's Guide* by Michael Cotton (MRP Ltd), *Porsche 924, 928, 944, 968* by David Vivian (Crowood Press Ltd), and not least Peter Morgan's *Original 924/944/968* (Bay View Books Ltd). Peter himself has also published a 944/968 book in his acclaimed *Ultimate Buyers' Guide* series, and again that includes a wealth of really useful background material for both the 924 Turbo and the 'S'. All of those titles are available from the above web address and phone number, too.

Finally, our sincere thanks to the two owners who brought their cars along to our photo shoot – John Barnatt of the Porsche Club GB's 924 Turbo Register for the, er, 924 Turbo, and Sid, service manager at RSJ Sportscars in Slough (01753 553969) for the 924S. Thanks also to the Porsche Club GB's 924 Registrar, Paul Hedges, for putting us in touch with them both in the first place.

Standard 924 can look rather bland, but the Turbo's subtle body mods somehow give it a much more purposeful stance, and five-stud fixings allow a fairly wide choice of alternative wheels for added effect. The run-of-the-mill 924S looks much better on standard post-1985 944 tele-dial rims, reckons Horton; they fill the arches just a little more convincingly

