Buying a 944 (or 924 or 968)

A disclaimer. TIPEC provide this guide in good faith. It is not exhaustive & if you are in any doubt then get independent advice.

Firstly a brief history of the 924, 944 & 968

All the cars have a common DNA, with 4 cylinder engines & clutch at the front with a gearbox/transaxle in the rear, connected by a torque tube.
The cars have strut front suspension with trailing arms at the rear.
The body is a 2 door 2 + 2 coupe (although Cabriolets were available in some forms) with a large glass opening hatch. All cars had pop up headlights. When new they were very expensive.

The 924 introduced in late 1975, is a 2 litre (125 BHP) car using a block from an Audi 100 & tweaks by Porsche. A Turbo version was also available.

The 924S is the same narrow bodied car with the 2.5 litre (150 or 163BHP) 944 Engine.

The 944 was first manufactured in late 1981 & is the wider winged version & is effectively in two variants; pre 85 ½ square dash & post 85 ½ oval dash. Built in 2.5, 8 & 16 valve, 2.7, 8 valve & 3 litre 16 valve versions, with a 2.5 Turbo available. Also available as a 3 litre 16 Vcabriolet.
Various changes took place to the 944 in the middle of 1985, cars after this had what is known as an oval dashboard rather than the 924 style square dash that came before. A lot of other technical changes happened at the same time, around suspension & the engine & electrics. Further suspension changes happened at the beginning of 1987 with adoption of different wheel offsets to accommodate ABS, this applies whether the car has ABS fitted or not.

The 968 was a development of the 968 using an uprated engine & various body updates.

Parts Availability

Parts availability is fantastic, because of the long period of manufacture & also some shared parts with certain period VW cars. The TIPEC website is a good source of suppliers & club membership also gives a discount on parts.
The other option is an Official Porsche Centre abbreviated to OPC & they can be competitive on pricing especially as some give discounts to members. Delivery can be next day on consumables & within a few days for the others. This makes the car a viable daily driver.

Running Cost

Once the car is in good shape a reasonable annual budget is £1,000-£1,500 per year. This will obviously be less if you can do some spannering yourself.

Things to consider

Body condition.

Although originally galvanized, the cars are now circa 20 years old & the galvanizing is starting to be eroded so don't assume the car to be immune from rust! Areas to check carefully are the rear of the base of the front wings, all along the sills & the fronts of the rear wings. The rear of the sill area & underneath is where the rear suspension mounts to & excessive corrosion here is both a common MOT failure point & also expensive & complex to rectify. Other areas of corrosion in order of likelihood of it being an issue are; rear quarter panels, wheel arches, rear number plate aperture, sun roof apertures & front windscreen pillars. Generally if it has significant rust anywhere else it has probably been crashed & badly repaired, move on to another car!
Do NOT underestimate the cost of replacing sills, to do both properly you are looking at £1000 plus.
One way to check the condition of the rear of the sills is to carefully remove the plastic grill in the B post & using a torch look down into the cavity.
The rear quarter panels can be checked by opening the tail gate & lifting the boot carpet on the left & the right & looking down. On later post 85 ½ cars the battery on the left obstructs the view but using a torch you should be able to view down past it. Whilst here observe the condition of the bottom of the spare wheel well, which whilst not structural can be a good bargaining point. If you pull the carpet forward adjacent to the spare wheel you will find a sticky label attached when the car was new. This will have on it; the paint code (also under the bonnet) & a list of build & option numbers. If this label is missing (they are not available as replacements) then the car has seen panelwork at the back. If the car still has a handbook, this label has a copy in there.
The panel gaps whilst not necessarily as tight as a modern Porsche should be even.
Looking under the body, carefully investigate the condition of the brake & fuel lines as they go over the torsion bar housing on the nearside rear. To do a proper replacement of the fuel lines will mean dropping the torsion bar housing & this is not a trivial amount of work. Various work arounds are possible & most independents have their way of doing it but even at the cheapest it can be a £2-300 job.
On 924 & early 944 the fuel tank is metal & corroded ones are not only dangerous but an instant MOT failure. Replacement means dropping the transaxle so again not trivial, reconditioned tanks are around £250 or so. Later 944 & all 968 use a plastic tank so this is not a problem.

Interior Water Leaks

Water leaks can have some owners phoning the Samaritans as curing them can be a headache out of all proportion to the cost. Common leak points are the sunroof, tailgate hatch & latches, door seals & the bonnet at the base of the windscreen. Check carefully throughout the car for dampness & signs of water damage.
All the seals are available from either a Porsche Dealer (OPC) or various specialists.

Suspension.

The suspension is generally quite rugged & bushes last much longer than say a Ford or a Vauxhall.

One weak spot is front wishbones, on the early cars the ball joint is riveted on & is changed by drilling out the rivets & replacing the joint for under £20 each. On the later cars (post 85 ½) with aluminium wishbones, the outer ball joint is sealed at the factory & in theory is not changeable. Porsche have the idea that you'll replace the wishbones at around £400 EACH! In practice ball joint replacement kits are available but are not always successful. Some believe that this is due to the housing going out of round.
The other option is to buy exchange wishbones with a warranty at less than £200 per side, complete with all new bushes. The rear suspension is generally long lived, although high mileage cars will benefit from a bush change
A good check for suspension set up is to run your hands across the face of the tyre, it shouldn't feel grainy & wear should be even both sides.
Shock absorbers have a limited life despite probably being acceptable to the MOT tester & a good way of freshening a car up is by swapping all four shocks. Standard ones are normally an improvement over the tired originals & that together with a geometry check which is essential will completely change the car.
Front wheel bearings changed with Oval Dash cars post 85 ½ before this they are a little lightweight & need checking. The later wheel bearings are considerably bigger & seem to be fairly bulletproof. Rear wheel bearings are long lived but fiddly to change as the hub nut is very tight.
Driveshafts are long lived but do eventually fail with a clip-clop noise. Stripping & cleaning & regreasing is worthwhile every 3-4 years. Exchange driveshafts are available for reasonable cost or the CV joints are available separately.
Early racks which are non- power assisted steering (PAS) are relatively cheap to replace as they are shared with a VW model. Later PAS racks & pumps can leak, weeping connections are quite common. If you can reach them, the rack gaiters should not be "squidgy" or contain fluid. The reservoir should be up to level & not frothy. Pumps are around £160 exchange & racks are around £300 but both can possibly be reconditioned at home with a seal kit.
One area that does need to checked is the shaft connecting the column to the rack. This shaft gets cooked by the exhaust manifold especially if the engine mounts have collapsed & the joints fail. The shaft is around £70-£80 and around an hour to fit.

Brakes

944 brakes in good condition should feel quite sharp, they are certainly adequate for the car.
Firstly the handbrake. This is not the most effective of designs & it needs to be in top condition to ensure an MOT pass, otherwise it won't reach the required 16% efficiency. Lack of use exacerbates this problem. The handbrake works by using drum type linings on the inside of the rear discs. Common problems here are seized handbrake cables, worn linings because people drive with the handbrake on! Also the internal mechanism seizes & finally the drum retaining springs break causing a tinkling noise or at worst a jammed on brake.

Otherwise the rest of the braking system fall into 2 groups; 924, 944 8valves but not Turbos have single piston callipers with slides. Generally very reliable although the slides will corrode & seize especially on little used cars.

Brakes on the S2, all Turbos & 968 are Brembo 4 piston aluminum callipers. Although very much looking the part these have two stainless steel protector plates to stop the pads wearing away the ali.

Unfortunately muck & electrolytic corrosion means the plates lift & jam the pads. Rectification is fiddly as the screws holding the plates are Loctited & difficult to get out. Done professionally this can be quite expensive, if left for any length of time the caliper body can be so corroded that the only cure is new callipers. The callipers are quite sought after for VW upgrades so this pushes the price up on the s/h market.
For both systems; discs are generally long lived & are not expensive to replace.

Tyres

Tyre sizes vary through the generations starting with 14 inch tyres on the early 924 through to 17inch on the last of the 968s. Lots of cars will have had wheel upgrades & these will be for various reasons.
The early 944 cars run on a 215/60 x 15 which is a relatively rare & therefore expensive size, so a lot of these have been upgraded to the later 16" 944 wheels known as D90. Other wheel changes are for cosmetic reasons, some of these are up to 18" & some cars are on 19". Porsche do not recommend bigger than 17" wheels & that only on the later 944s with suspension geometry changes. 968s had 17" as an optional wheel. Cars on very large wheels become very sensitive to surface imperfections & lose some of the handling sweetness, as well as suffering from increased bearing & suspension joint wear.
A good way of telling whether a car has been looked after, is if it is on quality tyres all round. It is also not recommended to mix tyre makes front & rear, it may cause odd handling traits.
The stud pattern is different on the 924 to all the other cars, the 924 has 4 studs & all other cars including the 924S have 5. Also the offset of the wheel changed in 1987 to what is known as the ABS offset, giving generally improved geometry. Later wheels are around ET52 whereas early wheels are around ET23. Spacers can be used to fit late wheels to an early car but will be A. Expensive & B. load the wheel bearings to possibly unacceptable levels.

Engine.

The engines fall into three groups the 924, the 8Valve 944 & the 16Valve 944 & 968.

- **924**

This engine is a 2 litre only derived from the Audi 100 of the period. It has mechanical injection & electronic ignition. A Turbo version of this engine was offered.
This lump is fairly bulletproof although will suffer like any engine as it ages. The cambelt is a simple one to do by the average DIYer & should be done if there is no record of it having been changed. Another area is to check the condition of the fuel pipes as these are under high pressure & a broken one will send the car to Porsche heaven very quickly.

- **944 Engines General**.

The engine is an all Porsche one derived from the 928 V8. This engine is more complex that the 924 engine, having two balance shafts & a balance belt in association with the cambelt. The cambelt change interval is 3 years or 36K miles with water pump replacement every other change.
Oil leaks are common on higher mileage engines but can generally be fixed. Although because of poor access can be fiddly.

Engine mount failure is quite common, they are hydraulic & collapse. Diagnosis can be difficult but one way is to get someone to blip the throttle whilst watching the engine. It should rock slightly & if it doesn't then the mounts could be collapsed. Very badly failed mounts can leave the engine lying on the shaft & the heat from the manifold can cook the steering shaft U/Js & also crack the exhaust manifold. Mounts are around £100 each with around one hour labour each.
Good oil pressure will be around the 4.5-5 Bar level with a few revs, at tick over you should see around 2.5-3 bar.
Make sure the oil pressure gauge is at zero with ignition on & before you start the car. A faulty or disconnected sender will send the gauge to 5 Bar & is a common scam for traders.
Exhaust systems last a very long time, at replacement time there are two options, Porsche OEM or an aftermarket stainless steel system such as Dansk. The Porsche OEM system is very expensive (but long lasting) where as a Dansk will be around £200 for the rear section.

- **944 8Valves**

This engine was available as a 2.5 & 2.7litre & in addition a 2.5 Turbocharged version. This engine is quite long lived with high mileage ones starting to use a bit of oil. Oil change periods are every 6K Turbos should have 3K oil changes.

- **944 16Valves**

This engine was available as a 2.5 & 3.0litre.
Oil change periods are every 6K on the 2.5 & 12K on the 3 litre.
This engine has 2 camshafts with the exhaust cam driven by the cambelt & the inlet cam is driven by a chain half way down the head. The issue is that this chain & tensioner system has no Porsche service interval. When the chain stretches at around 90K miles or so it damages the camshaft sprockets (which cannot be replaced) or worse breaks, trashing the head, all the valves & possibly damaging the pistons & bores. It is therefore essential that this chain is checked, together with its tensioner & replaced. If looking at any of the 16 valve engines find out when this was last done & if the owner has no record get it checked before purchase. The tensioner slippers are around £20 with the chain being £25. If you need the cams, they are around £700-£900 the pair!

- **968 16Valves**

This engine was only available as a 3.0litre.
Oil change periods are every 12K on this. The same things apply to this engine as the 944 16V. This engine differs over the 944 16V in having variable cam timing

Transmission & Clutch

The majority of these cars will a 5 speed gearbox, with only early 924 cars having 4 speed & all of the 968 having a 6 speed box. Optional on 924 & 2.5 944 was a three speed automatic box, with the 968 having a "Tiptronic" option which is an automatic effectively.
Generally the boxes are long lived, the 968 cars have an issue with pinion bearing failure which is fairly expensive to fix. A good test of the pinion bearing is does it whine under power on & go quiet on the over run? They all whine a bit but it shouldn't be excessive. An oil change with either Swepco or a good synthetic is worthwhile & can quieten the box considerably, as well as improving the shift.

With the gearbox at the back the shift is never going to be super smooth, but it shouldn't have excessive play. Very often a bush kit will improve the shift quality. Quick shift kits are available but not everyone likes them.
All of the gearboxes chatter in neutral & are reasonably noisy. This is even worse if you drive with the luggage cover off, the seats folded down or the boot carpet out. With all three you'll probably think the gearbox is about to explode.
A limited slip diff (LSD) was optional on most models & only standard on later turbos.
The clutch is together with the cambelts one of the more expensive bits. On all except the 968 it is a gearbox out job, book time on a 944 is around 7 hours & on a Turbo 10 hours, after a few years with seized bolts & other collateral bits it could take longer. The 968 clutch is simpler with less dismantling involved.
Clutch judder when hot does seem to be a common issue. Clutch life varies hugely dependant on how the car is driven but 80-90K on standard cars seems to be a good average.

Electrics.

Instruments are generally reliable, speedos are electronic on post 85 ½ cars & can go intermittent, also the trip or odo can break its gears internally.
Most cars have electric windows & sunroof. Later cars (>85) have electric tailgate release. Some Turbos, & late 944 & 968 have air conditioning as an option.
As regards the windows & sunroofs these are generally reliable, although the switches for the windows can get intermittent with age, normally a clean with switch cleaner fixes them. Window motors are starting to fail as they get older, but problems with windows can often be resolved by stripping & cleaning & greasing the mechanism.
The sunroof tilts or it can be removed completely (they go in a bag in the boot), but are a pain as the switching is quite complex, with various relays, switches & interlocks, also the gears that drive the roof age & strip their teeth. The gears are not complex to change but fiddly. There is a huge resource of info on the internet for this & lots of other issues, plus people on the club forum who've been there & done it & found the easier way!
Heater motors are generally OK, but the resistor packs fail & only give full speed.
A common issue is the heater only giving full hot, this frequently a broken clip on the linkage & is around a few pounds or so from an OPC & 10 minutes to fix.
Wipers, issues here are more likely to be the linkage falling apart, the easiest here is to get a new ball joint from an OPC.
A common failure point is the DME relay, this switches ignition power to the fuel pump & ignition. They tend to fail due to old age but are only £20 or so & most people keep a spare as it is a 5 minute job to change.
On the cars where it is fitted, A/C can be a struggle to get working where it has failed & repair can be quite an expensive process. Do not believe a seller who says "it just needs regassing" It will be more complex than that.

And Finally!

Assuming you have got to the end it is not all bad! A good 944 is a joy to drive with some of the best handling & roadholding in its class & belies its near 20 year age.
If you are looking at a car & have any more questions, then do not hesitate to come onto www.TIPEC.net & someone will try to help, if all else fails then my E mail address is;- tr7v8@phaetonconsulting.co.uk or 07930 353232

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