

SIERRA COSWORTH 4X4

Words: Blakey

The 4x4 Saph's roots were planted in rallying. Now have some fourby fun on the road.

Good as it was, the 2wd Saph Cosworth couldn't keep up with 4wds from the likes of Lancia and Toyota.

Ford's Special Vehicle Engineering (SVE) department was tasked with making the Saph 4wd. Daunting as it sounded it had a helping hand in the shape of the running gear of the XR4x4.

Aside from mods to the sump, stiffening up the bulkhead and inner wings, plus a bit of nibbling to the front chassis rails to allow clearance for the movement of the driveshafts, it was straightforward to bolt the XR's Ferguson-developed 34/66 per cent split 4wd system to the Saph's body and Cosworth powerplant.

NEW YB

The XR's MT75 five-speed 'box was used too, but SVE did fettle the YB. The capacity and compression ratio remained unchanged but 80 per cent of the 4x4's YB was new, including stiffer RS500-style block, stronger head casting and gasket, new cam profiles, bigger intercooler, Mahle pistons and Garrett T03B turbo. An unleaded catalytic converter-equipped version was also available and was denoted by a rather apt green cam cover.

Although the 2wd Saph's spring and damper rates were retained the 4x4's suspension was beefed-up with stiffer anti-roll bars, while the brakes were upgraded to vented discs.

OPTIONAL EXTRAS

Apart from a few badges, tinted rear lights and vents in the bonnet, there was little to distinguish the 4wd Saph from its predecessor. It was a similar story

inside, although the new model's Ghia-based interior did benefit from steering column adjustment optional air con, and leather trim.

Despite the addition of 4wd the Saph couldn't eclipse its rally rivals, but out of the forests and on the public highway it was a runaway success. It's £24,995 price tag didn't deter buyers and by the time it was

pensioned off in 1992, it had been bought by over 12,000 RS-loving motorists.

These days the 4wd Saph is often overlooked in favour of its all-conquering Escort successor, but for those with smaller pockets it's the best way to sample 4x4 Cosworth performance.

Couple this performance with little worry of depreciation, four doors and a sizeable boot, and we're sure you'll find that buying the 4x4 Saph makes perfect sense.

FAST FACT
The 4x4's larger intercooler is 70 per cent more efficient than that of its 2wd predecessor.

ELECTRICS

Ensure that the Cosworth's electrical gubbins work, checking everything from the power windows to the boot and filler cap releases to the graphic display, the latter lighting up when the boot or a door is open, there's frost on the ground or if a bulb's blown. If the desirable options of air con and electric sunroof are present then inspect them carefully because they'll be costly to repair.

Ascertain the condition of the wiring. An ageing loom can cause a multitude of horrors. Pay particular attention to the condition of the underbonnet wiring which often gets damaged through the dirty environment and heat build-up.

The poor design of the fan cooling circuit means it's easily overloaded so make sure it kicks in, while the wiring of the fuel pump is also susceptible to decay. If



the fuel pump wiring is failing then the supply of fuel will be insufficient and we know what a lack of fuel leads to... It's not easy to inspect

so if you do buy a 4x4 get the pump's operation checked to avoid a meltdown.

BRAKES

Use 'em hard and the resulting heat will warp the factory front discs. It's common to find them banana'd but it's easy to spot, a telltale being a judder through the pedal and steering wheel when moderate pressure is applied to the brake pedal.

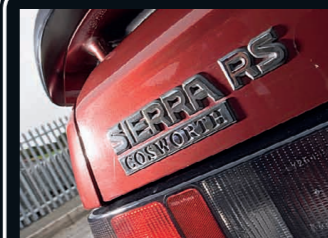
The 4x4 Saph also likes to eat front pads so listen for any 'clicking' or squealing that means they're close to the metal. The rear callipers can stick too so pay attention to the operation of the handbrake, any pulling to the side, looking for scoring to the discs, and also feeling for an abundance of heat from either disc after a test drive.



IDENTITY

It's essential to ensure that any 4x4 Cosworth is kosher. Check that all the numbers look untouched and that they tally with those on the V5. The chassis ID is on the slam panel and underneath a flap of carpet between the driver's seat and the sill. The engine number is behind the cambelt cover next to the water pump. For the ID, you want to see BFGC4 - the '4' denoting 4wd.

Be aware that facelifted cars produced from the autumn of 1991 should be wearing the later 'shark tooth' alloys and have a more subtly contoured dash and different instrument style.



SAPPHIRE

TECH SPEC

ENGINE
Type: YBG/YBJ
Capacity: 1993cc
Bore/stroke: 90.82x76.95mm
Compression ratio: 8:1
Max power: 220bhp @ 6000rpm
Max torque: 214lb/ft @ 3500rpm
Cylinders: four, in-line
Cylinder head: aluminium alloy
Installation: front-mounted, longitudinal
Block: iron
Valve gear: four valves per cylinder, hydraulic tappets, toothed belt-driven DOHC
Induction: Weber multi-point fuel injection system, Garrett T03B turbocharger
Ignition: Marelli electronic breakerless
Management: electronic Weber/Marelli system

TRANSMISSION
Type: Ferguson-patented 4wd
Gearbox: MT75 five-speed manual
Internal ratios: 1st, 3.62:1; 2nd, 2.08:1; 3rd, 1.36:1; 4th, 1:1; 5th, 0.83:1; final drive, 3.62:1
Clutch: 240mm

SUSPENSION
Front: MacPherson struts, unique RS spring rates, monotube gas damping, 30mm anti-roll bar
Rear: separate springs and single tube gas dampers, 18mm rear anti-roll bar

STEERING
Type: power-assisted rack-and-pinion
Lock-to-lock: 2.4 turns

BRAKES
System: vacuum servo-assisted dual circuit hydraulic with Teves ABS
Front: vented 278mm discs
Rear: vented 273mm discs

WHEELS & TYRES
Wheels: lattice-pattern 7.0Jx15in cast alloys
Tyres: 205/50 ZR15, originally Bridgestone ER90

BODY
Type: pressed-steel monocoque, based on conventional Sierra, in four-door saloon style, RS polyurethane bodykit

PERFORMANCE
Max speed: 150mph
0-60mph: 6.6seconds

INTERIOR

Trim can only be sourced second-hand, so make sure it's at least saveable. Common complaints include sagging headlining, particularly towards the back, and cracked dashboard tops.

The biggest cause for concern will be the unique front Recaros, finished in either cloth or optional Raven leather. Both versions wear primarily on the side bolster and foam bases with cloth seats prone to sagging material on the former, while worn leather seats will be cracked or split in the same area. The foam of both is also likely to be crumbly here if damaged fabric has left it exposed.

Hunting replacements will be time consuming but the likes of eBay and specialist breakers make it slightly easier. When you do unearth them, it's still possible to get a bargain – witness the complete set of tidy leathers and door cards that recently sold on eBay for a reasonable £160.

FAST FACT

LHD models lacked Cosworth badging, powered rear windows, passenger seat lumbar adjustment and dim/dip sidelight setting.



TRANSMISSION

MT75 is resilient but when it does break it's second and third that fail first. Any rumbling or whining points to a rebuild.

Failing synchro is common as it's easy to beat the 'mesh' on what is a bit of a cumbersome change, leading to baulk ring damage and a crunch every time you shift gear. Don't be surprised if there's a bit of grating when selecting reverse gear, as this doesn't have any synchromesh.

The centre diff is more susceptible to failure than the 'box. It'll be easy to see if it isn't working because there will be no drive to the front wheels! Listen to the rear diff too and be aware that the clutch action should be light. If it works fine but feels heavy it could be the common fault of the clutch cable melting. This is caused by its close locality to the exhaust, and what in turn allows water to rust the cable.



SUSPENSION

Decent nick factory suspension will give a firm but comfortable ride. If it crashes or wallows then it's past it, the springs and dampers being ripe for replacement.

Any clonking or a feeling of vagueness from the steering points to the front suspension bushes being shot, which is a particular trait of the 4x4, while the rears are shown to be perished by the back end wandering at speed.

Aftermarket suspension is common and needs to be inspected. Consider matched springs and dampers to be essential at the least. You want to see quality kit, and evidence that it's been fitted by someone who knows what they're doing. A drop of 25mm is thought to be ideal, it's enough to optimise handling but shouldn't put the 4x4 at risk of popping its driveshafts.



BUYING ONE

Buying a 4x4 Saph is a double-edged sword. It's an exciting prospect that can deliver 150mph performance for Fiesta money, but it can be a nightmare which at could see you suffer a wasted trip to view a hyped-up scrapper.

The effects of time and the Cosworth's nature have done little for availability. *Auto Trader* only turned up 11 nationally, but where they do appear should give you some indication of what's in store.

On a private sale level, the best cars turn up through the enthusiast-led RS Owners' Club's Sierra Sapphire Cosworth 4x4 register, while you shouldn't really be expecting a minter in your local *Trade-It* or eBay. While the majority on the Internet auction site require varying levels of 'fettling', it does tend to have its fair share of 4x4s so it's not a bad source of project material.

What you're prepared to shell out will have a bearing on the chances of landing a good one, but by no means does a big price indicate a good car, all it means is that there's a chance of losing a bigger amount of cash. Much the same applies to modified cars too – a big spec doesn't mean it's well screwed together.

TRADE SALES

To guarantee peace of mind buy through a reputable trader as at the very least you're protected by law and no trader wants to see a rogue car back for endless warranty work. Buying this way also protects you from cars with dubious history. However, there is literally a price to pay for the reassurance.

The cheapest cars we found were circa £3500 while the most expensive, a 25,000-mile, air con and leather-equipped Diamond White 1992 example was up for £11,995 at Cosworth specialist Jct 28. It sounds a lot but 'you get what you pay for'. The minty Saph also points to the trend in rising prices for good cars and underlines the fact that it's the standard cars, unless expertly modified to a high degree, that are making the money.

Options such as air con and leather are desirable and unleaded versions are unsurprisingly more appealing, but it's imperative to buy on condition rather than age or specification. Buy the best you can and if you do land a particularly tidy car then there's an extra sweetener – treat it right and you can expect to see your money back, if not more, when you



BODY

Rot is most likely in the rear arches but will manifest in the boot spoiler supports, bonnet edge, door bottoms and where the bodykit fixes to the shell. Hidden areas will be more costly to rectify, the Saph being susceptible to rust in the rear chassis rails, bulkhead, sills and inner wing area around suspension turrets.

It's a rare Saph that hasn't had a bit of bodywork damage resulting from an 'incident', but if it's straight and HPI-clear don't be too hung up about minor telltales.

Check if the original build date stamps are evident on the upper edge of the front wings, plus the factory sealant that covers the join of the front panel and wings. If they're missing the front end could've been replaced due to a smash, which means you need to probe further back in the engine bay to check for more serious creasing to the chassis rails and inner wings. Also walk away if you see creasing or signs of filler in the boot floor.

FAST FACT

Motorcraft's first ever platinum-tipped spark plugs debuted in the 4x4 Sierra Sapphire Cosworth.



HPI

As with buying any Cosworth, it's essential to run an HPI check before you hand over your hard-earned readies. Just a few minutes spent on the phone or on the web can save you from blowing cash on a dodgy 4x4 that's been nicked, written-off or has outstanding finance. Even better, the HPI check is a bargain for the peace-of-mind it provides, costing just £39.99 at www.hpi.co.uk or £42.95 on the end of 01722 422422.

INSURANCE

A foreman by trade and a 'four-man' by nature, site engineer Terry has a real thing for the all-wheel-drive Saph. His 1991 example is completely standard aside from the useful addition of a Cat 1 alarm. The 31-year-old also keeps his Cosworth safe by garaging it at his Exeter home and only using it for 5000 miles per year. He's equally careful when driving it too, having amassed seven years' No Claims Bonus and being the proud owner of an unblemished licence. Terry pays £559.08 for fully comprehensive cover. Quote provided by Norwich Union via www.aquote.co.uk.



CLUBS

The Ford RS Owners' Club
PO Box 408
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RM17 9ED
www.rslowersclub.co.uk

Ford Sierra Owners' Club
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www.fordsierraclub.co.uk



IN THE ADS

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1992, 300bhp, NMS Gunship conversion, fsh, 109k, rebuilt engine and gearbox, 12 months Mot, all previous MotS, RS500 I/C, oil breather, Samcos, AP clutch, Konis, full leather, adjustable TCAs, RSOC member, £4995
Tel 07890 561859
West Yorkshire

ENGINE

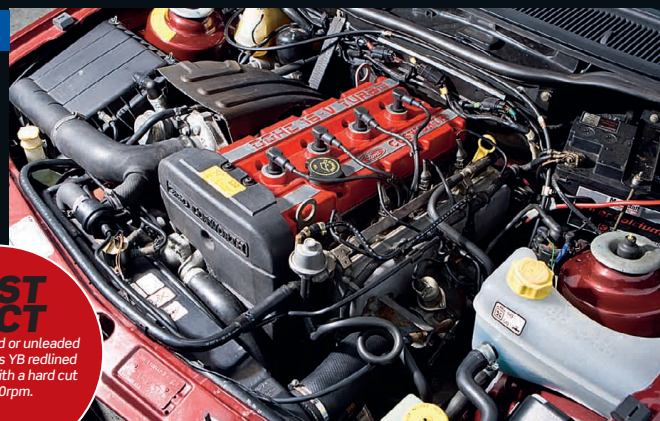
The 4x4 lump benefits from a stiffer block and hardier build than previous YBs, but does suffer the same maladies, most notable misfiring and head gasket failure.

Decent plugs and leads should sort a misfire under acceleration, but if it's erratic the ECU or a sensor could be at fault. Symptoms of head gasket failure include white sludge on the oil filler cap, high running temp and a thirst for water. The gasket can blow anywhere but it's common to go on the exhaust manifold side.

In standard trim the YB can blow its gasket, but tuning and a 'tweak' to the boost make it more likely. Overzealous tuning can also be responsible for rough running – a poor set-up and cheap chip doing more harm than good. If work has been done ensure you know what and by who.

FAST FACT

In either leaded or unleaded form, the 4x4's YB redlined at 6800rpm with a hard cut at 7000rpm.



White smoke points to a faulty head gasket but can also indicate a blown turbo. See if you can remove the hose that runs from the turbo inlet to the airbox and feel for play in the impeller. A little is fine but any more and it's time for a rebuild. Blue smoke can mean that the turbo's oil seals are shot but if it's constant under

all driving conditions then the engine's excessively worn.

Erratic revs are often down to a dirty or worn Idle Speed Control Valve. Check the service history for signs of basic maintenance. At the very least cambelts should be changed at 48,000 miles or four years, while the oil and plugs are ideally changed every 6000 miles.

HOW MUCH?

£3000-£4000

The going rate for an MoT'd car that needs a bit of work to bring it up to scratch. Often messed with and wearing a few battle scars, they need close inspection to make sure you're not buying into a whole load of trouble. Expect six-figure mileages and patchy history, but at the same time it is also possible to find a bargain.

£4000-£6000

Tidy to very good cars, the more expensive examples coming with sensible mileages of circa 80K-90K, very straight bodywork and a fair whack of service history.

£6000-£8000+

The best cars, particularly at the top end of the price bracket. The more expensive cars should have low mileages in the region of 50-60,000 miles and comprehensive service history. Concours cars and freak low mileage examples with all the options can make upwards of £10,000.



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