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LOTUS EUROPA

At its launch in 1966, the first road-tests said the Lotus Europa was as close to a formula car for road as you could get. Four decades on, it still takes some beating, says Nigel Boothman



→ If you tell fellow petrolheads you've got a Lotus, they might be impressed. If you tell them you've got an early prototype of the Ford GT40 they'll splutter into their beer and lean forward with eyes wide. But if you buy a Lotus Europa, you can say both. Despite the S1 Europa being intended as a replacement for the Seven, it actually started life as a pitch for the contract that became the GT40. Colin Chapman's bid was the one favoured by Ford, or so the legend goes, but the deal fell apart over his insistence on the car keeping the Lotus name, so the job went to Lola.

Ford's loss, our gain, though we were offered a pretty Spartan vehicle to start with. However, the low-cost approach that led to the S1 appearing with a 1.5-litre Renault pushrod engine and non-opening windows soon evaporated. In truth, Chapman knew that the Seven was too popular with the Lotus-buying public to be dropped, and he soon re-targeted the little mid-engined machine to become a money-spinner in European and American markets. Hence the S2's electric windows and better interior, and the much bigger changes to the Twin Cam of 1971.

As you might have guessed, this marked the arrival of the classic Lotus Twin-Cam engine in the Europa, as previously found in the Lotus-Cortina and of course the Elan. The Europa could always handle more power, and with the 126bhp from the big-valve version of the twink, it was a properly fast car – 0-60 in 6.5 seconds and 125mph, all from 1558cc. The body shape also changed a little for the Twin-Cam, becoming less bread-van like in profile and benefiting from a snazzy paint job in Special form.

The backbone chassis is the key to the Europa's light weight and nimble handling. It splays at each end to mount double wishbone suspension at the front, with the engine and gearbox in the Y-shape at the rear. These days, most Europas will have been re-chassied, and that temptingly accessible engine bay means there are plenty with engine swaps too. In addition, Richard Winter's modern and improved Banks Europas now number over 400. Whichever Europa you choose, you'll only have to drive it to understand the appeal.

But it's not always easy to buy the right one.

Bodywork and chassis

It's now more than thirty years since the youngest Lotus Europa was made so avoid cars that haven't had the chassis replaced. It's made of steel so prone to rust but it's very hard to be certain how grotty it is without a ramp and a torch. It's not much help to suggest particular corrosion hotspots, as repairs of any significance are tricky without separating body and chassis. Welding new steel to old really isn't a good idea on a structure that never had excess torsional rigidity to start

with. A new chassis to the original spec is available from under £1500 from Banks Europa, or you can swap in one of Richard Winter's tubular replacements for about £500 more. These have improved A-frame rear suspension and the best of the variations seen between S1, S2 and Twin-Cam chassis.

The chassis is classed as a subframe, so you can do these swaps without ending up with a Q-plate. Pay attention to the glassfibre body. Look at the A-pillars around the windscreen

– there are sharp corners that act as stress raisers and can crack. Stripping the screen out for a proper repair is a pain. Doors that drop, scrape or have play in the hinges are difficult and annoying to repair. Europas can bite unwary drivers on wet bends, so inspect for clumsy damage repairs to corners and sills. Paint is often disappointing on old glass-fibre cars, but keeping the body in top condition can be more of a pain than putting up with a stone-chipped and star-crazed example.



Transmission

Europas are infamous for their poor gearchange quality, but it doesn't have to be that way. There are three different but related gearboxes, and the earliest one with the most complex gear linkage, the 336 four-speed, is perversely the one you can get the best change quality out of. The 352 four-speed and 365 five-speed 'boxes are recognised by the selector shaft entering the back of the gearbox rather than the side, which doesn't help the linkage, but they can all be improved. However, these mods can cost up to £1000 so don't assume you can sort a car with an awful gearchange for peanuts.

Lotus originally fixed the clutch cable to the chassis rather than the transaxle, which can cause nasty clutch judder. Hardening and wear of the O-ring seals at the driveshaft coupling is common, so don't run away because of a minor oil leaks. You may come across Europas upgraded with one of three five-speed boxes from the Renault Fuego's production run,

which you can still find if you know where to look. Nowadays, parts can be a bit of a head-scratcher for the DIY mechanic, but well-connected specialists can still get any of these boxes rebuilt.

Driveshafts can wear out the splines and the universal joints, and the hubs can wear too – there are no shock-absorbing rubber doughnuts a la Herald, Imp or Elan, because the driveshaft has to form the upper link of the suspension. This assembly is a job for an experienced specialist, and doesn't always get done right, so try to jack the rear end up and check for play – replacement shafts cost £180; it's £90 for hub.

Brakes

The brakes only have to stop 750kg or so. The standard front discs and rear drums with remote servos fitted to some of the S2s and all of the twinks are usually fine. Supposedly self-adjusting drums usually don't. Try a brake test on a loose surface. If only the front wheels lock, this could be why. A kit is available to change the adjustment to manual. As for upgrades, you might come across ventilated discs on the front and a rear disc conversion, which is advisable if there's a high-powered modern engine.

Suspension and steering

It's a Triumph Herald/Spitfire type system at front, with the trunion bolted to the vertical link. Just like any 60s or 70s car with a similar system, they tend to rot so check for vertical movement between the brass tube and the helix thread.

Even slight wear can affect the steering a lot, so if the first one you drive isn't as pin-sharp as you'd hoped, try a few

others – you might be detecting worn out wishbone bushes. Incidentally, freshly replaced bushes can cause problems if the suspension wasn't bearing weight when they were torqued up, which is awkward to arrange.

At the rear, the driveshaft forms the upper link on each side, with a tube below it forming the lower one. Lateral location is provided by long diagonal trailing links –

they and their forward mountings need to be checked for corrosion. It's a nice design, but causes track and camber changes in cornering, which can make the Europa feel twitchy on damp roads – if any of the various bushes look perished or split, they'll make things worse.

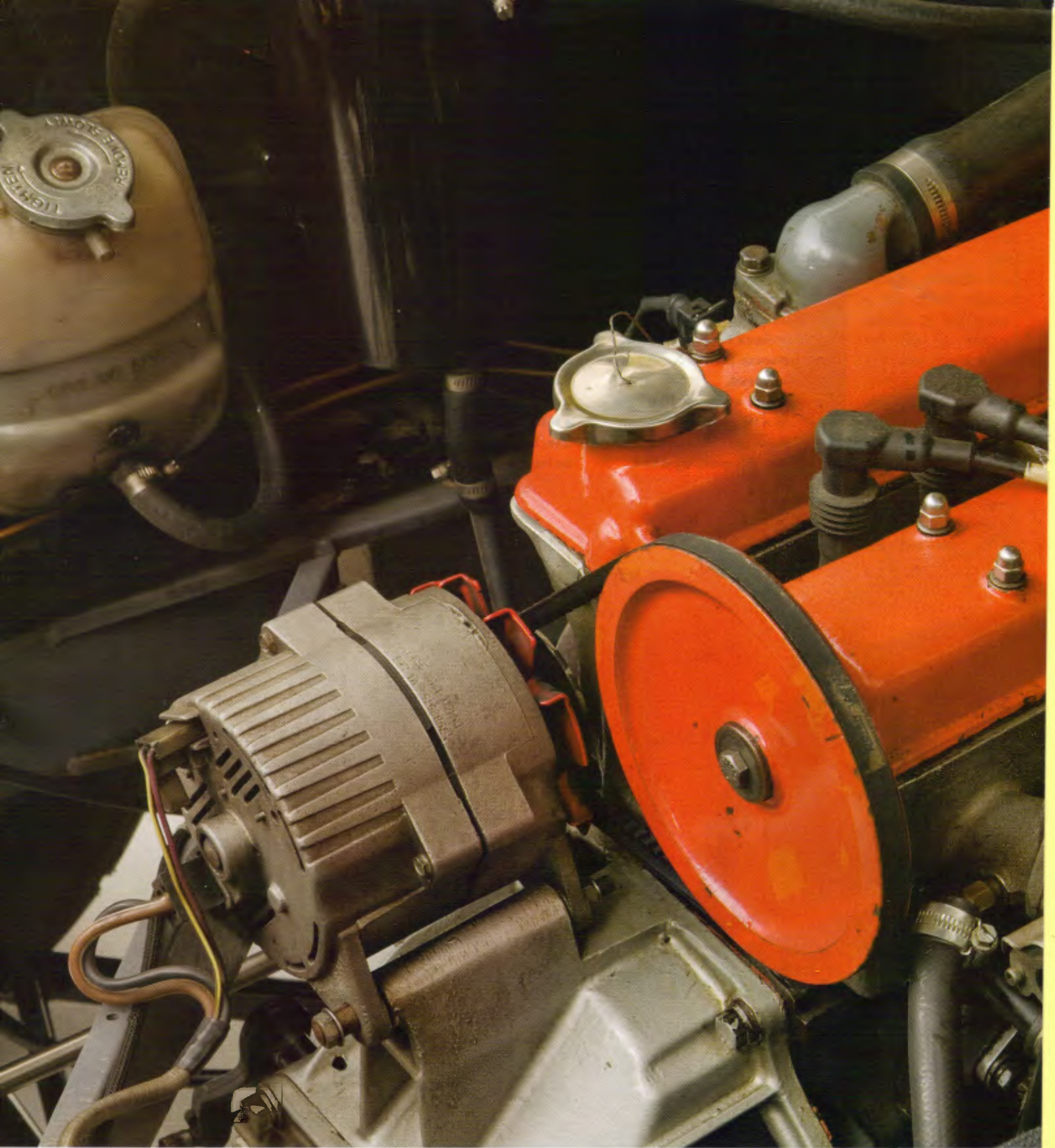
Basically, if you go for a blat up a B-road and it doesn't make you feel like Jim Clark, something's probably wrong.



Electrics

It's a Lotus, it's got a glassfibre body and it's probably been bodged by 40 years' worth of enthusiastic amateurs. That's not a recipe for electrical bliss, so it's a good thing that the Europa isn't very complicated. Electric windows will probably

be slow, but shouldn't stick, and every toggle switch does something (or it should do) so check them one by one. Suspect earthing faults if lights and instruments misbehave, and check the battery is properly mounted, earthed and in good condition.



The famous Twink. Great character, odd arrangement, will definitely break your heart.

Engine

The Renault 16 engine and the Lotus twink are pretty different. There are Europas with Vauxhall OHC 8-valve and DOHC XE 16-valve 'red top' engines, Toyota 4AGEs, Ford Zetecs and sundry Gordini-fied versions of various Renault engines. Modern engines are cheaper to fix and more robust in the first place, so let's concentrate on the original fitments.

The Renault engine is a super little all-aluminium unit sold in high-compression 1470cc here,

and anti-smog spec 1565cc form in the US. It's simple enough, but not well understood these days.

Don't assume that the milky stuff in the oil means a head gasket failure, it could be rainwater dribbling through the bonnet vents into the air filter, and from there into the engine. A flush and an oil change can cure this, as the tough French lump will put up with a lot of abuse. The cooling system is unusual in that it runs backwards compared with

most cars, working on a thermo-siphon basis but with a pump. If it's not properly bled, you can get air at the pump causing it to cavitate and then boil. Beware of anything that takes ages to warm up – removing the thermostat is probably a sign that someone's been struggling with the cooling system, though there might not be anything wrong.

If you do find one with a dead engine, they can be rebuilt easily enough but some parts (eg. pistons



for the 1470cc engine) are extinct.

As for the Lotus unit, it's more powerful than the Renault motor, but a lot more costly to fix. It has a different water pump problem, because the pump is at the front of the engine, facing the bulkhead. You can imagine how easy this makes it to replace. On top of that, it's not a simple bolt-in job, but something that requires proper fitting with shims, or it won't work properly.

Top-end rattles and clouds of

blue smoke are usually a sign that a Twin-Cam is about to bite you in the wallet, but you can check how tired the cam chain is by looking at the amount of thread protruding from the adjuster. If there's none showing, start worrying. Fully synthetic oil is a good idea too, and regard coal black

'SMOKE OR RATTLES MEAN THAT A TWINK IS ABOUT TO BITE YOU'

oil on the dipstick with suspicion. If there's a stainless steel exhaust, ensure the silencer is held by a cradle-type bracket and not bolted on to the gearbox, where vibrations can cause it to crack.

The car in our pictures has been uprated with fuel injection, but most Lotus-engined cars will still be on twin side-draught carbs. As always, it takes skill to set these up, so use any rough idling, flat spots or hesitation as a bargaining point.



Interior

If you're taller than Colin Chapman was (5ft 8in), you're better off with a Twin-Cam. The cabin was modified from the S1 and S2 to give more legroom, but **even so, it's a crash course in Norfolk yoga for lanky people.** The dashboard was a screen print of wood-effect stuff, and these

get past their best. Many owners have opted for a proper slab-of-wood replacement, and leather seats aren't uncommon either. Whatever's fitted, make sure it's dry and not split or rotting, as even the best Europas usually manage to let water in if parked in the rain.

Thanks to:-

Richard Winter,
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www.banks-europa.co.uk, Neil Watson