

# 4 the better?

ORIGINAL OR MODIFIED? BOTH HAVE THEIR ADVOCATES. WE COMPARE A TOTALLY ORIGINAL DB4 WITH A CAR THAT'S HAD A NUMBER OF UPGRADES, INCLUDING ELECTRIC POWER STEERING

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**ORIGINALITY.** Useability. Patina. Restoration. These are words seldom far from any conversation involving classic cars, and each can trigger near-evangelical passion (an over-used and mis-used word nowadays, but correctly meant here).

There is a view that for the fully authentic old-car experience, the car should be as built by the factory. Adventurous and physically fit owners will enjoy it for what it is, while others might find that they end up not using the car as much as they imagined they would – simply because it's just too much of an effort.

Another approach is to keep the car period-authentic but to enhance it with parts that were available at the time, making it faster/more agile/a better cruiser/etc. Such an enhanced car can still wear a period patina with pride, and still tell the story of its years.

And then there is the reversible-modification approach, in which you apply modern thinking to an old car to give it modern attributes without, ideally, spoiling what makes it enjoyable as a period piece. That might be the best of all worlds, and is an increasingly popular approach that has even led to the near-reinvention of cars such as Jaguar's E-type and air-cooled Porsche 911s.

It is happening with Aston Martins, too. Rebuilt engines of larger capacity, digital electronic ignition, bigger brakes, modern

telescopic dampers, five-speed gearboxes, better headlights... the list goes on. But perhaps the single biggest change is to power-assist the steering. It's not that people were stronger back in the 1960s, or had hairier chests. Instead it's a mixture of mental recalibration as to what is 'normal', with most modern cars having power assistance, and road conditions with more urban obstacles to negotiate and much more shuffling in and out of parking spaces.

But does power-steering your classic make it no longer a classic? Not necessarily; power steering was readily available back in the day, if rarely specified, and it tended to make steering uncannily light and almost entirely devoid of road feel. Possibly this was a ploy to make the customer feel good about the obvious tactile difference relative to the standard, biceps-building equipment. The sophistication of reducing assistance with increasing speed was still in its infancy.

The DB6 was the first Aston Martin with the option. So it's not unreasonable to imagine the benefit it could bring to the DB4 and DB5, especially if these DBs could have an assistance system to complement what most people regard as their more sportive nature. So, to assess this benefit, and any negative consequences, we have here a pair of DB4s brought together by EZ Power Steering of Leerdam in the Netherlands. We flew there by EasyJet, rather appropriately.



**Left and below**

This is the unmodified car – a Series 5 with a Vantage-spec 3.7-litre engine – and an absolute gem it is, too. Marcel Sontrop has owned it for 30 years – this is the first time he's let anyone else drive it

One, the car you see above, is a standard Series 5, or close to it (the engine is to Vantage specification). The other is a Series 2 with a triple-45DCOE Weber specification as per the DB4 GT except that the engine is bored to 4.2 litres. Four-piston front brake calipers rein in the extra power when required, 16in Turrino wire wheels enlarge the footprint, and a very long-legged rear axle ratio calms the cruising.

And, of course, it has the EZ power steering. Like all the company's many EZ applications, it uses a Japanese electric-motor system rather than the old-fashioned, and power-sapping, hydraulic pump of past arrangements. The motor and its electronics fit next to the steering column, under the dashboard where it is unseen by the outside world, and no changes are made to the original car's metalwork.

As well as the motor unit, the conversion requires EZ to machine a new, two-part inner column that is able to fit on either side of the motor unit's powered shaft and join up with the original rack and steering wheel. Finally, it

fabricates a new outer column with mountings for the motor unit. The original parts are kept untouched, so the conversion can be undone if desired.

THE SYSTEM OPERATES as follows, just as it does in a modern car with EPAS (electric power assisted steering). When the ignition is off and there is no power to the unit, you can feel a small amount of springy play at the steering wheel rim but the wheel still centres itself to the middle of the play zone. What you are feeling is the free rotational movement of the column between stops on the input side of the motor unit's powered shaft, plus the effects of turning a torsion spring running through the centre of the inner upper steering column, one end activated by the steering wheel hub, the other attached to that powered shaft.

The powered shaft has gear-teeth machined into it, which are turned by a worm gear powered by the electric motor. A magnetic Hall Effect sensor, similar to those used in electronic

ignition systems, senses the movement of the steering wheel relative to the powered shaft, through that small range of play, and the sensor's signal tells the motor to activate.

The idea is that you never get as far as taking up all the mechanical play because the motor instantly catches up with your movements as it applies torque to the lower column, powering the steering input to the front wheels and returning the torsion spring to its untwisted state with the steering wheel in the centre of the play zone.

This process is repeated for every tiny steering adjustment you make. Similarly, as the forces acting on the front wheels from, for example, the build-up of castor action under hard cornering, attempt to turn the lower steering column, this again applies a torque to the torsion spring against your hands and the motor applies its own torque to compensate for it.

Now, as your road speed rises you want less power assistance than for parking, because you want to feel more of what is happening under

the front wheels. The steering weighting should rise, but you also need to feel the weighting's variation as grip and loadings change. So the EZ system incorporates a speed sensor that fits into the speedometer drive and generates magnetic pulses, mimicking the signals from the wheel ABS sensors in a modern car. Using these pulses, plus the steering wheel movement information from the Hall sensor, EZ's engineers calibrate a suitable curve of reduced assistance with increased speed. It's not set in stone; the curve can be changed according to the buyer's tastes, with EZ advising on how to interpret the subjective sensations.

A non-power-steered car has heavy steering at low speeds, lighter at higher speeds. A power-steered car has light steering at low speeds, weighting-up as speed rises until, maybe, it should meet and match the curve on the non-powered car's steering-effort graph – if that's what you want. So is that happening with these Astons? Time to find out.

TO CALIBRATE MYSELF, I start off in the standard Series 5. Marcel Sontrop has owned this 1962 car, a right-hand-drive example originally sold in the UK but resident in Holland since 1967, for the last 30 years. It was built to order with the earlier exposed headlights rather than the faired-in, DB5-like units usual in a Series 5. Marcel paid just €8000 for it – 'I could have had a GT for €10,000, but it seemed too much money' – and restored the body himself apart from the delicious fine-metallic greeny-blue paintwork.

It oozes patina with its original, well-worn cabin and healthy mechanical evidence of regular and vigorous use. It has rare factory-fit electric windows and the original Motorola radio with red Aston Martin lettering, which illuminates when the radio is turned on, while the steering wheel's wooden rim has long lost its factory-fresh shine.

I am the first person other than Marcel to drive this DB4 in 30 years, which is quite a privilege. And it goes beautifully with its triple-SU, still-3670cc and nominally 266bhp engine burbling boisterously through its free-breathing exhaust system. The gearchange is a delight of mechanical, play-free precision, and this particular example has overdrive – a coveted option today – to address the cruising-serenity issue. The brakes need a firm prod but they do the job. What can there possibly be not to like? The steering, perhaps?

DB4s feel as though they have a lot of steering castor, because they self-centre strongly and





**Left and above**  
This magnificent Series 2 DB4 from the Houtkamp Collection has a wide range of upgrades, including a GT-spec engine enlarged to 4.2 litres, longer gearing, better brakes, and electric power steering

demand a lot of steering effort as cornering loads rise. This gives a great feeling of straight-ahead stability, but the steering response either side of the centre is springy and lacks the precision you might expect of a pinion moving a rack. It needs a surprising amount of physical heft even at speed, and of course it's very heavy for tight manoeuvring. In summary, it feels rather more vintage than its design suggests it should.

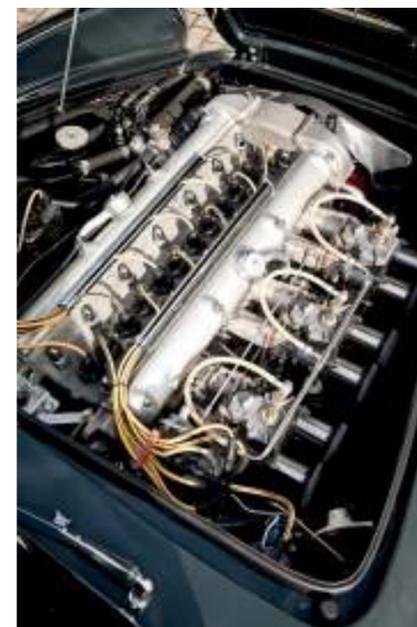
And so to the Series 2 DB4, a delicious-looking machine in the dark grey-green of the Sanction II DB4 GT Zagatos, and for sale with Dutch Aston Martin specialist Rutger Houtkamp, whose Houtkamp Collection will send any Aston enthusiast into a weak-kneed jelly. This car, originally sold to Lord Beaverbrook in 1960, has been restored twice, the first time by the Aston Workshop, the second time (not that there was anything obviously amiss with the first) some years later by Works Service.

It is very smart indeed, with an interior almost as new and sporting a desirable air-con system. Its engine should in theory make the claimed 302bhp of a GT plus whatever bonus the extra

capacity gives on top, although today's experts reckon the factory figures overstated the installed reality by around 40bhp. No matter; this Series 2 – recognise it by the one-piece rear lights, the mesh front grille, the larger bonnet air scoop, the two-in-one minor instruments and more, all carried over from the Series 1 – goes with muscular vigour despite its stratospheric, but overdrive-less, gearing. First gear will take you near 50mph if you let it, while the brakes have a bite and short-travel firmness not quite present in our Series 5.

Manoeuvring this one is a matter of a casual forearm-flick, an attribute that dramatically alters the way you feel about this Aston as you extract it from its lair. Instead of exhaling loudly, getting your breath back and rearranging your body and mind as you snarl off down the road, you're relaxed and ready for immediate action. Modern human composure in an antique environment: sounds ideal.

As your speed rises so does the steering heft, but not by as much as you might expect. Which means that when you're bowling along the open road, it feels a touch unreal relative to the



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physicality of the rest of the car. The feeling of springiness either side of centre remains, as does a hint of the weighting change during cornering, but the unwillingness of a worm gear to be driven rather than to drive masks the transient response. Broadly, then, the contours of the effort graphs beyond parking speeds are similar, just flattened and moved bodily down the torque scale.

SO TO THE BIG QUESTION. Does the EZ steering make a better DB4? Given that a DB4's steering is not exactly its best point to begin with, then remedying its most obviously unwelcome characteristic – the exertion demanded at parking speeds – is surely a good thing to do because you're not spoiling something good.

At speed, the merits or otherwise are more subjective. It makes the DB4 feel more modern, but still without a modern car's precision or speed of response because neither the steering's ratio nor its geometry have changed. Instead you still get a flavour of the standard characteristics, but they're kept more at arm's length, appropriately.

Were I lucky enough to own a DB4 and used it but occasionally, I would leave it as standard. But I like to use my old cars a lot, and this steering system would surely make me use my putative DB4 more – though I might ask EZ to alter the calibration (as it offers to do) to further reduce the assistance on the open road.

In the end, it comes down to your own preference and I do urge you to sample the EZ system for yourself. What is undeniable, though, is that a well-used, thoroughly sorted, standard DB4 remains a machine of wondrous delight. Bursting biceps or not.

*Thanks to Roger Reijngoud at EZ Power Steering ([www.ezpowersteering.nl](http://www.ezpowersteering.nl)), or contact UK agent Mike Waters on 01626 770400, the Houtkamp Collection ([www.houtkamp.nl](http://www.houtkamp.nl)) and Marcel Sontrop. The DB4 EZ conversion costs £2350 for the kit, or £2850 fitted.*





## *EZ does it*

'WE CURRENTLY have more business than we can handle,' says the enthusiastic founder of EZ Power Steering, Roger Reijngoud. 'We have designed conversions for dozens of cars, some simple, some of them – the Maserati Ghibli, for example – needing complete new castings to hold the motor. And you'd think splines on shafts would be standard, but they certainly are not. We reproduce them all.'

'The motor units come from either Koyo or NSK, and the conversions have German TÜV approval. Our old workshop, out in the country, was lovely except in the winter, but there wasn't enough space. We used to have open days with a barbecue, and we invited the TÜV people to come to test cars here instead of having to spend a day for each car if we took it to Germany. They tested 25 cars in two days, and came back grinning after every test because they'd had such a good time with the old cars.'

Roger got the idea for the company after devising an EPAS conversion for his old Opel GT. 'My wife said we should sell it because the steering was so heavy, but I wanted to keep it. At first I exchanged one problem for another because the steering was too light, but I worked on it. The next one was a Volvo P1800. Then more people wanted power steering for their P1800s, which is when the business started.'

Roger still had his day job, which at one point involved working in Saudi Arabia for the Aramco oil company, but he continued developing the EZ idea until it became a full-time business. Today his company also produces a range of replacement steering wheels for high-end classics, to the original design but slightly smaller to take advantage of the lower EZ efforts, or with an eccentrically-positioned hub (pictured right) to give more thigh clearance. ♣

