



Britcar Bafflements

Egad! These Yank blighters expect their vehicles to run for *hundreds of miles* without the slightest attention to the fittings from a properly skilled garageman!

Bloody truculent colonials! Where is the adventure of motoring these days, I ask you?

The Parthenon, Buckminster Fuller intoned, splendid an edifice as it is, dominating the Acropolis at Athens, a most fitting monument of classical Greece, the very symbol of the best in European culture, makes a damned poor radiator for a supposedly aerodynamic roadgoing vehicle. His own admirably egg-shaped “Dymaxion Car,” however, boasting front wheel drive and single rear wheel steering, never made it beyond the prototype. Rolls-Royce and other British cars, eccentric (not to say sometimes preposterous), dubiously reliable, ridiculously expensive, don’t choke the streets anywhere, not even at the Seat of Empire (such as remains) in Auld Blighty itself. Most cars pattering around Trafalgar Square, even as we speak, were built in Japan, in Germany, in Italy or even (gasp!) in France.

Sidedraft carburetors are now fossil curiosities, so the long, tense debate among people favoring stringed-back driving gloves, the debate whether oil from suckling infant sperm whales, Siberian linseed oil or some other, truly unobtainable lubricant provided the most satisfactory dashpot dampening – a dispute once heated to the point of raffish pugilism – has subsided all unanswered.

Even Jaguars now have effective heaters, *contra* Henry Lyons (*Sir* Henry Lyons, Esq., of course),

the founder of the company, who once observed, ‘Heaters? Pah! If a fellow would go motoring, he must be properly attired: greatcoat, silk scarf, hob-nailed riding boots, elbow-length gauntlets, aviator’s goggles, a stout leathern skullcap and — in the unwelcome event of a breakdown — a knobby cudgel to beat off the drooling proles, slack-jawed and fumble-fingered in the disorienting presence of their superior’s splendid conveyance.’ Actually, I made up part of that, but only a small part. A plain, smooth cudgel will do, I’m sure. Nonetheless, the decadent claims of creature comfort, not to mention those of performance, safety, environmental suitability and mechanical reliability have combined to erode some of the legendary British vehicular eccentricity.

Some but not all. Morgan still builds subframes from select, fire-hardened ash tensioned with cables and turnbuckles, trunnions, wedge-chocks, fetlocks and oakum tamped between the planks. I suppose that means if you drive through a puddle in one direction, you have to turn around and go through it the other way, or the asymmetrical wood-warping would lift one corner of your Plus-Four off the ground. Keep in mind, this is a car with a factory suspension so stiff you are supposed to be able to tell whether a coin you ran over was heads or tails.

Morgan also effectively evaded the emissions laws for several years by converting all their US-import cars to unregulated propane fuel, much to the purple apoplexy of slow-reacting USEPA officials. Now that the emissions law concrete is set, Morgan can buy somebody else's engines and control systems and go back to 'petrol.' Rolls-Royce/Bentley manages to stay in business hand-building a couple hundred cars a year (including those famous Parthenon-grilles), and Aston Martin (see the Aston Martin sidebar, p. 12) makes even fewer. Do Lotus or McLaren still pound out any cars at all?

MG's, Triumphs, Spitfires, Austin-Healeys, Minis, never mind Vauxhalls, Armstrong-Siddeleys, Morris Minors, Singers and Sprites have almost entirely disappeared from the roads, rare as griffins and unicorns in perfidious Albion. Now only two British vehicles cross the pond in any numbers, Range Rovers and Jaguars. Range Rovers, while nominally rugged offroad vehicles with the *cachet* of hammering across the trackless, baking Kalahari in search of the pilfered Blue Ruby of Zanzibar or bouncing through the dusty brush hunting rhinoceros in wildest Tanganyika, are actually most often mere suburban fashion statements, lifestyle appendages to trophy wives and affluent couch potatoes, parked awaiting the day's load of trinkets in the tonier SoCal shopping malls or along the Boston-Washington corporate-bureaucracy corridor, probably the regions of the earth with the world's highest ratio of pavement to ground surface. Range Rovers use an aluminum V8 first employed as the 1961 Buick 215. Engine controls are similar to Jaguar's, which we cover just below.

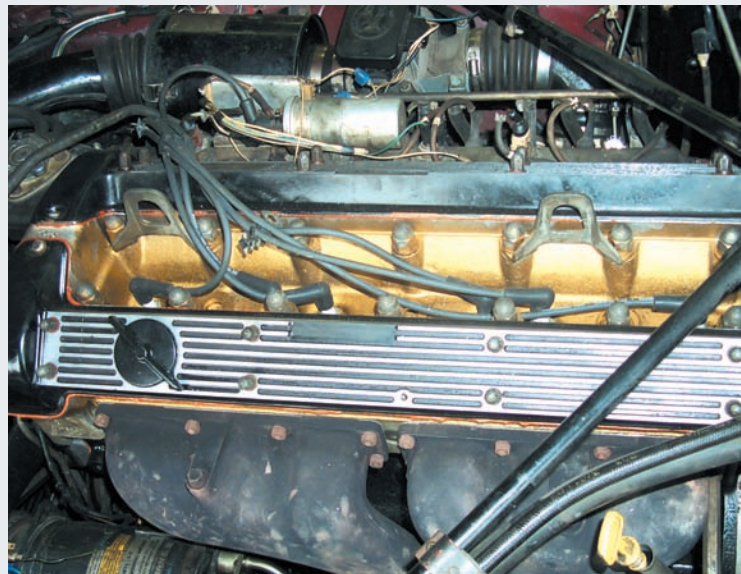
But Jaguars at least are still real cars. Whether you pronounce the name the British way ("Jag-you-are") or the American way ("Jag-wire"), even though half of their owners bought them only for the burled walnut dash, the leather upholstery and the tin cat on the bonnet, these are cars you should understand and can already diagnose and repair. I talked with Denny Bittaker, whose shop specializes in Jaguar and the other English cars.

Jaguar's mechanical reliability, he said, is much improved – perhaps damning with faint praise. You've doubtless seen the bumper sticker on the XKE: "... but when it runs!" And they are likely to become more reliable as their systems come more under the influence of Ford. They'll probably lose some of their uniqueness, too, but that's a story for another time. We'll wait a bit longer before reviewing Jaguars since the Ford takeover. Traditional Jaguar aficionados, of course, are aghast in anticipation of a garish 'Stang in British Racing Green and right-hand-drive, with fuzzy dice and seismic woofers, perhaps.

Engines and Controls

Most Jaguars have an inline six-cylinder, dual overhead-cam engine, the same basic engine design they've used for very many years. This is not a criticism in any way; in most respects a six-cylinder, inline engine makes the best possible powerplant for a front-engined, rear-wheel-drive car. The engine has inherent dynamic and power balance, meaning no balance shafts or other complexities are required to make its output smooth. While carburetors had problems sorting the same mixture to each cylinder, port fuel injection (sequential from '88-on) has solved that one. The engine is inherently heavy, of course, but not dramatically heavier than most other engines with the same displacement and output. The company also makes a twelve-cylinder engine for their top of the line, using similar controls.

The fuel and ignition systems are from Lucas, but if you're familiar with the most common European engine management systems, you'll find nothing surprising here. A hot-wire sensor measures the intake air mass (airflow '87-before). The usual round of other sensors for temperatures, speeds and throttle position round out the equipment. While this system is usually trouble-free, 'false air,' air that gets into the intake system by any route not piped through the airflow sensor, will throw off the system's mixture controls. The computer, using a rotary step valve controls idle speed. Oxygen sensor feedback and converters work the way you already know.



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Ignition is conventional, with a coil and a distributor. The most common problem leading to no-starts, Denny Bittaker said, is the crankshaft position sensor, as on many other cars. The best way to determine whether it works or not, if there is no code fingering it as the culprit, is to watch for its output signal on a scope. The next most frequent failure, he said, is of the main relay, actually a set of relays. We wish we could tell you exactly where they are, but while Jaguar has retained the same body style for many years, this stolid precedent did not deter them from a lighthearted, fanciful relocation of the relays from year to year, perhaps even within a given model year, craftily eluding all the obvious places to hide them. The ordinary technical information sources include most of the possible relay hangouts.

Experienced Jaguar mechanics are inclined to replace all the ignition/fuel-related relays at the same time if one has failed. If a relay has failed because water has leaked onto and into it (which can happen to firewall-mounted relays), either relocate it or fabricate something to shed the downpour. There are also new waterproof relays.

Suspensions

The front suspension is a version of the short and long arm suspension familiar from many imported and domestic cars. Denny Bittaker says the most common front suspension problem he sees is that the shock absorber upper bushings go away over time, not lasting nearly as long as the shocks themselves, which are of high durability. Replacement is straightforward. The next most common front suspension failure is of the upper control arm bushings. The early versions are the easiest to replace because there are two pivot nuts. Later versions have a single, long bolt that can be very difficult to worry free if it has decided to rust itself in place.



Jaguar's rear suspension is unique and has long been a favorite of kitcar builders and hotrodders. You'll find few Jaguars in junkyards except with cannibalized rear suspensions.

The lower tube goes to the ball joint and to the drag link. The upper arm in the suspension is the halfshaft tube itself, loaded in compression. To change the camber of the wheel, you remove the halfshaft (no quick job!) and shim it or remove shims as required. These halfshafts, by the way, have internal U-joints that require regular grease lubrication. The rear disk brakes are, as on the old Audi 100 LS and the current Hummer, all the way inboard, on either side of the differential. Because of the work involved in replacing the rear disks, a thrifty Jaguarist, whatever that is, will reline his brakes long before the pad steel starts cutting into the disk metal.

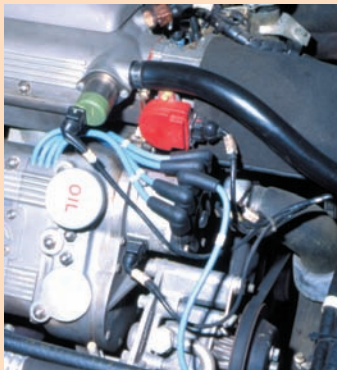




Aston Martin Lagonda

Except perhaps for ZIL, the former-Soviet limousine-builder to the Politburo, there may be no more exclusive carmaker in the world than Aston Martin Lagonda. Supposedly, they made about 22 cars of the model in our photos over a ten-year period. Expensive? I didn't bother to ask. I'm already sure none of us will ever have an Aston Martin. We may as well all aspire to become Archbishop of Canterbury, who, I suppose, already has his Aston Martin as a prerequisite of office.

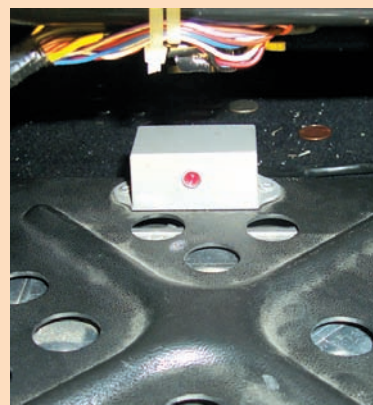
On the other hand, his Grace the Archbishop probably hasn't the foggiest how a car works, even his own. This one (the car in the photos, not the Archbishop) was in Denny Bittaker's shop for repair on several occasions. Once it needed a set of spark plug cables. Big deal, you say? It certainly was. The V8 326 cid engine sports two distributors, one on each cylinder head. Each distributor sends spark to four cylinders, two on its cylinder bank, two on the opposite side, like intake manifold runners on a carbureted V8. To insure the legendary reliable high performance with just the right admixture of unanticipated roadside adventure, the ignition system is from Magneti Marelli. Noticing the picturesque way some of the wires disappear into the valve cover and some under the manifold, Denny called the company for instructions. We won't go into them here – call Denny if you have to do the job yourself. It took him seven hours. He had to take off the manifold and most of the cylinder head components short of the castings. When he finished, he called back to see why so long. "Egad! Seven hours?" they were astonished, "Say, do you want a job, Yank? We've never done it that quickly." Of course, Denny doesn't stop for tea.



The next time, it was in for the Check Engine light. An Aston Martin with a lit Check Engine light might give many shops pause, but not Denny. There are two complete engine management systems – computers, sensors, actuators and all, one for each side of the engine. This car, a 1991, used a proprietary code system he had to call the factory to decipher. They were quite civilized about it, he reports, none of this information-lockout balderdash. You read the DTC's by making the computer's LED flash numbers to you and compare these to the list you got over the phone, just like early American and Japanese vehicle computer systems. After that, the fix was relatively simple, a fuel trim adjustment.



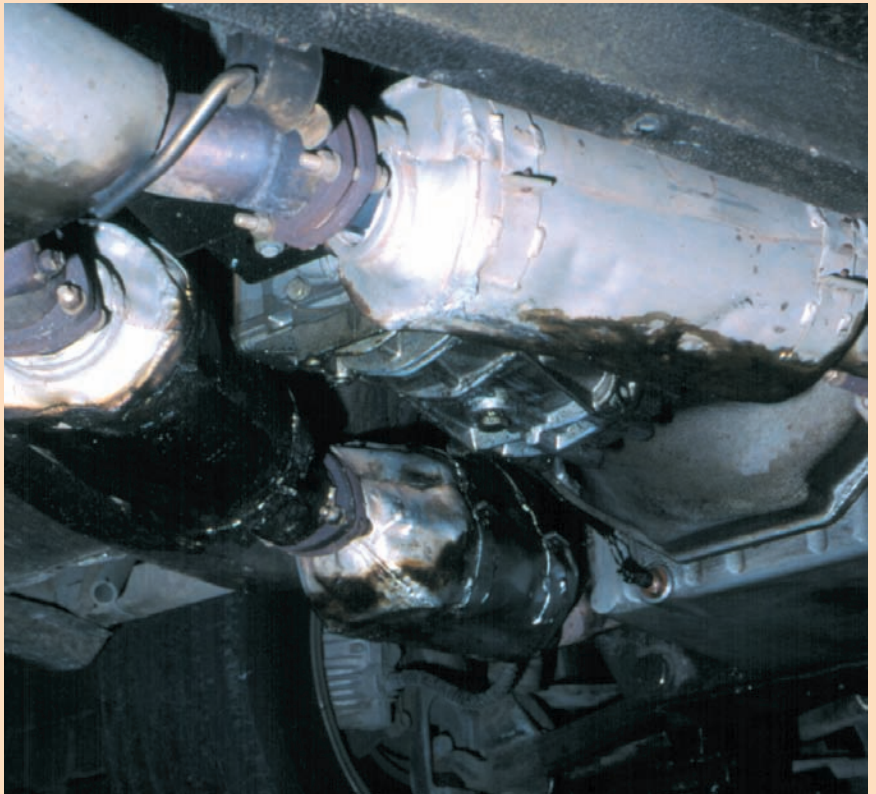
The point of these incidents is this: There's no reason for any competent independent shop to balk at a problem on an exotic car you've never seen before: The systems work the same way we're used to on every ordinary car that comes through the door. You'll have to use the phone more, and parts will be astoundingly expensive and longer coming. Don't worry, the owners can don shades and false mustaches and go slumming *incognito* behind the wheel of the Benz they keep as a spare while the exotic is on the mend. If you can diagnose and repair something as complicated as a Toyota or a Honda or a Volkswagen, you can diagnose and repair *any* car on the road, including all the exotics, all of which – all of which! – are much simpler.



Britcar Emissions

British cars at home have very few emission controls by our standards. After all, the toxins and carcinogens blow across the Channel to France, and the French are all narcissistic existentialists, so where's the English urgency? But to sell a car in the more pedestrian USA, it has to have functional emission controls, including oxygen sensors, feedback mixture controls, catalytic converters and all that

flap and bother. Look at the Aston Martin catalytic converters in this photo: They were cobbled up, I'm guessing, by religion-crazed political prisoners in rural Uzbekistan, who had never seen metal before. This was evidently their first emissions-technology effort. Shall we call this eccentricity? But the point is, even with the most exotic and unfamiliar of cars and the most surprising workmanship, the technology is something you already understand.



The traditional goofs on Britcars were about unreliable electricals and about oil leaks. Electrical reliability seems to have much improved except for the wiring harnesses themselves. Nothing like having a gang of painstaking Germans slog through the tedium.

Control of oil leaks, judging from the examples we've seen, still eludes the Britcar makers. Or perhaps they see it as undercar rust prevention or the ecology of settling dust on country roads.

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Notice the supreme self-discipline with which we have eschewed entirely any jokes at the expense of Lucas! You've heard them all, anyway, so I'd be wasting both time and paper. The ignition and fuel systems on Jaguars all say on their labels they're from Lucas. Peel the label off, and you find they're very similar to, extremely similar to, even indistinguishable from the products of a certain German engine control systems manufacturer. In the context of an article on British cars, that other label – alas! – escapes me just now, but you can probably think of it. Relays, sensors, actuators, control units are all available under that Teutonic name, the one

that has me discreetly stumped, and often with the same part number. Astonishing as it is to suppose that something made in Stuttgart is cheaper than any competing product, this sometimes seems to be the case.

So, blokes, let's get cracking! Next English car that comes to your door, just scatter about a precautionary few bins of oil absorbent, and get out your usual tools. Behind all the smoky leather and dark walnut, there is no mystery. ■

—By Joe Woods