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Long-Range Driver

Put off by the fuel costs of a Jaguar XJS? This one now does 40mpg...

WORDS BY MIKE RENAUT PHOTOGRAPHY BY ERIC RICHARDSON

The Jaguar XJS has always been a desirable car for anyone wanting a big, comfortable GT to waft along in luxury. That's fine if someone else is paying the fuel bills, but when this Jaguar left the production line its 5.3-litre V12 engine would have been returning about 15mpg – single figures were possible if it was driven enthusiastically.

David Frost has owned Jaguars most of his life, including several E-types and S-types. His first was a 3.8 Mk2 manual overdrive that he bought when he was 26. After owning an XJS coupé, David fancied a drophead. He spotted this 1992 convertible on eBay and was intrigued to see it had a diesel engine conversion.

"I bought it partly because I could see XJS values were on the up and because I liked the idea that it's a unique Jaguar," he explains. "It needed a bit of



Jaguar enthusiast David Frost was keen to own this XJS.

tidying when I bought it, mainly under the bonnet. Some of the flexi pipes were yellow so I replaced them for black ones.

"It also sat quite high at the front as it had V12 springs. I swapped them for 3.6-litre springs and now it sits a bit too low, so I'll be putting some 4.0-litre ones on. But overall I thought it was a brilliant job done on the conversion."

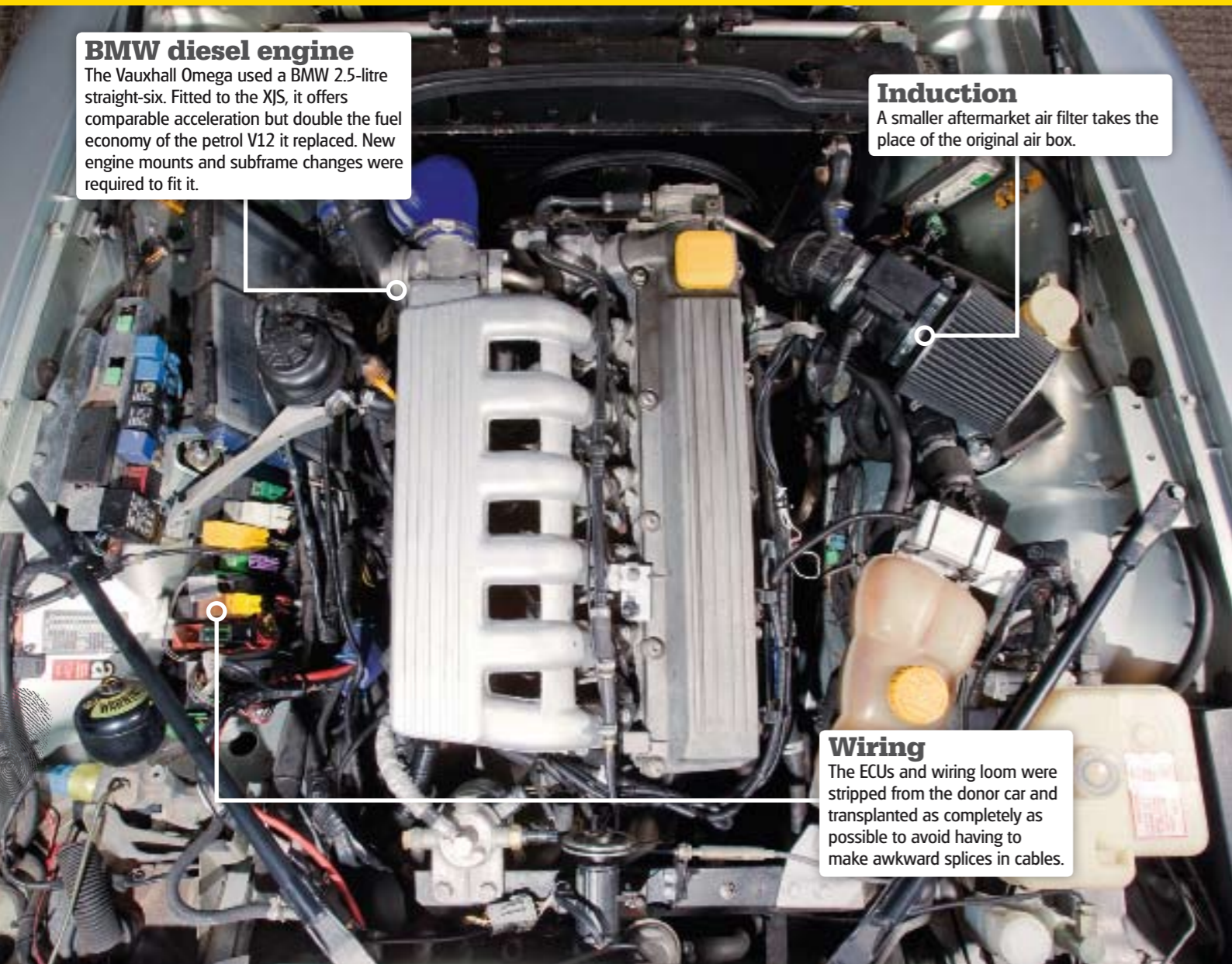
History lesson

To find out what went into this engine swap meant contacting

the previous owner – Guzanfar Choudry, a consultant surgeon from Birmingham.

"I did the conversion myself," admits Guzanfar. "I tended to keep quiet about it at first because of my occupation; I got through a lot of gloves to keep my hands clean for my day job."

"I'd owned the car for about a year when the three-speed auto gearbox packed in. I'd seen an XJS advertised with a 2.7-litre Japanese engine and that was the inspiration to do something similar. I needed a modern



BMW diesel engine
The Vauxhall Omega used a BMW 2.5-litre straight-six. Fitted to the XJS, it offers comparable acceleration but double the fuel economy of the petrol V12 it replaced. New engine mounts and subframe changes were required to fit it.

Induction
A smaller aftermarket air filter takes the place of the original air box.

Wiring
The ECUs and wiring loom were stripped from the donor car and transplanted as completely as possible to avoid having to make awkward splices in cables.

? DID YOU KNOW?
In July 1981, the XJS got Jaguar's new High Efficiency (HE) engine, which helped a little with the dismal fuel economy.

TECH TIP
Keeping the engine and gearbox together as a unit, rather than trying to adapt different ones, makes life easier.



Car retains all the typical XJS luxuries.



There's little indication that this XJS is modified - until you start the engine.

braking system meant that in the end I had to manufacture an add-on plate that houses the clutch pedal, then drill and tap threads for the clutch cylinder."

Doctor's orders

"The best part of the conversion was linking up the ECU to the Jaguar rev counter," remembers Guzanfar. "I had to buy an oscilloscope to find the rev counter wire, which gave off a square waveform - the wave compresses when the revs increase so I knew I had the correct one. I then wired a connection to the rev meter and the rev counter worked perfectly. That was the most satisfying part of the project."

"The original Jaguar fuel tank was retained. There were four fuel lines to the V12 engine. The feeding line was easy to find after wiring the pump. I used one of the lines for a return pipe. Two of the lines are now a blind ending with a filter to prevent a vacuum in the tank as the fuel level falls. I'm not sure if this would ever have been a real problem but I did it just to be on the safe side." The car's fuel filler

has also been enlarged to allow for the larger nozzles on diesel fuel pumps. ➤

Could you do it yourself?

There's no reason why not. The Jaguar has a huge engine bay and any number of engines could be fitted. Careful attention needs to be paid to the height of a straight-six engine, though, because the modifications needed to the front subframe have made the car very low to the ground at the front. You'll also need a fair amount of room and strong lifting gear to remove the heavy V12 engine.

“The hardest part was converting the pedal box from auto to manual”

turbo-diesel engine and wanted a BMW 3.0-litre - the problem was finding one. Eventually I found a back-end-damaged low-mileage Vauxhall Omega with a 2.5 diesel engine, which I bought for £650 because the engine was immaculate. The car was a Category B so the only way they'd sell it was to cut the car in half to prevent it returning to the road; they also gave me the fuel lines and fuel tank.

"I stripped the wiring loom off the car and got the engine running with the loom completely isolated and detached from the donor car - all unnecessary dead lines and plugs were removed. Key parts such as the timed live wire feed to the electric fuel pump were kept in place, as were all feeds to the ECU.

"Mechanically there were a lot of brackets to be made - the front subframe was modified as the diesel engine was taller than the V12. The propshaft was made to fit the BMW gearbox to the Jaguar diff - the rear axle has been swapped to a 4.0-litre version to give better ratios. A stainless-steel exhaust was custom made. Other than that, I did everything myself apart from welding the subframe.

"The hardest part was converting the pedal box from auto to manual. I bought a scrap manual 3.6 and took out the pedal box, but the later Teves



It's easy to overlook the oil cooler that's discretely mounted behind the front valance.



Adjustable fuel controller is an easy way of remapping the engine.



WORKSHOP

Engenius XJS



TECH SPEC

1992 Jaguar XJS

- **ENGINE** 2.5-litre BMW diesel from an Omega
- **TRANSMISSION** BMW five-speed manual
- **POWER** 148bhp (est)
- **TORQUE** 221 lb-ft (est)
- **FRONT SUSPENSION** Independent, double wishbones, coil springs, anti-roll bar
- **REAR SUSPENSION** Coil springs, anti-roll bar
- **BRAKES** Discs all round
- **TYRES** 225/60 R15

Front springs will be replaced because the XJS sits a little too low at the front.



“I calculated about 36mpg – driven economically, 40mpg would be possible”

“The overall cost was about £8000-£9000; to be honest I stopped counting. All the shocks, bushes, brakes and pipes were replaced too. The main difference was that I could use the car regularly without worrying that this or that would fail. I drove it 12,000 miles without any worries. I calculated about 36mpg but I never tried to drive economically – 40mpg would be possible.

“If anyone wants to do this, I’d recommend a 3.0-litre engine is used and I probably should have waited longer to find one. Nevertheless, with the large oil intercooler that I used and an aftermarket ECU, I’d maintain acceleration is comparable to the V12 in the mid-range. I may well end up doing this again. I’d

almost certainly go for the BMW 535 or 335 diesel, or the new Jaguar 3.0 TT diesel, both of which produce around 270bhp.”

New beginning

So what did new owner David think after buying the car? “I went to Birmingham to collect it,” he remembers. “We got stuck on the M25 but it didn’t overheat. It certainly accelerates well but I haven’t had chance to find out the top speed just yet...”

“I’ve had to fix a couple of things, like the rear window motor and the oil temperature gauge, which the local garage did for £40. I also removed the V12 badge from the bootlid and added a Leaper to the bonnet as it’s not a real Jag without one. I also added a piece of leather

from a scrapyard seat to the centre console where a car phone had been mounted.

“The only headache I’ve had was with insurance. My normal company wouldn’t touch it as they said it was a ‘modified’. Everyone was giving me quotes of over £200, which was bit much for 1500 miles a year; my Rolls-Royce was a lot cheaper. But in the end I had to pay it.

“I realise if you’re a true Jaguar man you might cringe at the diesel conversion, but that said, my modern S-type is a diesel so Jaguar are doing it themselves now.”

Thanks to

The Oast Golf Centre in Kent (www.oastgolf.co.uk) for the use of their grounds.



David added a Leaper to the bonnet.

CM SAYS...

The most surprising aspect of this conversion is how well the Jaguar performs with an engine half the size of the previous one. At idle, you can tell there’s a diesel engine under the bonnet, but with any load on it the car sounds a lot like a V8 – the stainless steel exhaust obviously helps with the engine note.

It’s the same story from inside the car. Acceleration isn’t as rapid as the average V12 Jag, but this XJS still performs well, and the reduced weight in the front has helped handling and braking. There’s also more room for routine maintenance under the bonnet.

This car works extremely well on every level, and we can’t think of any reason why this conversion shouldn’t be copied by anyone wanting a far more fuel-efficient XJS. **CM**

Decent acceleration, improved handling and 40mpg – this conversion makes a lot of sense.

