

Project XK8 *Part 7*

In association with



This month we're going on gas... With our XK8 converted to run on LPG as well as good old unleaded, how's it running?

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Until the X-TYPE diesel came along in 2004, all Jaguar's production engines were petrol-powered. Four years on diesel engines have featured in the S-TYPE, XJ and XF ranges respectively but, as yet, have not been offered in an XK.

Though that may change for future new XK owners, if you own a previous generation XK8 such as ours and you're concerned about frugality when it comes to spending money on unleaded then, other than pushing your car along, there's only one option – converting it to run on Liquid Petroleum Gas.

Of course, LPG conversions are nothing new, but whereas older single point injection systems would have throttled the performance of an engine such as our XK8's 4.0-litre V8, modern multi-point systems are a lot more sophisticated. That fact, coupled with the extortionately high fuel prices that were a feature of many a forecourt until recently, saw a resurgence of interest in LPG again during 2008.

As a result, Arun Cars, the supplier of our XK8, chose to begin offering an LPG conversion service to its customers, and it was keen that we see how our car performed on gas. Never ones to say no to something new until we've tried it, we thought we'd give it a go.

The conversion

So, what's involved? Well, when you look at the amount of bits and bobs that comprises an LPG conversion kit – Arun fits Romano's multi-point system to V8s – the simple answer is, quite a lot. There are some outfits that will sell DIY LPG conversion kits, but we'd politely suggest that such a job is not advisable on the driveway...

To detail the entire system would not make for interesting reading but, essentially, it starts with a 70-litre spare-wheel well tank which feeds the LPG to an ECU controlled evaporator/regulator in the engine bay, which in turn feeds the individual injectors (the LPG ECU operates in conjunction with the car's existing ECU unit). The injectors are

actually mounted into the existing manifold, as close to the petrol injectors as possible. Inside the car, a small switch that incorporates an LPG tank gauge is set into the coin cubby just ahead of the gearlever. Arun mounts the filler for the LPG in the nearside rear quarter. That, in essence, is it, with each kit taking around two-three days to install from start to finish, including a comprehensive leak-down test and road trial, plus a check after approximately 1,000 miles to make sure that all is in order.

The set-up

With the LPG system installed, our XK8 – or any other car for that matter – effectively becomes dual-fuel. The original petrol tank and injection system both remain because they are essential. The car will always start on petrol as, from completely cold, LPG could cause a backfire and consequent damage.

So, on start-up the interior mounted gauge shows the LPG indicator flashing green, and the



petrol indicator in solid yellow. Once the engine has gained a little temperature and as soon as the revs rise above 1,600rpm the system's 'piggy-back' ECU automatically switches to LPG assuming, of course, there is gas in the tank. The car will then continue to run on LPG until the driver chooses to manually switch back to petrol, or the tank runs low on gas in which case an alarm will sound and the system will automatically revert to using petrol. That's the theory, so what about in use?

On the road

Having never driven an LPG-powered car before, but having covered plenty of miles in the project XK8 on conventional fuel, I was keen to see how different it felt. But the answer is, not very different at all.

On pulling away from Arun's service centre for the first time the car had been idling for a few minutes, and once I'd joined the flow of traffic and glanced down at the LPG gauge, it was

already indicating that we were running on gas. There had been no nasty judder on changeover, and the car sounded just as it had done before. The rest of the 40-mile or so drive back to the office was similarly uneventful.

The car ran perfectly and, on the odd occasion that I was able to open the taps, there was no readily noticeable drop in performance. Now, I know that LPG has a lower calorific value than unleaded, so the engine could not have been producing as much power, but in everyday conditions it really wasn't noticeable. You might also remember, of course, that our car has been subject to a remap by Paramount Performance. We called beforehand to see whether that may cause an issue, but the answer was no, and in there's certainly been no problem thus far.

Gas grumbles?

We'll start with the obvious – which is the loss of the spare-wheel well. We've chosen to keep the space saver spare in the boot as the thought of

mucking about with a can full of foam should we be unfortunate enough to get a puncture doesn't bear thinking about, but the result, quite clearly, is a loss of boot space. In addition, while from an aesthetic point of to the untrained eye the underbonnet area looks exactly as it did before (the kit really being a very neat fit), the filler cap on the nearside rear wing is small, but unsightly. It could be sprayed body colour, but as it's made from plastic Arun wisely chooses not to do this as it's only likely to flake off again in the future.

Initially, we also had a couple of issues with the gauge inside the car in that it showed full, even when the tank ran low on LPG. This problem was quickly sorted when we took the car back for its system check, and it's been fine since. One other issue is that, so far, we've only been able to get a maximum of 45-litres of gas in the tank.

As LPG tanks can only be filled to 80% of their capacity we'd only expected to get 56-litres in, the difference between that and the 45-litres

we've managed perhaps being explained by the fact that the system won't let the tank run too low. It could also be down to the LPG pump that we're using – we've only used one local filling station thus far – but either way it means a relatively limited LPG range of around 200-225 miles depending on driving style.

In short, though some petrol in the tank is always necessary for start-up, we've decided to keep it at least half full so as to avoid the possibility of getting stuck anywhere. Finding LPG-equipped forecourts is not tricky, but can require a little forward planning.

Savings?

This, of course, is the big question. How much cash do we save by using LPG? To give the system a fair crack at the whip, we decided to wait until it had had its initial running period and service check before whipping out the calculator and that only happened just before this issue went to press, but this is what we found.

With the LPG tank filled at our local outlet before heading off, we ran the car down to Arun on unleaded only and then drove back, post service, on LPG and straight to the same gas pump we'd filled up at before leaving. It was a 43.2-mile steady drive, and the pump put back in 8.62 litres of LPG. That's the equivalent of 1.9 gallons, giving an LPG consumption figure on that gentle journey of 22.7mpg.

Over the course of 10,000 miles motoring that would equate to needing some 440.5 gallons of LPG which, at around 55 pence per litre (£2.50 per gallon) would come to £1,101. Given that an engine's around 15% less efficient on LPG than it is on unleaded, that 22.7mpg



This is the Romano LPG kit off the car – not including the tank of course



Left is the engine bay before conversion, and right, the engine bay after conversion. Look hard and you'll see some extra cabling by the nearside suspension top mount, but that's about it...the additional LPG components are well hidden from view, but are placed in such a way so as not to make future servicing difficult



Pull off an engine cover and there's a lot more to see, the individual LPG injectors being a relatively tight fit as there's not a lot of room around a Jaguar V8



Here you can see an individual petrol injector (left), and the Romano injector mounted right next to it feeding LPG directly into the inlet manifold



The 70-litre LPG tank sits in the spare wheel well (the boot floor mounts on one of two levels depending on whether a space saver or a full-size spare is fitted, the tank taking up the same space as the latter)



We've chosen to keep the space-saver spare in the boot rather than rely on a can of foam in the event of a puncture, but it does take up load space



On start-up the coin-cubby mounted-gauge inside the car shows the yellow petrol light solid, and the LPG light – under the G – flashing



As soon as the car is warm enough and revs rise above 1,600, the car switches to LPG and the yellow light goes out. The four LEDs as the top of the gauge indicate the level of LPG in the tank.



When switched to petrol (either manually or automatically when LPG runs low), only the yellow LED under the tank symbol is illuminated



Part of the cost of installation includes a subsequent check of the system after 1,000 miles. The car is linked to a laptop to make sure all is well and a leak down test check completed



There's no denying the filler cap is unsightly, but filling up is a doddle, the connector an easy fit



Though still early days yet, our car has run well on LPG thus far

translates to approximately 26mpg on petrol – a figure that ties in well with the average the car's computer displays on a run of 25-27mpg on unleaded. With current pump prices having dipped to around 95 pence per litre (£4.32 per gallon), that 26mpg gallon figure means we'd need 384.6 gallons of unleaded to cover the same 10,000 miles at a cost of £1,661. So, based on those figures, the saving over 10,000 miles by using LPG is around £560.

As the cost of the conversion is £2191.25 inclusive of parts VAT and fitting, that means it would pay for itself after around 39,000 miles of motoring at current fuel prices. Of course, were the price of petrol to return to the heady height it was in the summer of around £1.15 per litre (£5.23) and LPG prices remain the same, 10,000 miles of LPG motoring would be some £910 less than it would on unleaded, so just over 24,000 miles of driving would see the system pay for itself.

Conclusions

Though we're clearly not in a position to comment on long-term reliability of an LPG converted XK8 at this stage, what we can say with certainty is that in the time we've had with it thus far, running an XK8 on LPG certainly doesn't detract from the driving experience in everyday motoring. Whether it's the right choice for you and your V8 Jaguar will come down to personal circumstance, whether you can live with the inconvenience of losing a little boot space and, crucially, how many miles you cover per year and what's going to happen to the price of fuel in the coming month... As we're all out of crystal balls, that's not a question we can answer.

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As well as a wide range of all Jaguar models, Arun always has an extensive stock of XK8s/Rs, from early models to run out cars, in its Pulborough showroom. Full service back up is also offered in new premises at nearby Wisborough Green. For details contact:

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