

Oh Dear!!

Having acquired my new “old Jag” it was soon apparent that all was not well with it mechanically. On the triumphal journey home it overheated and had to complete ninety percent of the distance on the back of a transporter. However, in the thirty seven miles it did cover under its own steam I did learn a bit about it. Apart from a questionable engine the steering was horrible, the heating negligible and electrics intermittent to say the least. You have to wonder why these things don't seem to show up on the test drive.

The first problem to deal with was the overheating. I always knew a car such as this would need some fettling to bring it back to daily driver standards so a “piece at a time” rolling restoration seemed a very agreeable approach. I'd get some immediate use and dabble with improvements over time. Now it looked like the agreeable bit might have to wait a bit though. The car still ran so with an infra-red temperature gun it made sense to monitor the heat flow from a cold start. The AA patrolman had thought the thermostat would be the problem but the temperature readings showed that it was allowing heat transfer from one side of the thermostat housing to the other. More readings lead to the discovery that the engine block was much hotter towards the front cylinders than it was at the back. A conversation with the Jaguar Enthusiast Club (JEC) technical expert Ken Jenkins suggested that the whole cooling system was probably choked with debris and his advice was to remove the cylinder head and take a look.

Oh Dear! This wasn't what I had hoped to hear and a large cup of tea and a rethink was required. After more testing with the temperature gun I discovered the bottom third of the radiator was not heating up to anything like as hot as the top. Back to advisor Ken who said the best course of action was to remove the cylinder head, radiator, heater, connecting pipes and cylinder block core plugs to thoroughly clean out all the debris he was confident I would find. He also suggested replacing the radiator core with a modern high flow matrix which can offer as much as double the cooling capacity. A couple of days work but well worth doing to get a reliable cooling system.

Early experience of owning a Jaguar Mk2 teaches that models of this era are much easier to work on if you accept that you are going to have to remove a lot of bits and pieces to gain access to the item



you actually want to work on. Trying to get round things in that engine bay is a bit like trying to peel a wet potato through a letterbox with sharp edges. So off came the bonnet, the air cleaner assembly, the battery and the carburettors. All of this takes about 30 minutes and the access and visibility gains reward that effort many times over. Now that I could see more, another

issue was revealed. The inlet side of the engine was caked in oil sludge. How?? There are no oil outlets apart from the filter and that was clean. Well a good source turned out to be someone leaving six of the bolts that secure the front of the cylinder head and its timing chain cover in a tin somewhere because they were not attached to my engine. Nor was the top of the chain housing. You have to wonder how mistakes like that happen. A full service history is all very well but it doesn't mean that inexpert hands, like mine I suppose, haven't also had a go.

The upside of the missing bolts was that there was a bit less work to do to remove the head and forty five minutes later it was sitting on the bench but.....Oh Dear. This is going to be more than two day's work!



It took no expertise at all to realise this cylinder head was in a parlous state with badly corroded waterways, deeply recessed valves and no evidence of the inlet oil seals that are supposed to reduce oil consumption on the inlet valve guides. This really was a two cups of tea level of disappointment because it was going to be a highly intrusive engineering job to recover the head if indeed it could be recovered at all. With the head stripped it was apparent that it needed new valves, guides and seats plus rebuilding of the corroded

waterways. The compensating good news was that the cylinder bores looked fine, the head was straight when checked end to end with a straight edge. This was critical as Jaguar XK alloy heads are known to warp and twist down their length if overheated and that is irrecoverable. The block was full of rust and corrosion debris, probably from the cylinder head, and it certainly confirmed what Ken had told me to expect. Even then, it gave me some hope that once dealt with, the overheating problem would be sorted.

The cylinder head went to a recommended engineers in Bawtry with a package of spares including new valves, bronze self-lubricating guides, valve springs and followers all from the Jaguar V12 engine. This is where single make clubs do come in very handy. Their engine gurus can tell you not only what works and improves on the original specification but also where to acquire good quality spares. This is so important because there are many suppliers offering parts at attractive prices which when acquired prove to be of such hopeless quality that you daren't use them. Ask me how I know this! I was advised that the V12 valve gear is significantly stronger but lighter than the original XK components and that as a result of the upgrades the sustained upper rev limit is safe to 6,000 RPM rather than the standard 5,500 RPM. Actually I doubt that benefit will have the smallest impact on the way I use the car but it reads well and should contribute to reliability. The JEC run a very competitive race series for XK engined cars and that is where a lot of the knowledge on reliability and functional improvement comes from.

With the cylinder head in intensive care and the radiator away to have the new core, the internal clean out could start. Having access to compressed air is helpful but not essential as the most effective cleaning turned out to be various forms of scrapers, bottle brushes and rotary wire brushes fitted to a drill. The debris forms into a very hard sludge that collects in all the difficult to get at recesses and at the base of the iron cylinder liners. It is a tedious and time consuming job but worth

the effort to get everything out that you possibly can. It took the best part of two long days to get that block properly cleaned. Two days, aching shoulder, aching back and hands that are not quite nice at the dinner table. (Yes I was wearing gloves but the chemicals are very good at dissolving them so they look like the fingerless sort Fagin would have worn in Oliver). Still, once it was done it gives some confidence that the engine will be cooled as well as its design allows and the new radiator should not get contaminated with old rust particles.

I had elected to have the head built up by the engineering company as for me this was a cheaper option than buying the large box of shims necessary to achieve the accurate valve clearance between cams and followers. As such it was a ready to fit item that I collected five weeks after removing it from the car. It had needed a lot of work, welding in new metal, recutting the waterways, new valve seats and guides plus all the kit I had supplied. It was also discovered that one of the bolt holes that secure the head to the block had been drilled out, presumably to fix a broken stud, compromising the strength and rigidity of that fixing point. To fix it the bolt hole had to be machined out fully and sleeved so that full strength would be returned when the block was bolted down with the required 60 lbs ft of torque.

Whilst this was going on attention turned to the twin SU carburettors which were stripped and rebuilt using new SU internals from Burlen Services. With a bit of time taken to re-polish all the alloy components that were originally polished from the factory it all looked pretty good. This was a real labour of love because they were quite corroded after fifty five years and even my favourite Autosol wasn't going to bring it back properly. With a kit of polishing buffs you fit in a drill (MachineMart) the alloy came back to something like it should have been but it took hours and is a pretty filthy job. Should you care to take this on I suggest a full face mask as even with safety glasses and a mask it still looked like I'd been using eye-liner and I'm too old for that look now.



Before fitting the cylinder head on an XK it is a good idea to fit the inlet manifold. It has a series of bolts underneath the manifold housing that are very difficult to reach once the head is in the car so doing it now is a time saver. It is also worth taking the time to fit the carbs to the manifold whilst it is on the bench. This makes the initial set up easier as you can see things such as the jets height to the bridge and

the throttle flaps positions. You can also get at everything needed to set correct adjustments which is much harder in the car.

With all the preparative work done the carbs were removed as a pair still joined together by the throttle lever support and the throttle linkage. This makes them much easier to fit once the head is back in the car. You can fit them individually with the manifold in the car but it gets fiddly trying to fit the second carb and install the linkage at the same time.

The refurbished cylinder head was refitted to the engine with a new type of head gasket and torqued down as detailed in the manual. Then the carbs and the new radiator were fitted and all new water pipes connected. Filled with new 50/50 mixed antifreeze and checked to ensure it was not coming out of unauthorised places, the moment had come for the first start and test of my better than new cooling system. Very exciting.

So ignition on, press the button and.....nothing!! Not a pop or a bang, just churning engine and nothing more. Eventually with a hefty battery charger with ten amp start function, I managed to get a horribly uneven clattering start, an engine that ran only if I held the throttle open and never running on all six cylinders. This, was another two cuppa sit down and recover moment. It made no sense. The car had run perfectly well before all this work, it just wasn't being sufficiently cooled. After pause for thought the detective hat went on again and the proper checks began. Spark?.....yes, a good healthy spark. Fuel?.....definitely in the carbs and the jets look pretty wet. What about the plugs? All dry and clean so, no fuel. At this point you start to question things like valve timing, plug firing order and air/fuel mix but for all of these there seemed to be no obvious problem. There was no help for it but to start from basics with a compression check.

Disaster!! Not a single cylinder was over 60 psi and the lowest was 42 psi. I was expecting 150 to 160 psi from each.

There was no choice, the head had to come off again because something was radically wrong almost certainly with the head gasket which was of a new composite type introduced for the XJ range. Thoroughly ticked off I decided to leave it all alone for a while until I summoned up some of the lost enthusiasm but it is surprising how when you have this car interest we share, it doesn't take long before the, "I'm going to sort this out" moment arrives. Three days later the head was off again and what did I find?

I'll tell you next time. (This is called a cliff-hanger by the way.....just in case you missed it).