Lagondaforum: Lead replacement fuel additives. Necessary?

Lead replacement fuel additives. Necessary?

Written by davidbracey at Aug 29, 2017 1:45 am

Is it necessary to add lead replacement to our fuel tanks?

I've read all about potential damage to exhaust valve seats etc. And have been using the additives for years but has anyone ever seen proof that cars built before the 1960's do actually suffer seat damage if the additives aren't used?

David

Re: Lead replacement fuel additives. Necessary?

Written by Rich5ltr at Aug 29, 2017 7:53 am

I'll throw my hat in the ring on this one David and say that I don't use it. I asked around when I got my Lagonda and general advice seemed to be that when the engine in my 16/80 was designed it didn't require lead. That plus the low mileage our cars do suggested to me not to bother. I will be interested to hear what others think.

Re: Lead replacement fuel additives. Necessary?

Written by h14 at Aug 29, 2017 9:27 am

Tetraethyl lead was apparently introduced during the 1920s, so it would not be safe to assume engines built then or later would run unaffected by no-lead petrol. That said, metallurgy doubtless improved over time. Consider how long it takes a modern engine to need a rebore, compared to those of "our" era.

The issue is valve seat recession, however the (modern) engine chosen (probably deliberately) to test the effects was particularly prone to this wear. So although it certainly proved recession could occur, it probably also illustrated a worst case scenario.

I don't use additives in my LG6 (Meadows engine), and have note no ill effects, although I do run it on 98 octane solely because I understand that contains less ethanol.

My other car is a 1951 Riley RMB, engine very much a prewar design. Still finalising the restoration of that, but I do have friends covering prodigious mileages (one averages 24000 miles a year) in their Rileys, without using additives. They have encountered no problems.

The concensus appears to be that recession is only likely to be an issue with engines of our era where sustained high rpm is used. So perhaps a concern if you are racing.

At the end of the day, all you need to do is check your tappet clearances. If you find those are closing up unduly, then it would be an idea to try additives.

Laurence

Re: Lead replacement fuel additives. Necessary?

Written by Mark at Aug 29, 2017 8:00 pm

As Laurence says, the issue is higher revs and I believe the experts suggest that sustained engine speeds over 3000 rpm is when you are most at risk of valve seat recession.

In my experience of 2 Litre ownership you have to be doing 60 mph down the motorway for hours on end to be at risk. The vast majority of 2 Litres never do this. I have yet to hear of anyone experiencing serious valve seat recession with a 2 Litre, but do know of two people who didn't take the chance and went down the hardened exhaust valve seat route, which is not exactly cheap.

With my LG45 de ville I have toured Scotland twice and of course was driving the M6 for hours on end at around 2500 to 2800 rpm. Rather than risk it

I simply added Tetraboost to the fuel for the motorway sections of the tour.

Whilst lead was added to fuel pre-war, my understanding is that it was in quite small quantities and it was not until the post-war period when higher compression engines became common that the quantity of lead increased and gave valves the protection needed. So it is unlikely that valve seat recession was a major issue pre-war with our cars.

My advice is google Tetraboost and keep a bottle in the boot for when you are cruising a motorway for hours on end!

I must add that I have no connection with Tetraboost, just a satisfied customer.

Best Regards
Mark

Re: Lead replacement fuel additives. Necessary?
Written by bill at Aug 30, 2017 9:09 am

Yes, as Laurence says, I have always used the tappet clearance check as an indication whether or not one is getting valve seat recession. No problems over the years so far with ordinary road use.
However I think that ethanol in petrol is a far greater problem. My advice (for what it is worth) is to minimise the use of any fuel with ethanol in it. For some years I have only used 97 or 98 octane (usually Shell or BP) in my old cars. Inconvenient (and expensive) I realise but I think it is worth the trouble.

Re: Lead replacement fuel additives. Necessary?
Written by Rich5ltr at Aug 30, 2017 8:23 pm

With regard to ethanol my understanding is that only Shell V Power is low on ethanol, and even Shell claim between 0% and 5% ethanol for that these days.

p.s. do be careful yourself when handling Tetraboost.

Re: Lead replacement fuel additives. Necessary?
Written by cahallett at Sep 01, 2017 11:04 am

Hi,

I don’t use a lead additive either although when the engine was rebuilt I did have hardened seats fitted on the exhaust valves.
What I do use those is an additive to stop the fuel fouling up the tank and fuel lines (ethanolmate or something like that).
I do sometimes forget to add it when filling up, but when the cars is in constant use it’s not a problem.
It is just better on those days when the car is laid up for a couple of weeks at a time.

Best Regards
Chris
