

Lagondaforum: 16/80 head gasket problems

16/80 head gasket problems

Written by cahallett at Jan 28, 2014 10:58 am

16/80 head gasket problems

Dear All,

Any opinions to the following would be welcome.

After a spirited 100 mile run last September I noticed the presence of emulsion on the oil dip stick and under the oil filler cap on the rocker cover. No oil was present when looking into the radiator cap but upon draining the engine oil you could see evidence of coolant/water.

Up until this point the car has performed faultlessly since its engine rebuild some 7,000miles ago (the block face and cylinder head face were skimmed & checked for flatness and both the head and block had been crack/pressure tested).

Open removal of the head no evidence of a blown gasket was apparent.

That said, the cylinder head inspection plate at the rear was fouling somewhat on that strange little bit of casting to the top rear of the block (see picture).

It was noticed that one or two of the new head studs had become loose and on a couple of studs the nuts had siezed so the whole stud had to be replaced.

The head and block were then cleaned a new gasket fitted, this time with wellseal on all faces (previously it had been fitted dry).

Three studs were replaced and new nuts used and all were then tightened down in sequence, 10ft lbs at a time (left for 15 minutes and then tightened down a further 10ft lbs until 40ft lbs was achieved).

It was then tightened again the following morning and the valve/tappet clearances were checked and then double checked (I set these to 8 thou always as a precaution).

A few weeks later when I had finally refitted the exhaust the car was taken for a short run.

The pick-up was sluggish and on deceleration it would POP POP POP quietly.

My initial thought was that I had not sealed the exhaust sufficiently so last Friday before the run up to Cambridge for the New Year's Dinner I had the exhaust off and re-fitted.

The run up to Cambridge was rough, the pick-up terrible and the car would POP POP POP on acceleration and hard deceleration.

Oil pressure was good (50 – 60 psi at 50 mph, 20 psi on idle), Radiator temperatures were also normal for my car in this cold weather (60 degrees).

However, upon removal of the oil filler cap on the rocker cover, emulsion was present (could it be residue left over from before?).

A compression test was conducted yesterday and each cylinder is around 18-20psi down on the test conducted before the head gasket change.

- Before head gasket change on 1 to 6 cylinders = 122 to 118psi
- After head gasket change on 1 to 6 cylinders = 101 to 106psi

So, what to do now.

My initial thoughts are to check the valve/tappet clearances again just to make sure I did not do anything stupid.

Failing that its head off, gasket off, clean away all traces of the wellseal, check that the surfaces are flat, replace all head studs and nuts and try again (this time dry fitting the gasket with a smear of oil),

Any suggestions?

Attachments:

[Castin to rear of block \(2\).JPG](#) (filesize: 167.74 KB)

[Castin to rear of block \(1\).JPG](#) (filesize: 155.58 KB)

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[CLUB CYLINDER HEAD STUDS \(1\).JPG](#) (filesize: 70.84 KB)

[Emulsion 26-09-13 \(2\).JPG](#) (filesize: 135.72 KB)

[Emulsion in oil filler cap.jpg](#) (filesize: 94.70 KB)

Re: 16/80 head gasket problems

Written by ray sherratt at Jan 29, 2014 11:08 am

Have you upset the carb settings in any way leaving her lean on power and overrun. As for the water emulsion could it be a cracked block in the bore? You mentioned a plate at the rear of the head possibly holding the head from sealing, has this been rectified. Are the replacement nuts the same size as in the picture, if so they look small in depth they should be at least 1.5 to 2 times thread diam in thickness.

Ray.

Re: 16/80 head gasket problems

Written by cahallett at Jan 29, 2014 12:05 pm

Hello Ray,

Thanks for the reply.

The carb settings have not been touched (I also mark the current setting with a little piece of wire so I always know where they are if any changes are made).

The block was totally restored 7,000 miles ago, machined, sleeved and pressure tested (I cannot see how I could cracked it but if everything else checks out OK then it will need investigating).

Regarding the plate at the rear of the block, yes this has been reduced slightly in depth to give adequate clearance.

Now as for the studs, these are new stock from the club along with the nuts.

Best Regards

Chris

Re: 16/80 head gasket problems

Written by ray sherratt at Jan 29, 2014 8:42 pm

Hi Chris

When the head was removed was there any sign of water mark in the bore. If you haven't removed the head yet, make up a pressure test adaptor out of an old spark plug, to screw into the head and connect to your air line. Put the car in top gear with test cylinder at compression TDC, hand brake on.

Make sure the radiator is filled to the top, and put as much pressure as you can into the cylinder and watch the rad. If you have a CO2 bottle this will give you greater pressure.

Ray.

Re: 16/80 head gasket problems

Written by cahallett at Jan 30, 2014 11:19 am

Hello Ray,

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No signs of water whatsoever when the old gasket was removed.

I did notice that the spark plugs were all a white/light grey after the last run (even No.6) so that may indicate the presence of water in the combustion chamber and the rough running etc...

Your test sounds a good idea so if the children give me some free time this weekend I will try it.

Thanks for your advice

Chris

Re: 16/80 head gasket problems = dropped cylinder liners

Written by cahallett at Jun 24, 2014 4:34 pm

Well just in case anybody is interested here is the update on my head gasket failure.

In a nutshell it is due to No.5 & No.6 cylinder liners having dropped slightly (how did I not spot it when the head was off last I don't know --- old age and failing eyesight I guess).

It is possible the engine overheated in Tuscany last year as the hill/mountain passes were quite steep and on one occasion we did have some loss of power which I put down to altitude at the time.

The strange thing is that with the exception of that one occurrence the car had been running faultlessly.

So I am resigned to the fact that the engine will have to come out, dismantled and be thoroughly inspected.

I hope after having read the recent 4.5L Meadows engine saga it will just be a case (just) of having the liners bored out and re-sleeved.

Just for the record, the liners had been press fit only (not stepped, not top hat & not pinned)

Attachments:

[Dropped liners \(2\).JPG](#) (filesize: 163.94 KB)

[Dropped liners \(1\).JPG](#) (filesize: 128.89 KB)

[Dropped liners \(3\).JPG](#) (filesize: 134.29 KB)

[Dropped liners \(4\).JPG](#) (filesize: 120.49 KB)

Re: 16/80 head gasket problems

Written by ray sherratt at Jun 25, 2014 8:12 pm

I see the sump is still fitted, is it possible the liners are down to a bottom step. At Headshop we have just fitted new liners to an Alvis, one had moved down and smashed by the con rod. On inspection the liners had only 0005" interference fit, and no lower step. Having had a good look at your photos there seems to be a good fire ring mark on the block around the cylinders, I wood be surprised if the liner slip is you problem.

Ray.

Re: 16/80 head gasket problems

Written by cahallett at Jun 26, 2014 12:21 pm

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Hello Ray,

Thanks for your reply/comments.

I don't know what the interface fit on these is but I do know there is no step.

I think for peace of mind the engine has to be removed, dismantled, checked and then rebuilt (time permitting).

The water in the oil is probably due to a failure of the low water pump seal (or so I have been advised) and if this is the case it should be clear to see the evidence once the water pump is removed.

Thanks again for your comments

Chris

Attachments:

[Block 16-80.JPG](#) (filesize: 179.14 KB)
