

Lagondaforum: DB3I engine back in !

DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 7:32 am

This was a long story, the workshop doing the engine took 2.5 years. Finally I have the engine back and here are some photos and a short description:

The engine received: laser welding of block, repair of aluminium cast front end plate with water pump channel, repair of suction manifolds, new: liners, pistons, crankshaft, valves and seats, oil pump..

Lets start with the block: it had the usual crack between adjacent cylinders but rather enlarged by corrosion. This part was cut out and a new little piece fit in. The block was heated under vacuum several times to get old oil and glycerine out of the pores before laser welding. The idea for laser welding was that it avoids the heat of classical welding, in which case the whole block would have to be heated very much before, with risk of distortion. They did not do it in their workshop but at some aerospace industry company. I hope that I will not dismantle it ever again but if so, I would report about if it lasted. We also were hesitating if it was really necessary (the liners seal, the block is only a support) but now having it done I feel better.

Attachments:

[block repaired.JPG](#) (filesize: 64.34 KB)

[block-before.jpg](#) (filesize: 151.51 KB)

[block repaired zoom.JPG](#) (filesize: 43.93 KB)

[crack between liners.JPG](#) (filesize: 104.40 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 7:38 am

Here another special repair: the water pump channel is integrated in the fron end engine cover. This channel had deep holes from corrosion. This was metal powder blasted and reground several times to build material up again.

Attachments:

[alu blasting water channel.JPG](#) (filesize: 81.02 KB)

[alu blasting 2.JPG](#) (filesize: 65.94 KB)

[alu blasting 3.JPG](#) (filesize: 90.42 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 7:41 am

Some minor parts to repair: broken suction manifold and water hose connector. Cut, fitted a metal piece in, welded and reshaped.

Attachments:

[broken suction.JPG](#) (filesize: 54.08 KB)

[repaired suction.jpg](#) (filesize: 96.55 KB)

[water hose conn.JPG](#) (filesize: 108.84 KB)

[water hose conn 2.JPG](#) (filesize: 158.85 KB)

[water hose conn3.JPG](#) (filesize: 113.04 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 7:56 am

Auxiliary components: alternator and radiator

Attachments:

Lagondaforum: DB3I engine back in !

[old and new V-belt pulley.JPG](#) (filesize: 141.96 KB)

[alternator reinstalled.JPG](#) (filesize: 78.51 KB)

[radiator bottom before.JPG](#) (filesize: 198.12 KB)

[radiator for recoring.JPG](#) (filesize: 96.17 KB)

[radiator.JPG](#) (filesize: 171.88 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 7:58 am

Selection of parts prepared for assembly

Attachments:

[parts1.JPG](#) (filesize: 57.92 KB)

[parts2.JPG](#) (filesize: 59.56 KB)

[parts3.JPG](#) (filesize: 44.07 KB)

[parts4.JPG](#) (filesize: 90.64 KB)

[parts5.JPG](#) (filesize: 90.49 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 8:01 am

Camshaft and valve seats: most of the valve seats were broken, a wonder that it did not cause a broken valve

Attachments:

[broken seats.JPG](#) (filesize: 129.64 KB)

[camshaft+valve mounting.JPG](#) (filesize: 88.79 KB)

[ohc chain wheel.JPG](#) (filesize: 100.50 KB)

[assembling dohc.JPG](#) (filesize: 84.37 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 8:05 am

Block reassembled and test run (no power curve testing I admit but checking temperatures and oil pressure at least) resulted in optimizing the water thermostat. Engine must be running smoothly when I see how it is fixed here..

Attachments:

[base reassembled.JPG](#) (filesize: 71.06 KB)

[engine completing.JPG](#) (filesize: 63.39 KB)

[testbed1.JPG](#) (filesize: 103.66 KB)

[testbed2.JPG](#) (filesize: 109.74 KB)

Re: DB3I engine back in !

Written by Peter S30 at Oct 18, 2010 8:13 am

I took the engine out myself but this was really difficult and my engine hoist not really high lifting enough. So for putting it back I went with engine and car to a local workshop with professional means..

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After that you see the family happy to have the car back.

I am now connecting everything. The four screws of the transmission shaft universal joint are a nightmare to reach, but I finished that yesterday.

Two last images show the numbers on the rear side of the block (not the engine number). Does anybody know what they mean?

Attachments:

[justdroppedin.JPG](#) (filesize: 138.48 KB)

[backhome1.JPG](#) (filesize: 134.76 KB)

[backhome2.JPG](#) (filesize: 151.89 KB)

[number-rear1.JPG](#) (filesize: 83.64 KB)

[number-rear2.JPG](#) (filesize: 104.85 KB)

Re: DB3I engine back in !

Written by mandb57 at Oct 18, 2010 5:36 pm

Well done ALL.

What a splendid result.

Many thanks for the pictures which really show all the hard work undertaken.

Even if it took a long time it will be well worth it

Mike and Barbara heins

Re: DB3I engine back in !

Written by Peter S30 at Oct 26, 2010 11:06 am

Thank you Mike and Barbara. I hope it is as good in the long run as it looks.

Work goes on, I am making new copper tubes for the water supply to the heater (my engine had only rubber hoses going across the engine head which is not how it was when new). And I changed the little outlet from the oil filler (which is for breathing of the engine and I assume also for evaporating water that somehow comes into the oil?) I did not like that it would drip exactly on the ignition coil so I made a different one (the bent tube is from parts for heating system piping from my local DIY shop). The black is the old one.

Attachments:

[outletpipe.jpg](#) (filesize: 41.60 KB)
