

Cylinder Head Thickness vs Compression?

Posted by Weston - 22 Mar 2009 14:59

Can anyone give me measurements for actual cylinder head thicknesses vs compression with early pistons and a turbo headgasket?

My cylinder head has been shaved by an unknown amount, and now I need to get it rebuilt again because the last shop didn't know WTF they were doing. I'm trying to figure out if this head is even going to be legal to use at this point, so I need some way to find the actual compression ratio by measuring the head thickness.

Thanks

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Re:Cylinder Head Thickness vs Compression?

Posted by dmdirks - 24 Mar 2009 23:45

Weston,

What Joe said- you've got enough margin to true up the head. When you take it to the shop have him check the flatness of the cam tower mating surface as well (if the head warped at some point then this surface will have warped also.) This should not exceed 0.1mm (~0.004 in) per Porsche specs.

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Re:Cylinder Head Thickness vs Compression?

Posted by Karl @ ART - 26 Mar 2009 05:31

Weston,

As Joe said, your measurements need to be more precise.

Here is a really easy way to tell. If you have done nothing to the bottom end and you have the early pistons, you will be under 10.5/1 if you can still see the squish zone behind the spark plug.

Stock seems to be about 0.045 below the surface of the head, and it takes a reduction of 8 ccs to bump the CR from 9.5 to 10.5.

Taking 0.045 off a new head will reduce the head volume by about 7.3 ccs.

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Re:Cylinder Head Thickness vs Compression?

Posted by Weston - 26 Mar 2009 06:56

Karl @ ART wrote:

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Ok, I can see the area behind the spark plug and it sits a bit below the surface of the head, so it sounds like I don't need to worry. Thanks!

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Re:Cylinder Head Thickness vs Compression?

Posted by joepaluch - 26 Mar 2009 22:45

Weston,

If you are really not sure take the time to measure it closely or have it measured. The reality is that you as a competitor are required to have a compliant car. This means under 10.5:1. If you are 10.6:1 even if you did not know it your are non-compliant and DQ'ed. I expect you will be going to National and

national is a place where stuff like this will get checked. You don't want to be guessing you are ok.

So take the time now to MAKE SURE you are ok. Once the head is on the car and all buttoned up it too late to be guessing. Resolve it now.

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Re:Cylinder Head Thickness vs Compression?

Posted by SvoChuck - 27 Mar 2009 00:37

Dirks and I both have calipers .

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Re:Cylinder Head Thickness vs Compression?

Posted by 944cer - 21 Aug 2009 00:36

Just checking if I'm following this thread correctly.

I have had .020" or .508mm shaved from my head and should be fine on compression with a new stock head gasket?

One other question; my cam tower gasket looks fine and isn't very old so can I reuse it?

Thanks,

Lee

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