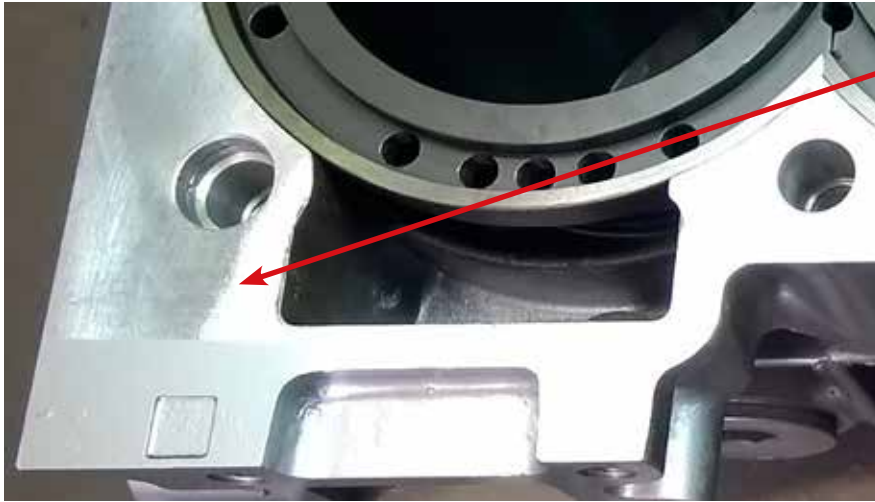


Surface Preparation for MLS Head Gaskets.



New cylinder block showing how the surface should look for correct sealing for MLS head gaskets.

To prepare the block surface correctly

1. Use a “spray on” gasket remover to soften the old gasket.
2. Then with a new razor blade held almost parallel to the surface you can scrape off the material, making sure not to scratch the surface. Or better still, use a plastic razor blade or scraper to reduce the risk of scratching.
3. The surface can then be sanded with ultra-fine wet and dry paper on a flat sanding block to bring up a near mirror finish.
4. Clean out the threads of the bolt holes in the block.
5. Finally, clean all surfaces with brake cleaner to remove any oil residue.

Here at All Head Services, we have seen numerous occurrences where the cylinder head gasket has failed after the cylinder heads have been replaced. Upon inspection of the heads and gasket, it has been found on almost all occasions that the block surface preparation or the use of non-recommended sealants are the cause of the failed head gaskets.

Many modern engines use Multi-Layer Steel (MLS) head gaskets that require the block surface to be meticulously prepared to seal correctly. These gaskets consist of two to five sheets of spring or carbon steel, which are sandwiched together with a sealing material to form the head gaskets.

They generally have a sealant coating on them from the manufacturer and do not require the use of “Hylomar” or “Coppercote” etc. Coating MLS gaskets with another sealant will affect the gaskets ability to “Cold Seal” and lead to premature head gasket failure. If a head gasket has been coated with a non-recommended additional sealant, it will lead to costly rework and it will void any warranty from the gasket suppliers!



Marks in the head gasket are imprints of the deep scratches in the block caused by this.



Use a plastic razor blade or scraper to reduce the risk of scratching the block.



Do not use air powered die grinders with surface preparation discs or “whizzy discs”. They can easily grind away sealing surfaces, especially on aluminium cylinder blocks. They can severely damage the gasket surface which will inevitably lead to head gasket failure. See **Tech Talk Aug 2008 page 2803** for more information on why you should not use them. ▶



Fire ring surface rounded off with surface / whizzy discs

Also, the block surface on modern aluminium blocks tend to warp if the engine is severely overheated and will cause gasket failure if not checked and rectified prior to the head being replaced.

If the above steps are taken, the repair should be successful. ✓



We would like to thank Geoff, from All Head Services, for sharing this practical information and photos www.allhead.com.au

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The index is now 63 pages long covering 31 years of Tech Talk publications. This means that we can no longer economically print and mail out a paper copy version.

However, the updated Tech Talk index with all of 2016's content is now available from the VACC Tech Talk web page. This free download will allow you to print a copy or view it electronically.

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