

Cylinder Head Gasket Replacement

1. Ensure both the head & block surfaces are clean and free from dirt, oil, coolant and old gasket material. Any debris on the surfaces could give rise to a leak path resulting in failure of new gasket. Avoid placing cleaned heads face down on workbench and or floor where fresh debris could be picked up.
2. Take utmost care not to damage, head and block surfaces while using a scraper to remove old gasket. This is especially important with aluminium surfaces.
3. Ensure both head & block surface distortion is less than 0.05mm and the surface finish is in line with the engine manufacturer's recommendations.
4. Ensure that all bolt-holes are clean from debris, coolant & oil. Avoid excessive use of lubricant especially in blind bolt-holes, which could result in a hydraulic lock and therefore effect the clamp load generated or even crack the block.
5. For diesel engines check the piston height above the block to ensure that the correct gasket thickness is used.
6. Avoid any form of additional sealant on a cylinder head gasket. This could lead to gasket extrusion and failure, plus it could be squeezed into oil feed holes causing a blockage and consequent engine failure. However there are, rare & discrete areas where the engine manufacturer may advise the use of a sealant such as front cover 'T' joints.
7. Ensure that the gasket is fitted the right way up and correctly located on the engine and, where relevant, located on dowels prior to fitting the cylinder head.
8. Inspect all head bolts for damage, length and ensure they are clean. If the engine uses stretch bolts (Torque-to-Yield) then use new bolts.
9. Lightly oil the bolt threads and the bolt head undersides. Hand tighten all bolts ensuring correct bolt position where different bolt lengths are present. Torque the head bolts in the sequence, as recommended by the engine manufacture. Use an angle indicator where required to ensure accuracy.
10. Where a retorque is recommended run the engine for 20 minutes. (Engines with aluminium cylinder head should have cooled to room temperature prior to retorque).