

Head Gasket Fitting Instructions - Honda CX500 and CX650, all models

Please note: These gaskets do not contain asbestos like the original gaskets. As a result, they bed in and behave slightly differently. Microscopically, their fibres rearrange a little under pressure and vibration and therefore need to be re-tensioned until they assume their final position.

Failure to do this will eventually allow the flame rings to vibrate, leading to metal fatigue failure and burn-through.

Procedure: Thoroughly clean the cylinder heads and mating cylinder faces off old head gasket material or sealant. Also clean all head bolts, ensuring threads are shiny and not burred. Clean out the threads in engine case.

At this point, it's also a good idea to check these surfaces for flatness.

Lay a good straightedge across and diagonally on the gasket surfaces and shine a light on the back of the arrangement. Any light shining between the gasket surface and the straightedge will indicate an uneven surface. This can be corrected using a thick piece of glass, a granite or cast iron surface plate or similar implement which has been proven to be flat with the straightedge and light method above.

Lay or tape a piece of 320 or 400 grit wet and dry on the plate and gently rub on the gasket surfaces in a straight line, with even force on the 'lapping plate'. Do this in a 'Union Jack' pattern (two crosses twisted by 45 degrees), but each line one stroke only, NOT back and forth.

This will indicate and sand off any high spots. The goal is to have an even fine surface produced by the abrasive paper over the entire gasket surface with as little metal removed as possible.

Re-check with straightedge and light.

Some people prefer to use a thin head gasket sealant like 'Hylomar', sprayed or painted onto the gaskets before assembly. Others prefer to use the gaskets clean. I have tried both methods and found no difference in sealing performance. Your choice.

The cylinder heads and new gaskets should be fitted with all valves closed: i.e. both pushrods in their lowest position and piston at top dead centre. Turn the engine to ensure this position. Loosen the valve clearance adjusters a little so there is clearance with the new gaskets fitted and no pressure on the valve springs.

Always assemble the head bolts with a little molybdenum disulfide (moly) grease on the threads and the undersides of the bolt heads. That assists in actually reaching the bolt tension intended, rather than 'wasting' considerable torque on binding threads or rubbing bolt heads.

Once the cylinder heads are fitted, tension the head bolts evenly and progressively in a diagonal X pattern, taking care to tension the smaller push rod cover bolts in each sequence. Final torque should be 50-60Nm or 36-43ft lb for the 12mm bolts and 10 - 14Nm or 7-10ft lb for the 6mm bolts (CX500) or 24-30Nm or 17-22ft lb for the 8mm bolts (CX500T, CX650 and CX650T).

Adjust the valve clearance to specs and refit rocker covers. Refill coolant and check oil level, then start engine. Allow to idle or rev gently until operating temperature is reached (maybe 10 minutes running without load), then switch off and let cool – preferably overnight.

Critically, these new gaskets need re-torqueing **after this very first operating temperature cycle**.

Fortunately, on CXs this can normally be done without taking the tank off, just tilting it a little to slip the rocker cover under the edges. At worst, you may need to remove the seat and undo the rear bolt to lift the tank a little from the back.

Once the engine is cold again, remove the rocker covers and spark plugs and position each piston in turn to have all valves closed.

Re-torqueing is just a matter of cracking the bolts loose by 1/8th of a turn and retightening to the specified torque. Recheck the valve clearances after each re-torque!

Best results have been recorded with a second re-torque after around an hour or so normal riding, then again after around 10-15 hours. I check mine and advise people to re-check after around 30hrs engine running time.

Neither I nor anyone else has found any loss of torque at that time. So that final check is done just in case.

Thank you for using my head gaskets. Please report any issues to me for product and instruction improvements.

Joe Hovel (joe.hovel@gmail.com)