



READ THIS BEFORE PROCEEDING

Congratulations for purchasing a quality cylinder head from Kiwi Cylinder Heads. Please read the following notes carefully to ensure the installation goes smoothly and the repair is completed effectively.

If you have any further questions please call 0800 549 429 for assistance prior to fitting this head.

This kit contains

- Instructions & warranty information
- One bare cylinder head
- May contain associated parts, e.g. studs, heat shields, water pipes etc.

If the purchaser chooses to fit parts other than those supplied, this does not invalidate the Kiwi Cylinder Heads warranty other than to the extent that the replacement parts carry no warranty unless purchased from Kiwi Cylinder Heads. Additionally, any consequential damage to Kiwi Cylinder Heads products as a result of using these alternative parts is not warranted.

These are suggestions only and all normal professional standards must be observed by the repairer. This includes following any original manufacturers specific instructions for the replacement of cylinder heads on a particular vehicle.

If this product is being fitted as a replacement for a head which has failed in service it is critical that the cause of the original failure is identified and rectified. Failure to do so may result in this product also failing for the same reasons which will not be covered under any warranty.

Warranty

All Kiwi Cylinder Heads products are warranted for **12 months and unlimited kilometres** from the date of purchase.

All claims for failure are investigated by an independent component failure assessor, and the results of these findings will be made available to the claimant as part of the process.

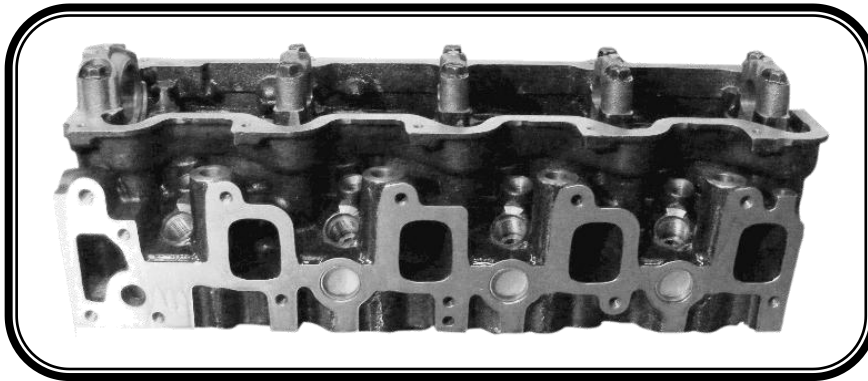
If the cause of the failure is due to faulty product, Kiwi Cylinder Heads will meet reasonable costs for repair. This includes standard labour times for the repair, gaskets, bolts and consumables associated with putting the engine into the same condition as it was prior to the failure. This excludes service items such as oil, coolant, filters etc as well as any vehicle recovery costs and the cost of any replacement vehicle.

For full details on the warranty and the claim process see the website
www.kiwicylinderheads.co.nz

Toyota 1KZTE – P/N 10081039/10081040 – NOV.2011

SIX STEPS TO SUCCESS!

TO ENSURE A SUCCESSFUL INSTALLATION OF THIS CYLINDER HEAD



1. ENSURE BOTH MATING SURFACES ARE **CLEAN AND FREE OF DIRT AND OIL.**
2. **DO NOT** CLEAN BLOCK THREADS WITH A THREAD TAP. USE AN OLD HEAD BOLT WITH A CLEANING GROOVE CUT THE LENGTH OF THE THREAD TO THOROUGHLY CLEAN BLOCK THREADS.
3. MAKE SURE **NEW TORQUE TO YEILD** HEAD BOLTS ARE ALWAYS USED. ENSURE A LIGHT COVERING OF ENGINE OIL IS APPLIED TO THE THREADS AND UNDER THE BOLT HEAD AND WASHER.
4. ENSURE THE **CORRECT** TORQUE SETTINGS AND SEQUENCE IS EMPLOYED.
5. **MULTI-LAYER STEEL (MLS) HEAD GASKETS:** FLUSH BLOCK OF ANY REMAINING ANTI-FREEZE, **DO NOT** ADD ANY NEW ANTI-FREEZE TO COOLANT SYSTEM UNTIL ENGINE HAS TRAVELLED A **MINIMUM OF 600KMS.** TO ENSURE THE GASKET HAS THE BEST POSSIBLE CHANCE TO SEAL CORRECTLY.
6. **FUEL INJECTORS** **MUST** BE CHECKED FOR CORRECT OPERATION AND **SERVICED** IF REQUIRED.

IF YOU HAVE ANY QUERIES PLEASE CALL

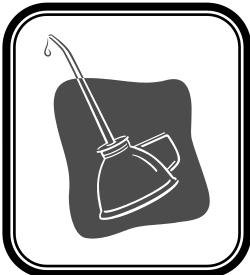
US ON 0800-549-429



CLEAN SURFACES



USE AN OLD BOLT TO CLEAN THREADS



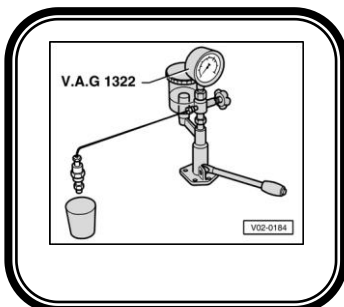
OIL HEAD BOLTS



CORRECT TORQUE PROCEDURE?



NO ANTI-FREEZE FOR MIN. 600KMS



SERVICE THE INJECTORS

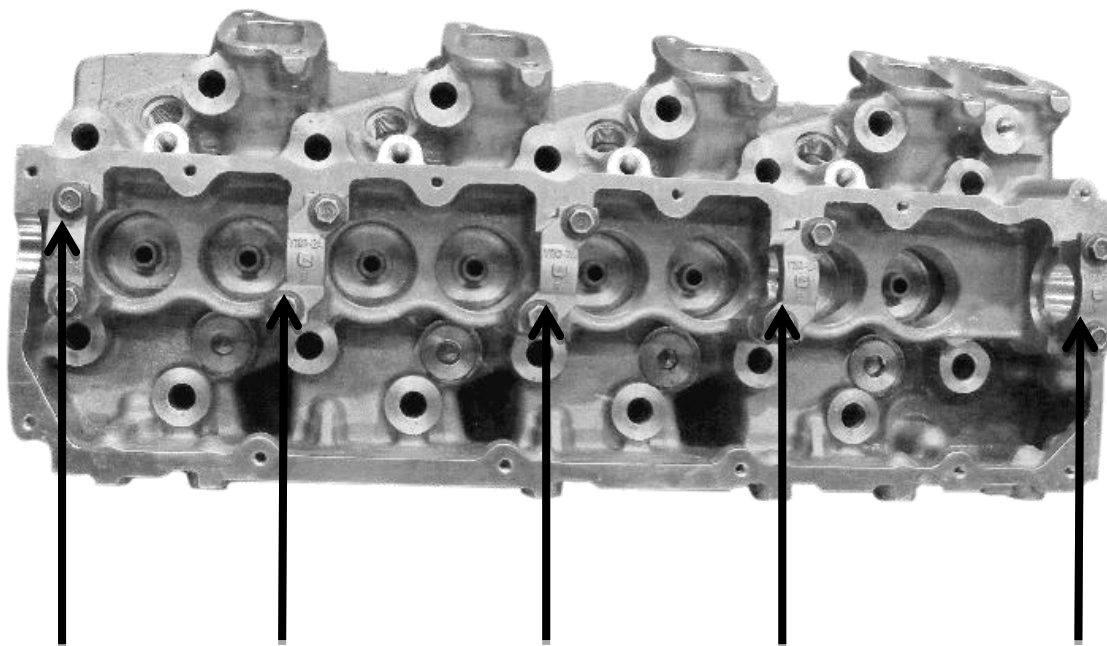


SPECIAL NOTE

***TOYOTA 1KZTE**
10081039/10081040*

Cam bearing cap numbering: Please note that bearing cap number 5 is marked on the opposite side of the cap than numbers 1- 4 caps. Caps "2-3-4" maybe numbered with an "8".

See picture below.



No.5

CAP.4

CAP.3

CAP.2

No.1

Kiwi Cylinder Heads Technical Tips

Toyota 1KZTE Camshaft

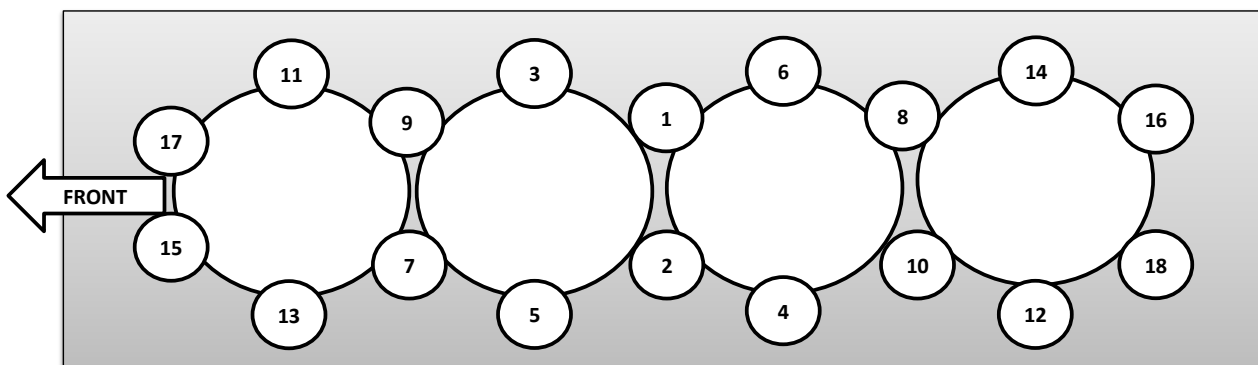
The camshaft bearing caps on this cylinder head are located with a single dowel only which can lead to problems during installation. The bearing caps are able to move on the non dowel side and if tightened on an angle will lock up the camshaft. As the head was line bored in the manufacturing process the issues arise from the alignment of the bearing caps during assembly.

The suggested technique is to use a heavy pre-lube oil on the bearing surfaces and with all the bearing caps pressed firmly into position tighten the bolts finger tight checking the camshaft continues to rotate freely.

1. Starting with the centre cap progressively tighten the bolt on the side without the dowel (exhaust side) checking all the time that the camshaft continues to rotate freely.
2. Tighten the dowel side and check again that the camshaft rotates freely.
3. Repeat steps 1 & 2 starting with the next cap to the rear of the head and then alternate to the front. The final cap to tighten should be the one at the front of the head.

Toyota 1KZTE Torque Sequence

- HEAD BOLT P/N 30086005 QUANTITIES: 18 @ 128/55mm M12 x 1.25mm
- HEAD BOLT TIGHTENING SEQUENCE.
- STEP ONE: 20Nm
- STEP TWO: 40Nm
- STEP THREE: +90*
- STEP FOUR: +90*
- IMPORTANT: ALL BOLT THREADS, BOLTHEADS AND WASHERS MUST BE LIGHTLY OILED.
- USING AN OLD HEADBOLT WITH GROOVE CUT DOWN THREAD, CLEAN THE BLOCK HEADBOLT THREADS.



www.kiwicylinderheads.co.nz

0800-549-429



VEHICLE REGO _____ ENGINE MODEL _____

CYLINDER HEAD INSTALLATION CHECK LIST



	On receiving the new cylinder head visually check for courier damage and that it is in all respects the same as the old head with the same openings, threads, holes and bungs. Check dowel hole depths	
	Check that injectors, sparkplugs, and other fittings, fit correctly in the threaded holes before fitting the head to the rest of the engine.	
	Check that there are no visible blockages in water ways and oil galleries and use a compressed air gun to blow all of these out as debris can sometimes become trapped during the manufacturing process.	
	(if this is a complete assembled cylinder head) Confirm all the tappet/valve clearances are correct – while they were set at assembly it is still worth checking. Also check tappet adjusters are tight and will not move in service. Prevention is better than cure!	
	(if this is a complete assembled cylinder head) Ensure the camshaft, cam followers and all other moving parts are <u>well lubricated with the pre-lube oil supplied</u> before attempting to turn the engine over.	
	Ensure all gasket surfaces and the cylinder head and block mating faces are clean, undamaged, smooth and free from oil, grease & water before fitting. This is especially critical when using multi-layer steel gaskets.	
	Use new head bolts and gaskets and tighten the bolts to manufacturer's specifications. Be sure to oil the threads and under side of the bolt heads & washers before fitting. It may also be best to leave the head & gasket to settle between each stage of the tightening process. <u>Do not clean block threads with a tap, use an old head bolt with a cleaning groove cut the length of bolt instead.</u>	
	With spark plugs/glow plugs & rocker cover removed, the engine should be turned over until oil is flowing through all the oil galleries in the cylinder head. This is typically 30 – 60 seconds after the oil pressure light goes out.	
	Complete the re-assembly of the engine to industry standards and test run checking for any leaks (oil or water) after the engine has reached full operating temperature but prior to any road test. Be sure to bleed all air from the cooling system at this time.	
	If using a multi-layer steel gasket it is recommended that anti-freeze is only added to the cooling system after the vehicle has run 500 – 1000 km	
COMPLETED BY: _____		DATE

IF YOU HAVE ANY DOUBTS OR QUERIES CALL US FREE ON 0800-549-429