



# TOYOTA 2.4L 2AZ-FE AND 2.0L 1AZ-FE ENGINE M11x1.5 HEAD BOLT THREAD REPAIR

*(11 inserts are supplied in this kit)*

**IMPORTANT!** Please read the “*UNIVERSAL INSTALLATION GUIDE*” provided in the kit in their entirety before proceeding. Details specific to repairing this engine regarding drilling & tapping depths along with insert installation depths are provided below.

**\*\*\* *DO NOT RE-USE OLD HEAD BOLTS* \*\*\***

*The threads on the old head bolts are often stretched out of pitch from torquing, causing them to tighten prematurely in the new inserts.*

**\*\*Note:** Up until and including 2006 engines, the factory threads in the block start about 3” deep. Starting in 2007 the threads start about 1-5/8” deep and require shorter head bolts. It may be possible for the earlier 2007 vehicles to still have a 2006 engine.

1. When mounting the drill/tap jig, follow the instructions on pages 3&4 using the short spacer provided (1½in. diameter x 1¼in. Long), along with a head bolt made for the Toyota engine being repaired. If it is necessary to mount the jig to a hole that has just been repaired, make sure to use a new head bolt, otherwise an old head bolt may tighten up prematurely in the new insert since the threads of the bolt may be stretched out of pitch.
2. When drilling the holes make sure to remove all factory threads. To do so, you will need to drill approximately 4¼” deep from the deck surface for 2006 and older, and approximately 3½” deep from the deck surface for 2007 and newer. Failure to remove all original threads may cause the head bolts to stub on the old threads as they protrude through the bottom of the insert, causing the head bolt to tighten prematurely before reaching their final depth.  
*\*\* If repairing the two holes at the head alignment dowel locations, remove the dowels, drill and tap the holes, install the inserts and then reinstall the dowels. Since the drill bit is smaller than the dowel, the drill bit will not cut the dowel seat larger. When tapping, the tap will cut into the dowel seats, but the minor diameter of the thread will still be the same size as the dowel, allowing you to reinstall the dowels.*
3. Install inserts 1½” deep on 2006 and older 2AZ-FE or 1AZ-FE engines, and 1¼” on 2007 and newer 2AZ FE engines from the deck surface (gasket surface-see page 4, figure 4 of the Installation Guide). To accomplish this, you will need to thread the holes about ¾” deep on 2006 and older, and 3” deep on 2007 and newer. It may be necessary to use a 11mm-12point socket to drive the tap to the correct depth.
4. Regardless of the year, or whether you are repairing a 2AZ-FE or 1AZ-FE engine, torque head bolts to ***52 FT-LBS then 90°*** (make sure to follow factory torque sequence). The torque call out that we specify may be slightly different than the factory call out for your year engine. The torque shown above will give the correct stretch on the bolts since the inserts are installed shallower than the factory threads.

**Note:** This kit is universal for many other engines as well since the outside thread size of the insert does not change. Inserts are also available with internal threads of M10x1.25, M10x1.5, M11x1.25, M11x2.0, M12x1.25, M12x1.5, M12x1.75 and 7/16-14.