



Atomic Performance Products®

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Installation instructions for #306651, #306652, #306653, #306654, #306670, #356650, #356670 Head and Main stud kits.

Thank you for purchasing a set of Atomic Competition Fasteners. They have been manufactured using premium quality materials, machined to the highest standards and undergo numerous pre and post production checks to ensure these standards are maintained. To enjoy trouble free operation ***it is imperative*** the correct installation procedures are followed. Failure to follow these instructions may lead to failure of the component and/or damage to the engine.

Step 1

Remove the items from their packaging and check the correct number of studs, nuts, washers and moly lubricant are included. If not, please contact Atomic directly on (02) 8665 5889.

Step 2

Check the threaded holes the studs are to be fitted into are free from sealer, scale, rust, corrosion or any obstructions in the thread form. If necessary, run a cleaning tap through the holes to ensure they are free of debris – do not use a conventional tap as they can remove additional material from the thread form.

Step 3

Place a small amount of thread sealer on the coarse threaded end of the stud and wind into the block until the end of the thread is level with the block. **It is NOT always necessary to wind the stud all the way to the bottom of the hole.** Loctite #262 is recommended for this job; however there are many other brands that work equally well. Allow the anaerobic sealer to set.

Step 4

Install the item (head, main cap, etc) to be tightened, ensuring no foreign material is lodged between it and the engine block. Place a small amount of Atomic/ARP moly lube on both surfaces of the washer and the fine threaded end of the stud, then fit the washer, followed by the nut. Tighten by hand until finger tight.

Step 5

Torquing of the fastener is the most critical aspect of the installation. Listed below are the torque specifications for the various sizes of studs we produce, as well as recommended torque figures for specific applications. Our preferred torquing method is a 4-step process:

- Torque to 50% of the recommended tension in accordance with correct tightening sequence
- Increase to 80% of the recommended tension
- Then finally tighten the fastener to 100% of the recommended tension
- Recheck tension after ½ hour at 100% again

Torque specifications

Stud size	Application	Torque
M10 x 1.25	Main caps – iron	45-50 ft lbs
M10 x 1.25	Main caps – steel	55-60 ft lbs
M12 x 1.25	Head – alloy or iron	85-85 ft lbs
M12 x 1.25	Main caps – iron	60-65 ft lbs
M12 x 1.25	Main caps – steel	70-75 ft lbs
1/2" UNC/1/2" UNF	Head – alloy or iron	80-85 ft lbs
9/16" UNF	Head - alloy	120-125 ft lbs



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Please note that when installing 14.3mm head studs in BA on Ford DOHC 6 cyl engines the 12 point nuts are to be used in the forward most positions as the 6point nut OD is too large to fit in the head counterbore.

Also, over-tightening of bolts or studs, particularly when fitting cast iron main caps is not recommended as it can cause distortion of the cap, thereby altering the vertical bearing clearance. Steel caps flex less than iron, hence the torque figures are slightly higher.

If you encounter any problems whatsoever with the installation of the studs or have any questions about torquing fasteners, please call Atomic direct - we are here to help!

The Team at Atomic