

## INSTALLATION METHOD FOR HEAD STUD KITS

**Part Number: 247-4206 Application: Cummins 3.9L (4BT) Diesel**

**Note:** This kit requires modification to the rocker arm pedestal to accommodate a shorter rocker arm pedestal head stud included in this kit (see illustration A on reverse side). These changes were designed to bring our 12pt nut and washer combination down to the same installed height as the factory head bolt due to clearance issues with the valve cover. We have also included secondary 8mm rocker arm pedestal (hold down) bolts that were previously not available.

- Always verify the part number for your application with the part number on the side of box and the part number on the instruction sheet. This will help ensure you have the correct installation procedure for your specific application before installing any components.**
- To ensure proper thread engagement and accurate torque readings, clean ALL threads in the block and the threads in the cylinder head that secure the rocker arm pedestal to the head. Chase if necessary with ARP Thread Chaser(s), part numbers 912-0008 (M12 x 1.75) and 912-0001 (M8 x 1.25).
- Clean and inspect all hardware prior to installation. Look for obvious defects or shipping damages, plus proper fit, length and dimension (**see illustration B on reverse side**).
- If the cylinder head studs protrude into a water jacket, lubricate the block threads of the studs with ARP THREAD SEALER.
- Screw studs into the block "HAND TIGHT ONLY". **NOTE: LOCTITE MAY BE USED IF PERMANENT MOUNTING OF THE STUD IS PREFERRED.**
- Install the cylinder head and check for binding or misalignment.
- Install the pushrods.
- Install the rocker arms and the rocker arm pedestals onto the cylinder head as an assembly according to OEM procedures. Make sure the dowel on the bottom of each pedestal is aligned properly with the alignment holes in the cylinder head and the pedestals are sitting down flush on the head with the valve lash adjusters completely backed off.
- Lubricate the stud threads, nuts and washers with ARP ULTRA-TORQUE FASTENER ASSEMBLY LUBRICANT. **ARP recommends using the ARP ULTRA-TORQUE FASTENER ASSEMBLY LUBRICANT that is provided with each kit as opposed to motor oil. This is due to higher friction on the studs as well as inconsistencies in the clamping force of the fasteners when motor oil (or low quality lubricant) is used.** Also apply ARP Ultra-Torque Assembly Lubricant to the threads on the secondary 8mm rocker arm pedestal (hold down) bolts.
- Install the washers and the 12pt nuts onto the cylinder head studs and tighten them hand tight.
- Install the secondary 8mm rocker arm pedestal (hold down) bolts into the cylinder head. Tighten the bolts hand tight. **Note: The secondary 8mm rocker arm pedestal (hold down) bolts must be installed in place before tightening the head studs to properly align the tips of the rocker arms with the valve stems.**

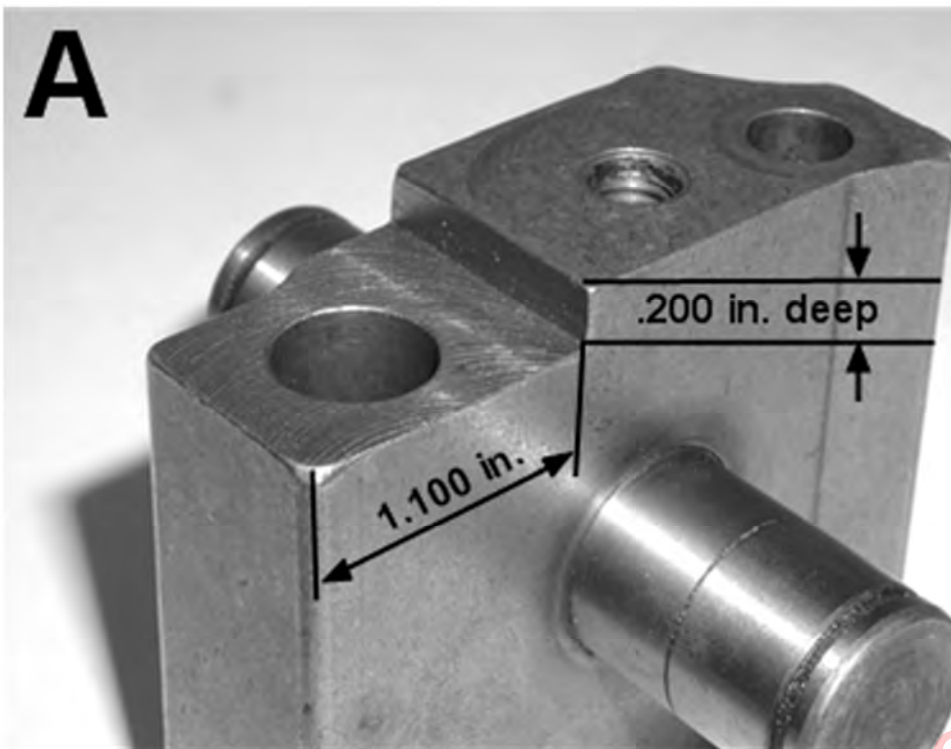
### PRELOAD (TORQUE) RECOMMENDATIONS

- Following the manufacturers recommended torque sequence tighten the nuts **in three equal steps** to the specifications listed below **with ARP ULTRA-TORQUE FASTENER ASSEMBLY LUBRICANT.**

**M12 studs 125 ft lbs**

**M8 bolts 25 ft lbs**

**Note:** ARP Ultra-Torque Fastener Assembly Lubricant has been specifically designed to reduce tension preload scatter and eliminate the need to cycle high performance engine fasteners before final installation. ARP Ultra-Torque far surpasses all requirements offered by previous ARP lubricants in terms of fastener preload repeatability and performance lubricating properties. For more information on ARP Ultra-Torque visit our website at [www.arp-bolts.com](http://www.arp-bolts.com) or call 1 800-826-3045.



### A. Rocker Arm Pedestal Modification -

It will be necessary to mill a step in all six pedestals to the specified amount. The step must be parallel ( $\pm .005$  in.) with the bottom of each rocker arm pedestal.

**B. Rocker Arm Pedestal Head Stud Installed Height -** If the location of the rocker arm pedestal head studs are above the specified installed height it will be necessary to tap the threads deeper in the block and/or modify the thread counterbore to get the top of the studs down to the specified height. When installed properly the tops of the rocker arm pedestal head studs should be flush with or just slightly above the tops of the nuts when the head is torqued to its final specification.

## Bolt Torque Sequence

