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302 FORD

**INSTALLATION METHOD FOR MAIN STUD KITS**  
**190,000 Psi      7/16-inch Diameter**

- [1] To ensure proper thread engagement and accurate torque readings, clean and re-tap ALL threads in the block. Re-tap only if necessary.
- [2] Clean and inspect all hardware prior to installation. Look for obvious defects or shipping damages, plus proper fit, length and dimension.
- [3] Screw studs into the block "HAND TIGHT ONLY".  
Note: LOCTITE MAY BE USED IF A PERMANENT MOUNTING OF THE STUDS IS PREFERRED. THE FASTENERS, HOWEVER, MUST BE TORQUED PRIOR TO THE LOCTITE SETTING UP.
- [4] Install main caps and check for binding or misalignment. Lubricate the threads of the studs, nuts and washers with ARP Moly Assembly Lubricant or 30wt motor oil.
- [5] ARP recommends using the **ARP MOLY LUBRICANT** or at the very least, a good quality Moly Lubricant 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 a low quality lubricant) is used.

**PRELOAD (TORQUE) RECOMMENDATIONS:**

- [A] Torque values are based on 75% of the fasteners yield strength. Use the manufacturers torque sequence but do not use the engine manufacturers torque specs. Torque the nuts to 70 ft lbs for **ARP MOLY ASSEMBLY LUBRICANT** or torque to 85 ft lbs with 30wt motor oil.

**FOOTNOTE:** When changing from factory fasteners to high strength fasteners, clamping force and tolerances will change. The main bore should be align honed using the same fasteners which will be installed at the recommended preload.

**NOTE:** Do not use any other Moly Lube. Use only ARP Moly Lube or main cap walk failure can result.



PERFORMANCE PRODUCTS, INC.

06/13/03

INSTALLATION INSTRUCTIONS
"H" BEAM STEEL CONNECTING ROD
WITH ARP 2000 BOLTS

Forged from 4340 chrome moly steel, fully machined and shot peened, Manley rods are designed for use in today's high performance engines. The following guidelines will insure service and longevity expected of this premium rod.

FITTING IN BLOCK

A minimum of .060" clearance MUST be maintained between the connecting rod and the engine block or camshaft. If clearance problems exist between the connecting rod and engine block, it is highly recommended that the block be clearanced for the rod, not vice-versa, in order to maintain the structural integrity of the rod.

CHECKING CLEARANCES

The following clearances MUST be maintained to insure proper connecting rod performance.

The big end housing bore is sized to provide proper "crush"; connecting rod bearing to crankshaft clearance should be set at .002" minimum to .003" maximum during assembly.

Side clearances on both rods should be a minimum of .020" to a maximum of .035" per pair. Recommended side clearances for the Ford 4.6L and 5.4L are .010" - .020" and .015" - .025" respectively per pair. (Actual side clearances are subject to variation based on personal preferences of the engine builder.)

The recommended wrist pin clearance is .0008" minimum to .0015" maximum. In some cases, depending upon actual wrist pin diameter, this MAY NOT provide adequate clearance and may require sizing at the time of installation.

FASTENERS

PROPER FASTENER INSTALLATION WILL PREVENT ROD FAILURE!! Ninety percent of all rod failure are due to incorrect fastener installation and/or maintenance. Fasteners supplied are as follows:

Table with columns: Bolt Part No., Bolt Diam., Material, U.H.L., Torque Value w/30wt. Oil During Final Assembly At Manley Performance, Bolt Stretch, Recommended Torque Value Range w/30wt. Oil In ft./lbs.

The parting line area and threads should be THOROUGHLY cleaned prior to assembly and the fasteners MUST be submerged in 30 wt. oil or equivalent. Do not use moly or engine lube. Bolt stretch value should be checked against torque prior to installation. DO NOT OVER TORQUE!

IMPORTANT: Free length of fasteners should be measured and recorded prior to installation. If free length of fasteners increases by more than .001" at any time the fastener in question should be replaced immediately or failure may result.

Any questions concerning the use or installation of these connecting rods can be directed to our tech staff at 732-905-3366.