

A-6201 Inserted Rod Instructions

Recommended mean or average clearance for rod bearings is .0015" +1- .0005. Since both the connecting rod and the bearings have tolerances, both of the factories that manufacture the rods and the bearings have agreed to holding an I.D. tolerance of 1.4997-1.5005". This will yield a mean I.D. tolerance of 1.5001 ". Below is an example of what the clearances will yield with standard grinds of the Model A Crankshaft:

Maximum Standard Crank O.D. of 1.499" will yield clearances of .0007-.0015"

Minimum Standard Crank O.D. of 1.498" will yield clearances of .0017-.0025"

A crankshaft ground to the maximum may have to be polished to obtain the desired minimum clearance of .001", but only when the I.D. dimension of the rod and bearing are at their minimum.

Oversize bearings will be sized using the same method as shown above for Standard bearings plus the oversize dimension. However, the actual crankshaft diameter can be custom ground when using oversize bearings to obtain the engine builder's desired clearance.

Below are recommended crankshaft grinds. Grinding to the mid range should give you an average clearance of about .0015" plus the +/- tolerance of the crankshaft dimension.

STD 1.498/1.499"

.010 undersize 1.488/1.489"

.020 undersize 1.478/1.479"

.030 undersize 1.468/1.469"

.040 undersize 1.458/1.459"

Fitting of Wrist Pins

Rods have the wrist pin bushing pressed in, oil holes drilled, and rough bored. You **MUST** hone the wrist pin bushings to match the wrist pins in your pistons. There is no way we can hone these bushings ahead of time due to variations in wrist pin diameters from one piston manufacturer to another. The clearance between the wrist pin should be .0005". If you do not have the ability to perform this task, we recommend taking your new rods along with your pistons and wrist pins to a local machine shop or motor rebuilder. Most modern motor rebuilders have equipment to perform this work.

Connecting Rod and Bearing Assembly Instructions

IMPORTANT -

Each connecting rod and rod cap are machined as **an individual matched set and cannot be interchanged**. In addition, one side of each rod and cap is etched with the number 15 when machined and **must be re-assembled with both of these numbers aligned**. When correctly assembled, the inside machined area for the two bearing tangs will both be on the same side of the rod as the numbers 15.

Cleanliness of work area, components, and hands are an important key to this operation.

1. Carefully install the bearings into the connecting rods following the instructions on the Premium Bearing box. Keep in mind that each connecting rod and cap **is an individual matched set and cannot be interchanged.**
2. Check all crank to rod clearances with plastigauge. **(Crankshaft must not turn during steps C through E)**
 - a) Lay a length of plastigauge across the bearing inside the rod cap.
 - b) Carefully install the connecting rod around the crankshaft journal **with the numbers 15 on both the rod and cap aligned and facing the driver's side of the engine block.** This will ensure all the dippers are positioned in the correct direction.
 - c) Use one hand to hold the rod and cap closely together. Install the self-aligning bolts and screw them in alternately finger tight, then hand tight using a 3/8" socket with short extension until both bolts bottom.
 - d) Using a 3/8" ratchet, snug the rod bolts alternately and evenly, then torque evenly to **20 ft. lbs.**
 - e) Loosen the rod bolts alternately, remove the rod cap, and examine the plastigauge to confirm the clearance between each rod and crank journal.
 - f) After confirming each rod-to-crank clearance, carefully remove all traces of plastigauge and reinstall the rod cap on the matching rod (hand tight only).
3. Completing the Installation
 - a) Disassemble one rod and cap at a time. Generously apply a **High Quality Engine Assembly Lube** to the mating surface of the bearings and crankshaft before final assembly of the connecting rods to the crankshaft.
 - b) Install the rod and rod cap around the crankshaft journal with the rod and cap numbers 15 aligned as described in section 2 above.
 - c) Install bolts using the same procedure described in section #2 above, then snug them alternately and evenly.
 - d) **Final Torque:** Torque the rod bolts evenly to **20 ft. lbs.**, then torque the rod bolts to a final of **35 ft. lbs.**

Note-- A high quality assembly lube may also be used on the timing gears.

Failure to follow these guidelines will result in premature bearing wear or engine failure.