

IA II Pre Assembly Tip Sheet

By AllPontiac.com

The pre-assembly mock-up of an engine to assure its proper fit, clearance, and alignment is essential to any correctly built engine.

*****THE ENGINE BUILDER must check for any defects in material or manufacturing PRIOR TO INSTALLATION/ASSEMBLY. It is the final responsibility of the engine builder to do this inspection. If a defect is found the part must be returned *immediately******

*** BLOCK SHOULD BE PRESSURE TESTED BEFORE ANY MACHINE WORK IS DONE***

1. Pressure wash the block from all sides to remove **all** sand and metal shavings from the manufacturing process. Especially in water jackets.
2. Decks are CNC machined to Standard deck heights. **If you need a particular deck height always measure before machining and ordering your pistons. Deck if needed.**
2a. ** For Aluminum Blocks Only**- Check to be sure cylinder sleeves are fully seated then the block **must** be decked.
3. Deburr the block all over. Also check all threads. Chase if needed. It is new and just off of the machine. **CHECK ALL OIL PASSAGES AND DEBURR IF NEEDED.**
4. You will need to use a ball hone in the lifter bore to deburr the lifter bores. Check them for the proper clearance to your lifter. Some people need more clearance than others, so check this out. The stock lifter will go in this block. When using high performance roller lifters, the spreader bar may hit the lifter top surface. This surface was raised to add meat to the lifter area so BBC lifters can be used. If using a .200 offset lifter you will need to have the bar raised .300 higher or mill the top of the lifter bores.
5. Check the main bearing clearance with the bearings that you plan to use. Again, different bearing manufacturers have different clearances. **Mains are finished to low/mid spec. Line hone if needed.**
6. Check the clearances on the crank radius to the caps/bearings to make sure that the bearings are not riding on the radius. Torque the caps the same as a stock block
7. The crank clearance to the block will need to be checked. Have at least .060" of clearance to all surfaces on the block. Check all counterweights and rods. The front dowel pin corner may need to be ground and the block near the rear crank balance weight may need to be ground.
8. The rear crank bearing oil hole may need to be slotted .030 back to make sure that the oil has a clear path to the bearing. Again, the bearing that you use may have a different oil hole location. ******
9. ****The oil hole Intersect point in the main bearing saddle of the block will need to be ground for better cross-over/oil flow****
10. Cam clearance is set to be stock. Check this out also.
11. Install oil restrictors in the lifter bores for your own specs. Most people are using .030 restrictors.
12. Check the 1 ¼" NPT tap holes in the rear of your block to make sure that the plugs will go flush. Or you may need to grind them flush. The machine cannot tap them to full depth.
13. Use your head gasket to determine which water holes that may need to be drilled in the block for water passages to the head. Drill the same amount of holes as a stock block, **NOT ALL THE HOLES IN THE HEADGASKET.** We are dry decking the block to be drilled by you to your particular head gasket.
14. The distributor hole has the stock clearance. In some cases you may need to hone out with a brake hone to deburr the hole so the distributor will go in. Also check the dist. shaft length.
15. The registered main blocks have the pan rail lowered 1/8". You will need to have a longer oil pump drive shaft. The oil pan front lip will need 2 cork gaskets or just tap the pan lip back to the timing cover to change the clearance by 1/8".
16. The oil pump housing on some pumps may hit the rear bearing cap by 1/16". Just grind the pump housing back.