I get a lot of comments on my updates section – most of them are very complementary, sometimes a question, but by far, everyone has a better understanding about what it takes to put a model engine, like this, into production. Most people have no idea of how complicated it really is. Furthermore, they all have a better understanding that these pieces cannot be purchased, but must be designed, proofed, and machined. Believe me, if there were such place to purchase parts, I would not be doing these updates.

A good example of what I am talking about, are the brass inserts inside the distributor cap. They are extremely small and require careful installation. Keep in mind each one has a .035 through hole in the center. As you can see, it would be impossible to go to the local hardware store or hobby shop and purchase this. When you multiply this by hundreds of parts, it is easy to understand some of the difficulties. Sadly, some people think that because I have CNC equipment – you simply put in a block of aluminum in one side and when it comes out, all that is needed is to put it into a box and ship it. This is obviously over simplified, but what CNC does is give me part repeatability. Every part must be interchangeable. No exceptions!

Other difficult parts are the main bearing and rod bearing inserts. What looks like "Art Deco" in a couple of the pictures, is actually matched bearing halves. Each bearing must be center drill, drilled, spot faced, then cut in half with a .010 saw blade. When finished the matched halves are set on a piece of double sided tape. They must remain together! Can you imagine what would happen if the strip of bearing halves were to be dropped. It would almost be easier to make new ones. If you look closely, you will notice that the main bearing halves are quite a bit larger than the rod bearing caps. Each bearing half must be fitted carefully in the block and in the bearing cap. The rod bolts are tightened and then the proper clearance is checked with a special ground gauge pin. If the tolerance is not correct, then the mating surface of the bearing half, must be lapped a small amount. They are then reinstalled and rechecked. This process must be done for all five main bearings. After we are satisfied with the clearance, then each crankshaft is carefully set in place. Each bearing cap is tightened individually and the rotation of the crankshaft is checked. This process is repeated until the crankshaft rotates freely and the proper end play is achieved. Keep in mind, in addition to the 4 through bolts, each bearing cap also has two cross bolts which must be installed. It makes me tired just thinking of how much work must be done to each block. I will say, almost all of the blocks now have the crankshafts installed. We have been diligently working on the same process with the rod bearings and caps.

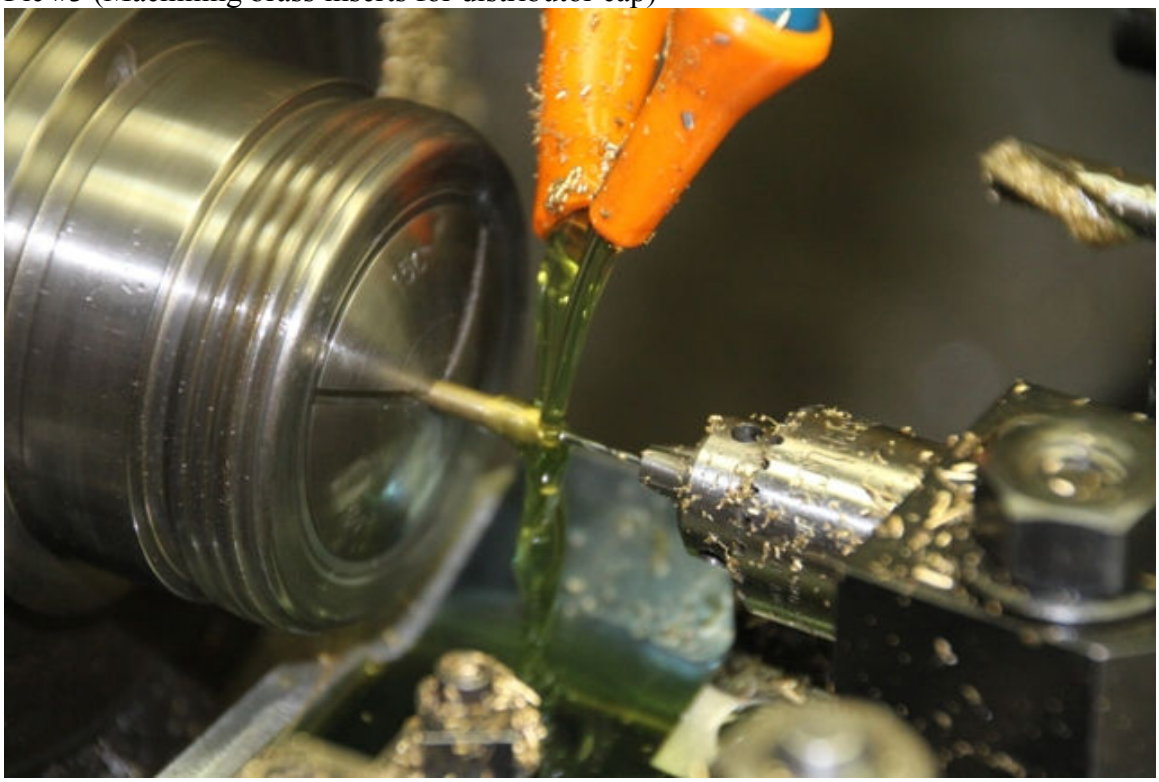
The gears have arrived for the oil pumps. This time I had them machined for me, instead of using pinion wire stock. Because they are a machined gear, the tolerances will be closer, and I was informed, the result should be a more constant oil pressure. As the saying goes "you cannot have enough oil". I am in the process of cutting the shafts which the gears will be soldered in place after which the drive flats will be machined. I would also like to add that although I have not had one oil pump failure, I am always looking for ways to make a good thing, even better.

I hope these updates help to explain some of the many process, which are needed to complete these very complicated engines.

Pic #1 (Brass insert for distributor cap)

Pic #2

Pic #3 (Machining brass inserts for distributor cap)

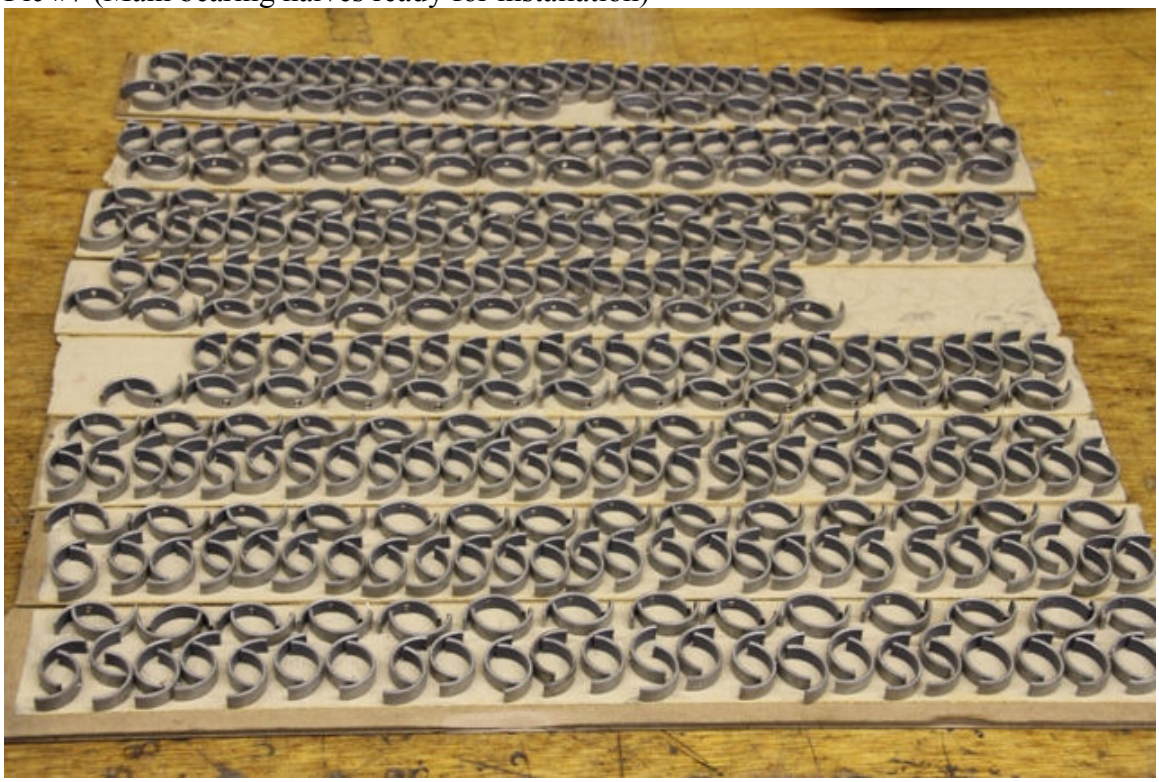


Pic #4 (Installing brass inserts on spark plug wire then into distributor cap)

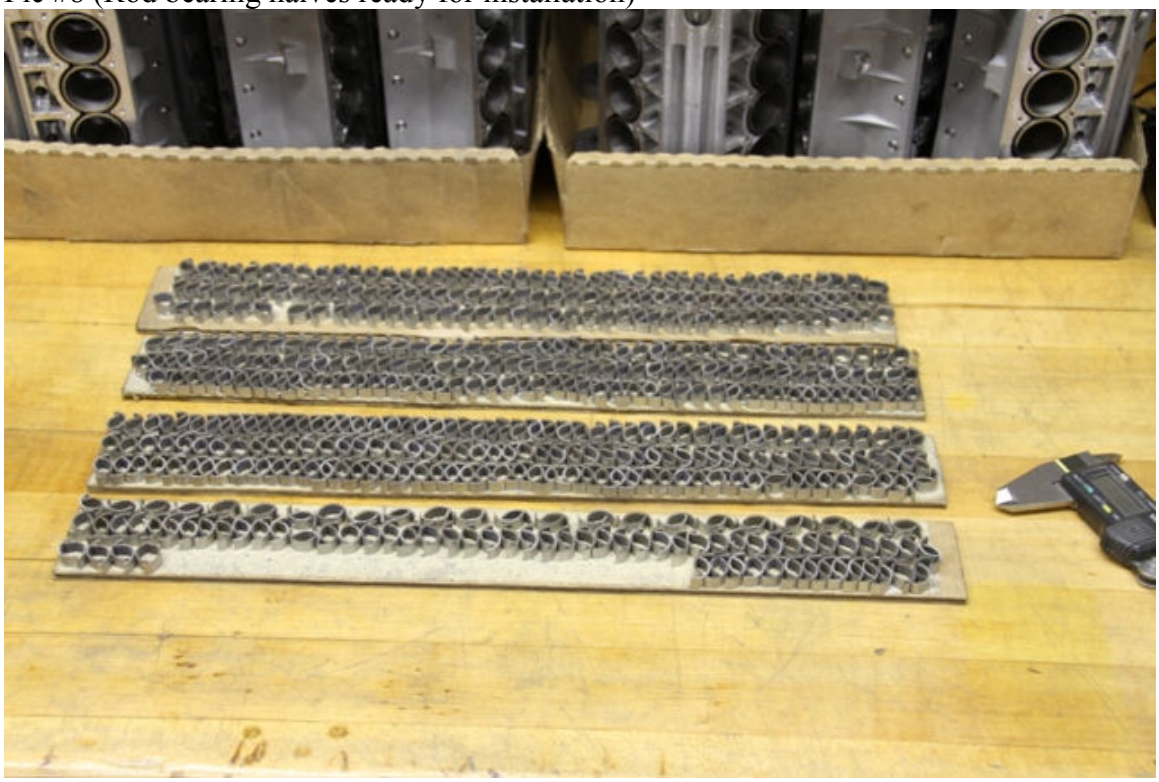
Pic #5

Pic #6 (Machining bearing halves)

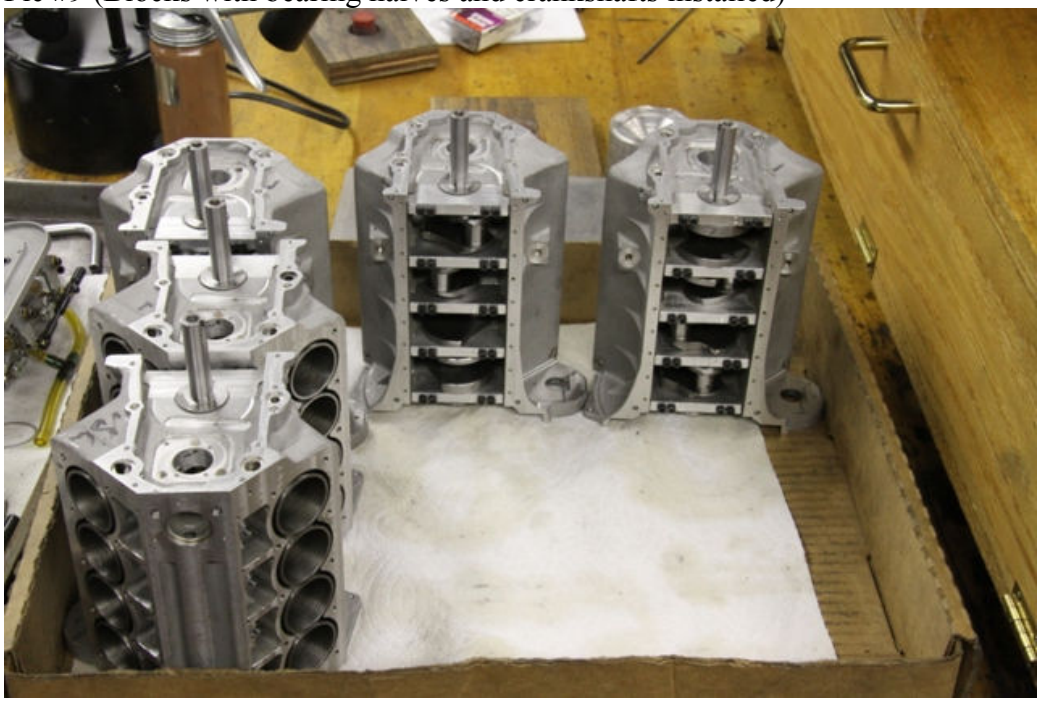
Pic #7 (Main bearing halves ready for installation)



Pic #8 (Rod bearing halves ready for installation)



Pic #9 (Blocks with bearing halves and crankshafts installed)



Pic #10 (Blocks waiting for bearing and crankshaft installation)

Pic #11 (Oil pump gears in stock)