A lot has been happening since my last update. Just trying to stay-up or keep ahead of everything, is a challenge, by itself. The cast iron cylinders liners have been installed in all of the blocks. What you are seeing in the first pictures is the use of a diamond coated flat hone. Using the coarse side, all of the cylinders are brought to the same height. Once we have checked to make sure each cylinder is the same height, the fine diamond side of the hone is used. This allows for a positive fit of the aluminum head "O" ring. Not only do the cylinder liners need to be exactly parallel but the distance from the top of the cylinders to the top of the block must be exact. This insures a perfect fit between the bottom of the head and the deck of the block, when the rubber gasket is installed at a later date.

Each block must then be line honed to make sure the main bearings are perfectly parallel and to size. Then the camshaft bearing bore must also be line honed. When finished the bores are +/-.0005, over a distance of 6". Just in case you did not see all the zeros, that is 5 ten thousands. To put into perspective, a human hair is about .002 - .003 diameter. A dial bore gauge is used to check both ends on mains and camshaft bore.

The hollow dowel pins were then made which stops the center mains from spinning. Normally on a fully sized car, the bearing inserts would be "staked", but in small applications this would be almost impossible. Each pin is then carefully pressed into each main bearing location.

Once the pins have been successfully pressed into each block then the oil line is pressed into place, after which, the oil holes are cross drill through each hollow dowel pin. Is everyone still with me? If you have been following my updates, it is easy to see just how complicated this engine is and how many parts are needed.

After the oil lines have been thoroughly check and any small burrs and chips removed, the stainless steel oil plugs are installed. This process seals both ends of the oil line and oil galleries for the lifters.

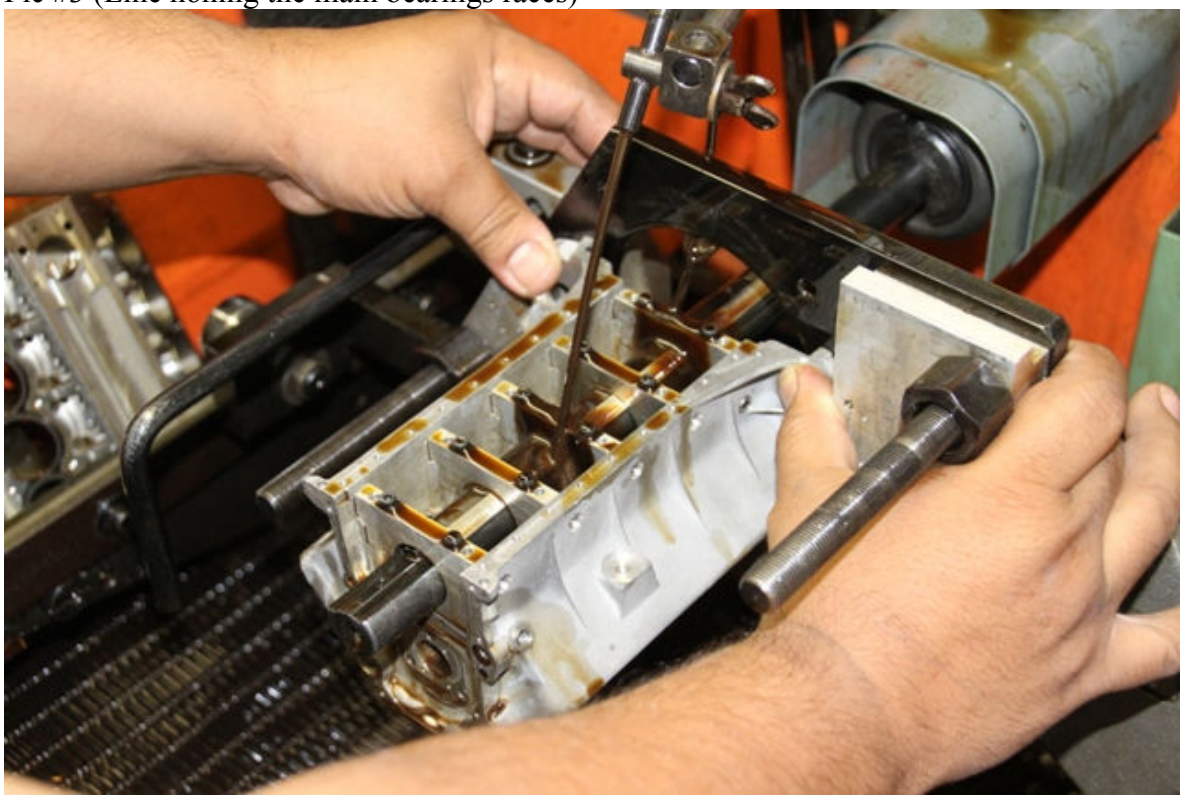
The last step for the crankshafts is to machine a small notch into the end. This allows for the alignment of the "flywheel damper" which drives the serpentine belt and for the supercharger belt.

I am finishing the main bearing inserts and this week we will be installing all the crankshafts. FINALLY!! As you can see the engines are starting to take shape. I will be completing the bearing inserts for the connecting rods this week. When finished the completed pistons, wrist pins, and rings can be installed.

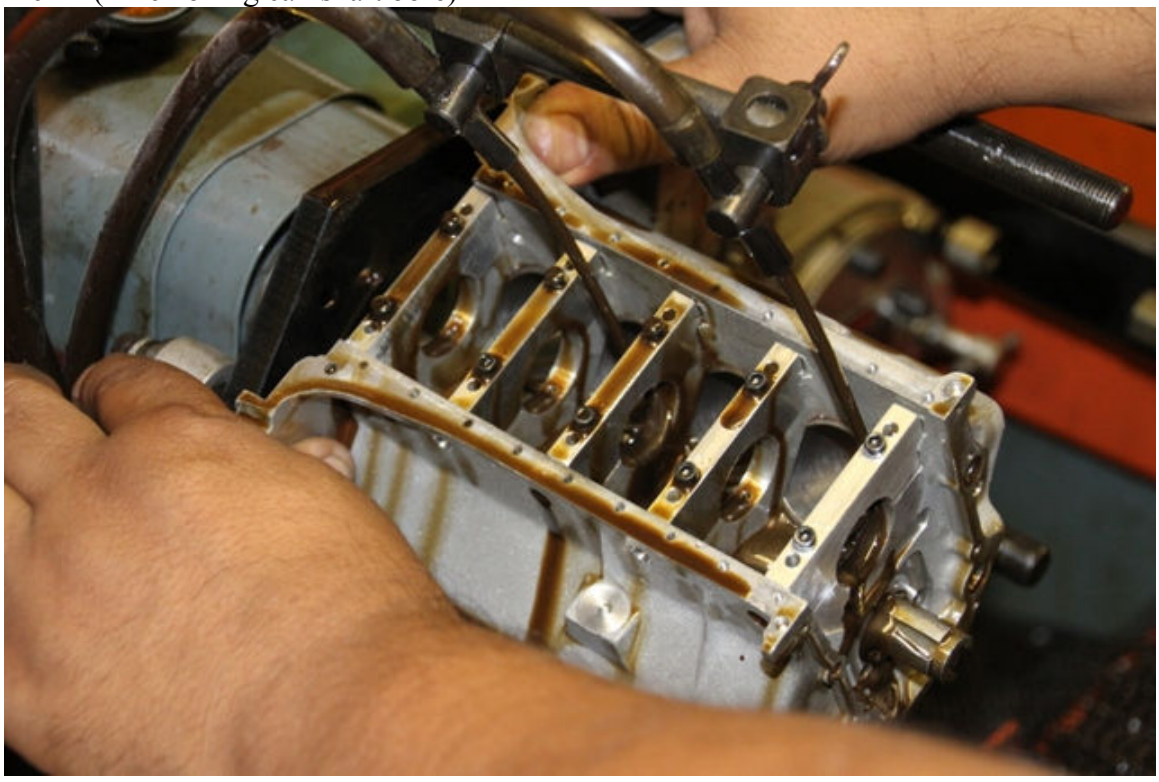
Pic #1 (Coarse lapping the top of cylinders liners)

Pic # 2 (Fine lapping the top of cylinder liners)

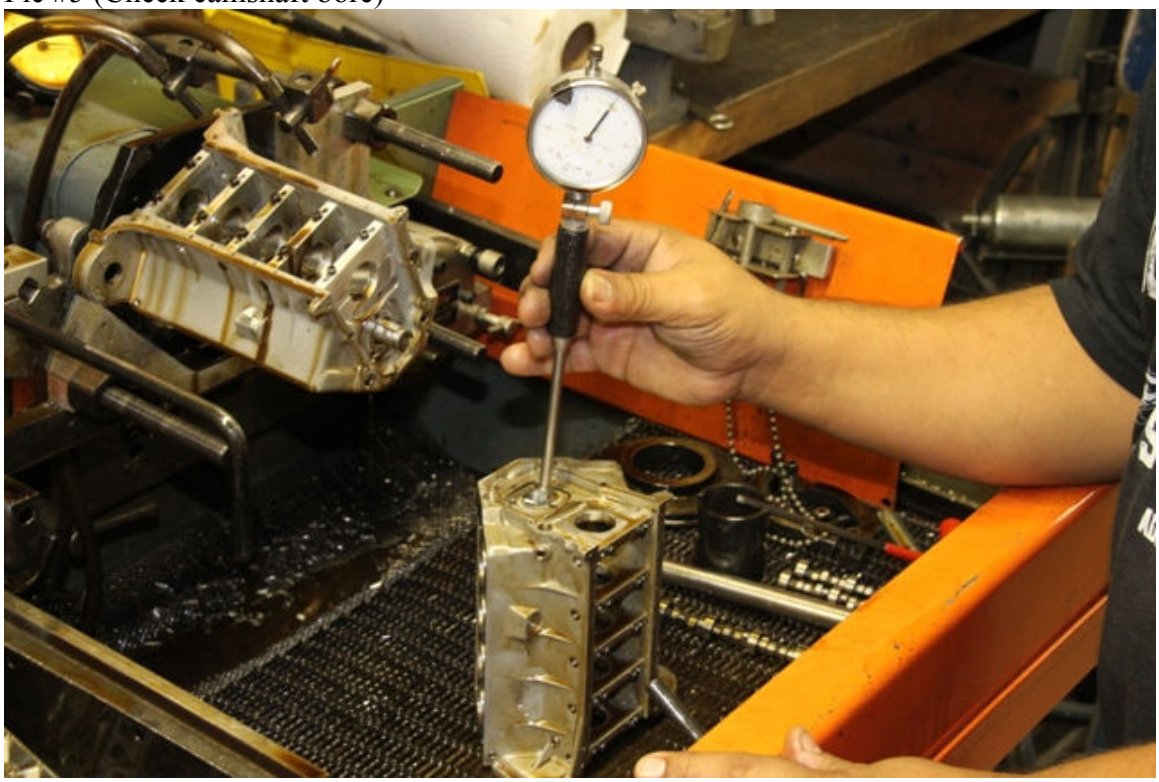
Pic #3 (Line honing the main bearings races)



Pic #4 (Line honing camshaft bore)

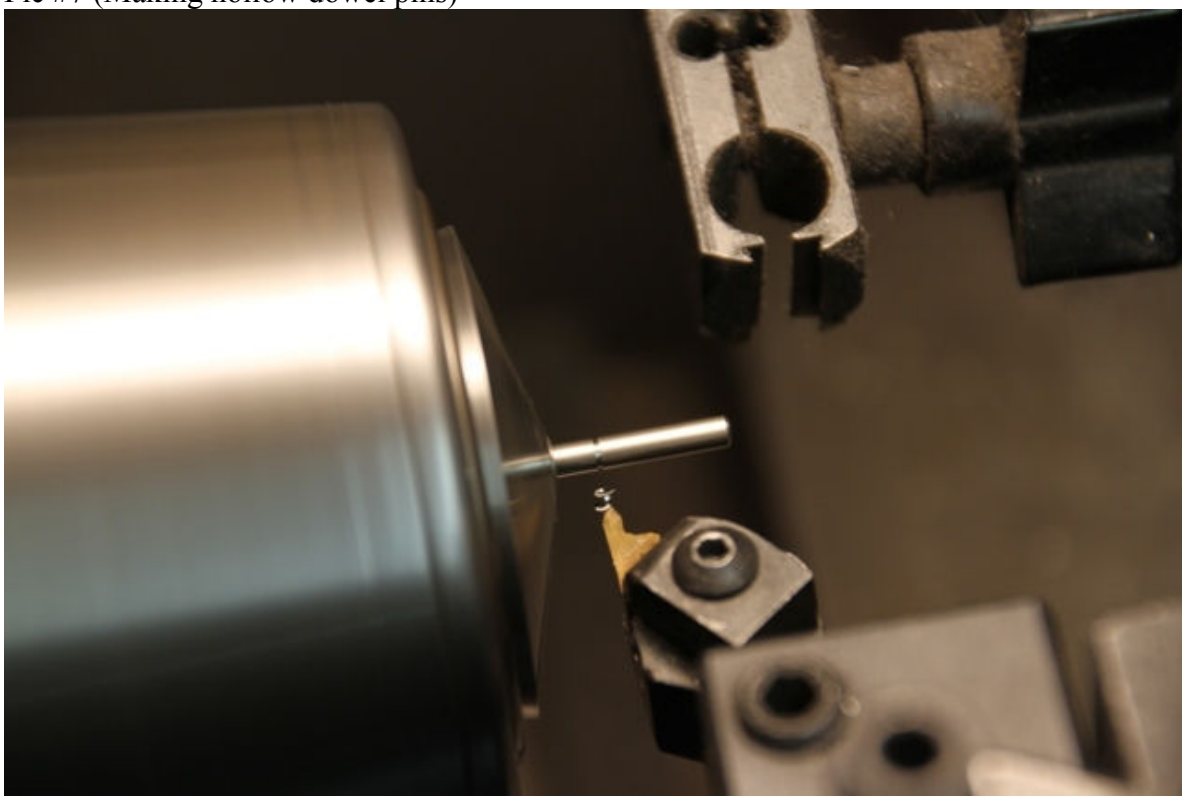


Pic #5 (Check camshaft bore)

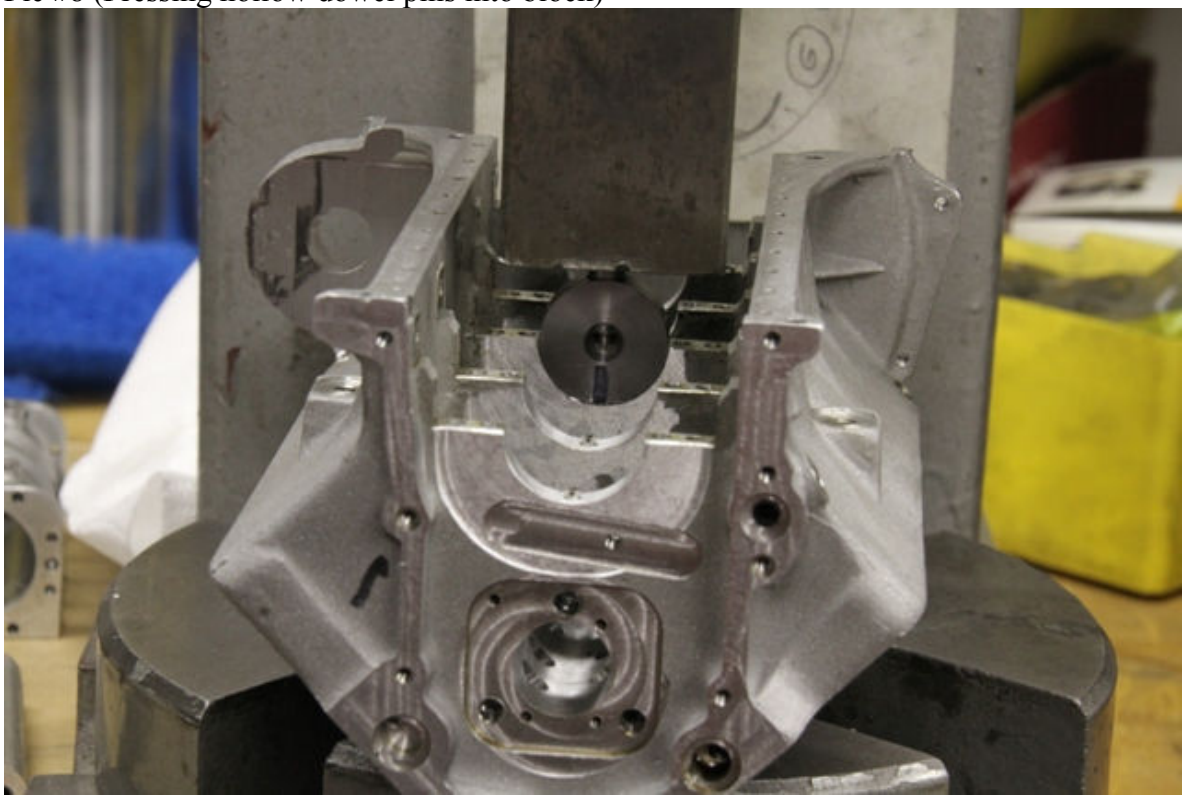


Pic #6 (Completely honed blocks waiting for clean-up in wash tank - to remove oil)

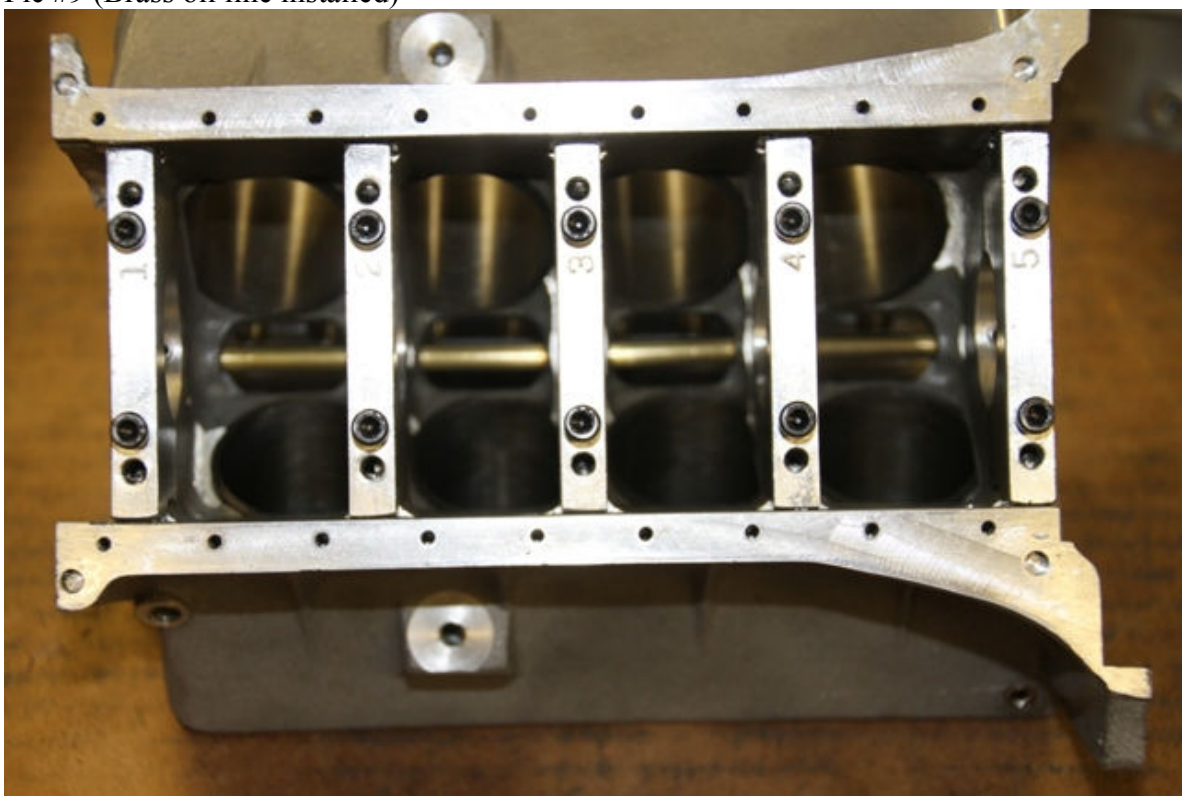
Pic #7 (Making hollow dowel pins)



Pic #8 (Pressing hollow dowel pins into block)

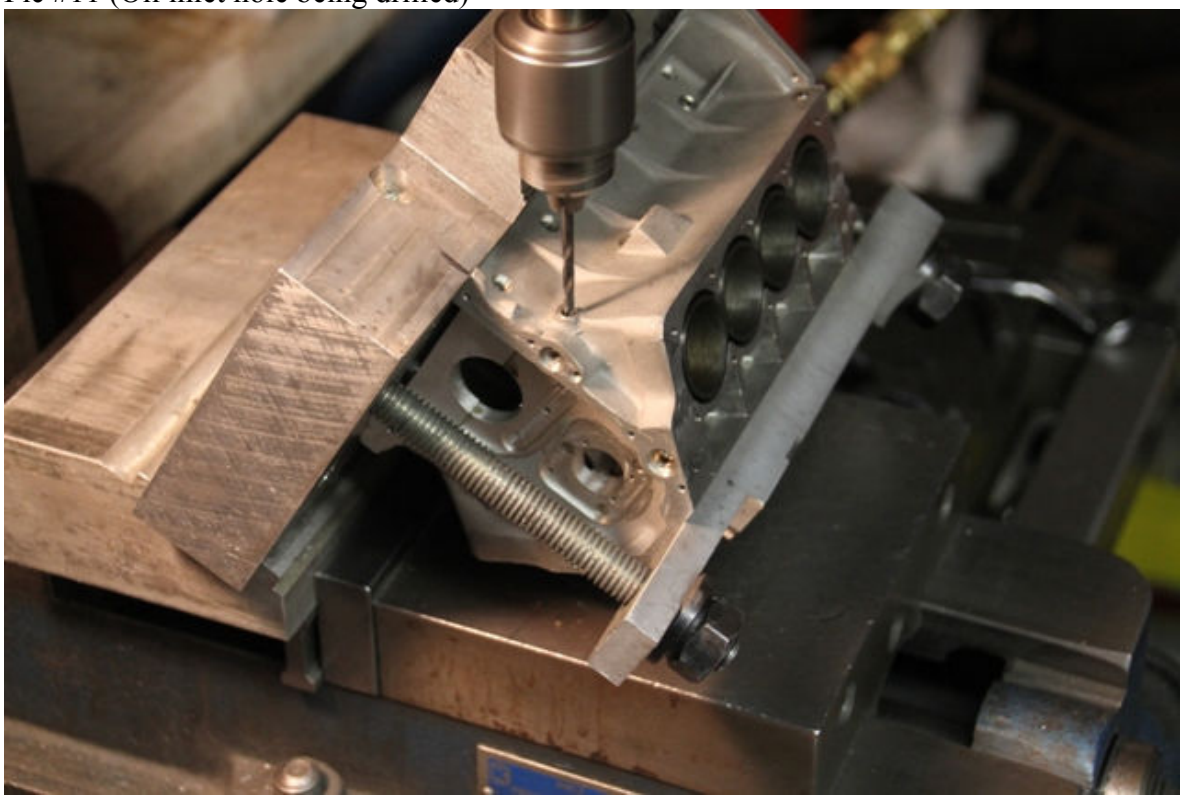


Pic #9 (Brass oil line installed)



Pic #10 (Stainless steel oil plugs being installed)

Pic #11 (Oil inlet hole being drilled)



Pic #12 (Machine drive notch in end of crankshaft)