

(13 May 2008)

Pic #1



Pic #2



I truly do not have any idea of where the time goes! It seems like the minutes turn into hours, the hours into days, and the days into weeks. At first glance the modifications to the bearings, rods, and pistons, should have taken about two weeks. It is now six weeks and I am almost finished with the updates. After modifying the programs for the new rods and main bearings, the crankshaft had to be reground. This is no little task. Once again, a lot of time was needed to reset all the jigs for regrinding the throws. The mains were relatively straight forward. The pistons were significantly changed. Picture #1 shows the new "deep dish" top. This was done to lower the compression ratio, and provide clearance for the valves without having to

"flycut" each piston. At first glance it may seem like a small change, but believe me when I say, "a lot of time was spent in making sure all of the calculations were correct. Things like "deck clearance", piston top thickness, and compression ratios were all checked and rechecked. Currently the compression ratio is 8.4 to 1. This should work just fine for the supercharged engines as well as the normally aspirated engines. By "dishing" the top of each piston, it eliminated the timely and manual effort needed to modify the combustion chamber. The net result, is that when the engines are finally ready for assembly, no further modifications need to be made. It isn't just making new pistons, the bulk of the time was spent modifying the CNC programs and jigs used to make each piston. Once a program has been "proofed". then a considerable amount of time is needed to make the machine run faster and smoother.

It is important for my customers to know that I take an additional step with the piston rings. The machine shown in picture #2 is a "lapping machine". It is used to make sure that the surface of the oil rings are perfectly flat and to the exact dimension. This may not seem like much but there are two oil rings and a wafer ring that must fit into a groove that is only .070 thick. Once again, this engine is very "demanding".