

Well, I can only say, the holiday season was very demanding and it started the day before Thanksgiving. Without dwelling too much on the past, I am happy to report, “things” are back to normal. Engines are slowly being shipped out. If you ordered an engine with a car or test stand, it will take a little longer, but at least the end is in sight.

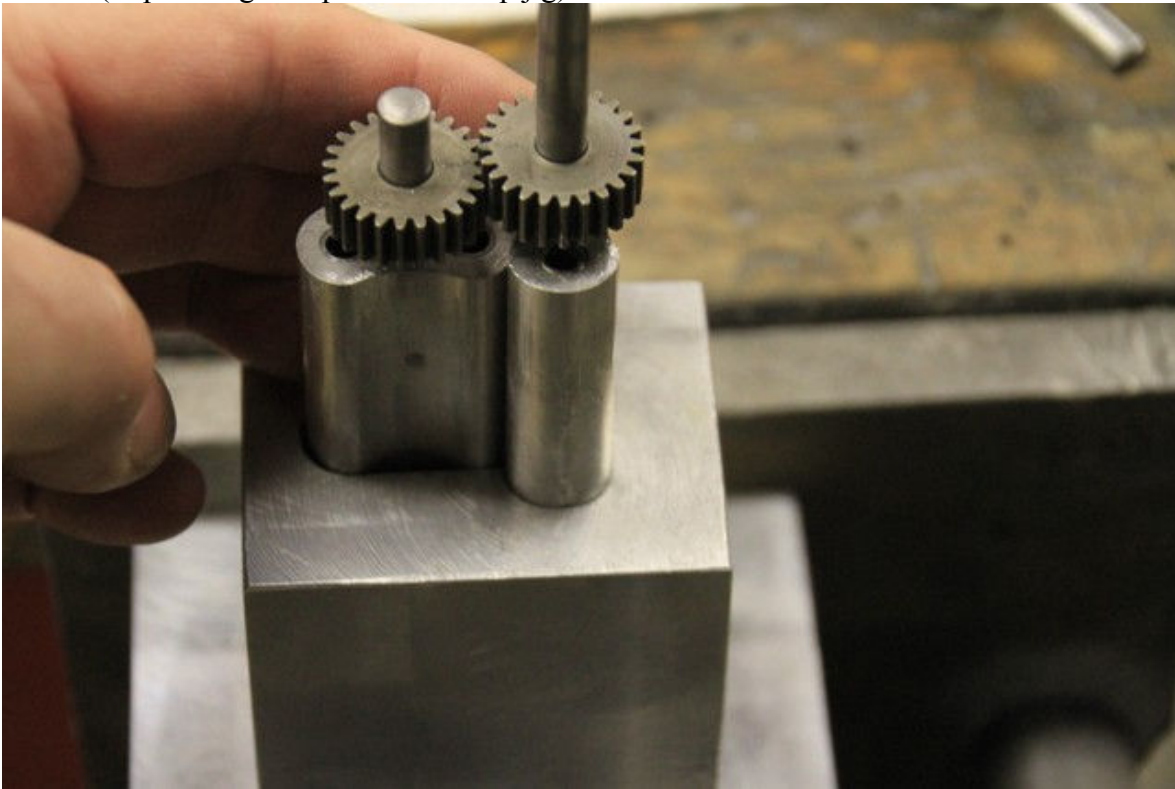
A lot of time has been devoted to completing the superchargers. Remember, about 95 of the engines being shipped were supercharged. At first glance my supercharger looks like a relatively simple item. The trouble begins when the rotors are assembled and need to be “timed”. Because the tolerances are so close, the timing must be exact. I mean exact! The distance between each rotor is about .004, which is just about the thickness of a human hair. The first rotor (driven) has the center shaft install and pinned. Then the gear is put in place, which is keyed. Next, the drive rotor has a gear installed but the center shaft is not pinned yet. Using a special jig, as can be seen in the pictures, the gear mesh is set as close as possible. Once this is done then the two rotors are installed in a test front housing, and rear housing. By rotating with my hand, I can see and feel if there are any interference problems. For what it is worth, they never fit exactly, the first time. Depending where the rotors touch, they are marked then the entire rotor assembly is removed and placed back in the setup block. I can then rotate the drive gear an extremely small amount. Once again, the rotor assembly is reinstalled in the front and rear cover. I then test by hand again. This process may need to be repeated several times until the rotation is smooth and there is no binding. I then place a sheet of .003 thick paper between the rotor and rotate by hand to make absolutely sure everything rotates smoothly. After this, the entire assembly is placed on a motor driven base, which gives me a definitive answer as to the smoothness. I then electronically etch each gear as to position and correct side. As you can see this takes a lot of time and a lot of work. Next the entire assembly is removed, then the drive impeller must be drilled, taper reamed, taper pinned, and spot faced. These matched set of rotors will stay together, until they are installed in a supercharger housing. The end result is nothing less perfection. Like my motto says “At Conley Precision, Perfection is almost good enough”!

The ring gears must recessed on the back side for clearance of the socket head cap screws. They will then have the one-way clutch bearing pressed into place.

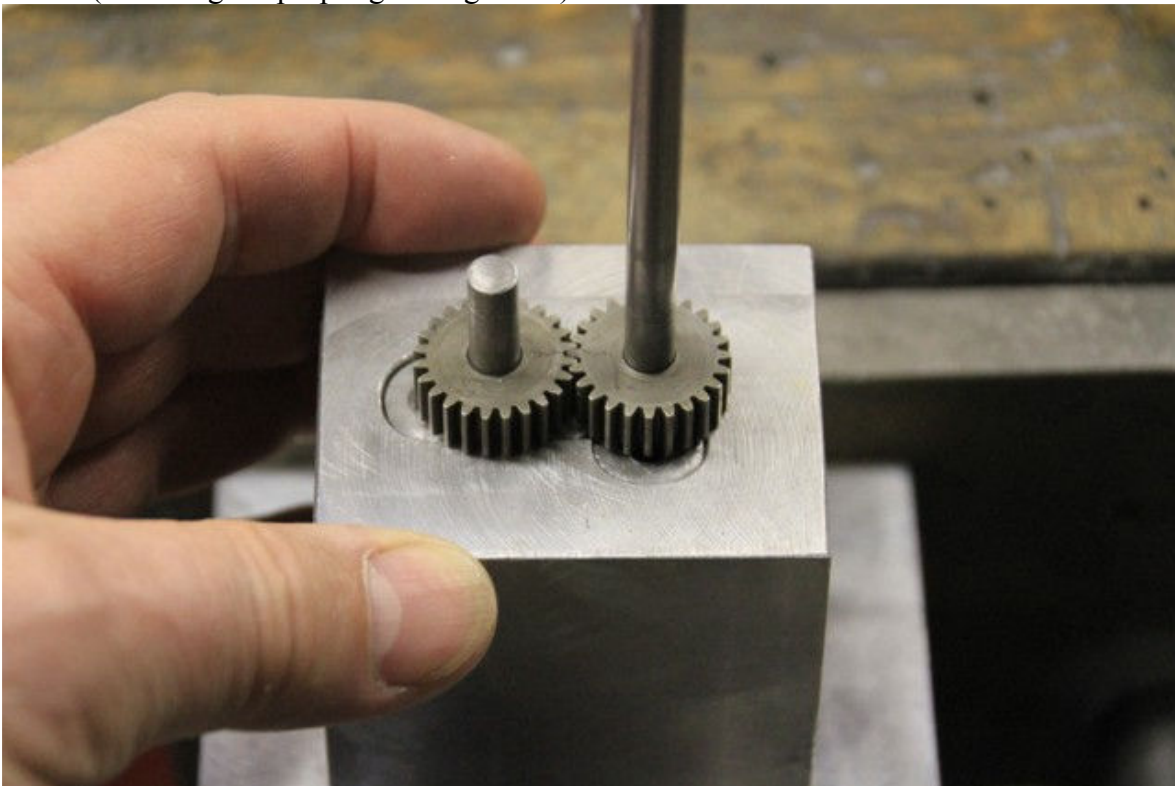
The clutch bells are assembled and welded. Each must then be adjusted to make sure they run true, because there is a certain amount of distortion when welding. The makeshift setup on the small lathe does a great job of this procedure.

As this run of engines near completion, I literally have engines everywhere. Each engine is now about 90 % complete. The only items that need to be added are the starter motors, carburetion, superchargers - if needed, and distributors. The only one of these components that is not ready to install are the superchargers, but with any luck by the next update, these will be completed. Hang in there everyone, I am on the final stretch.

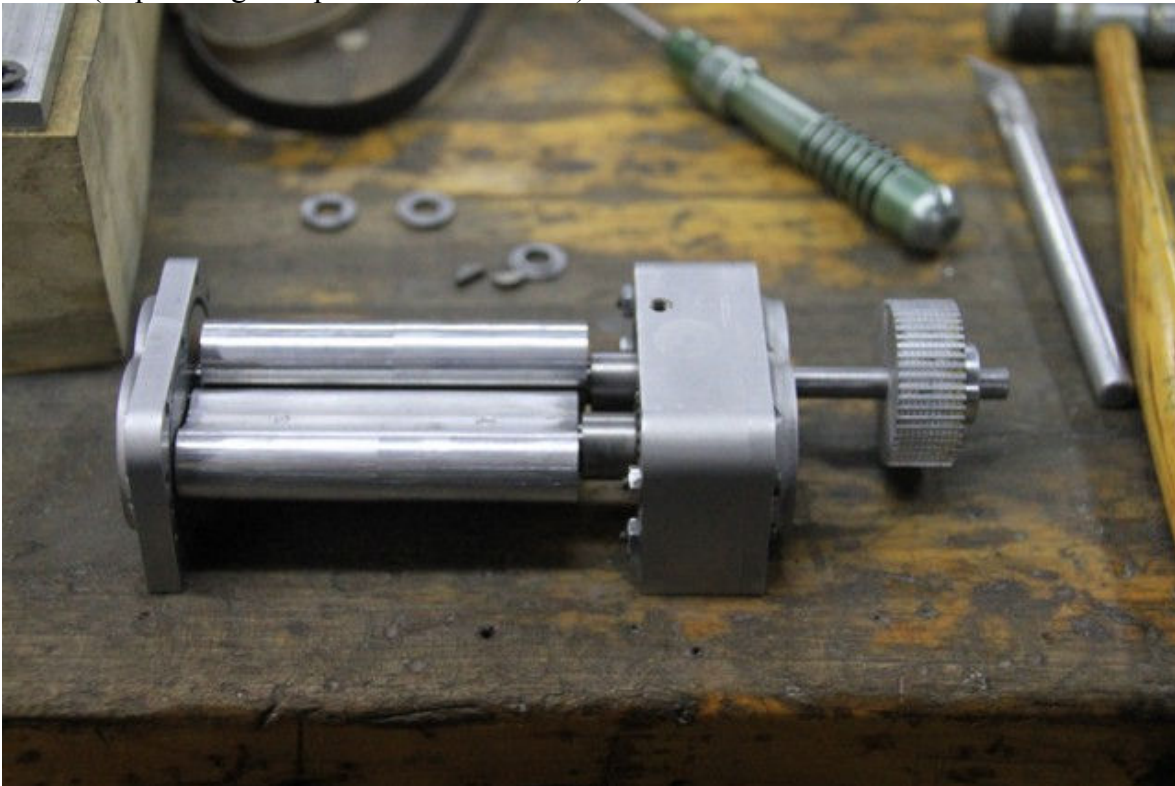
Pic # 1 (Supercharger impellers in setup jig)



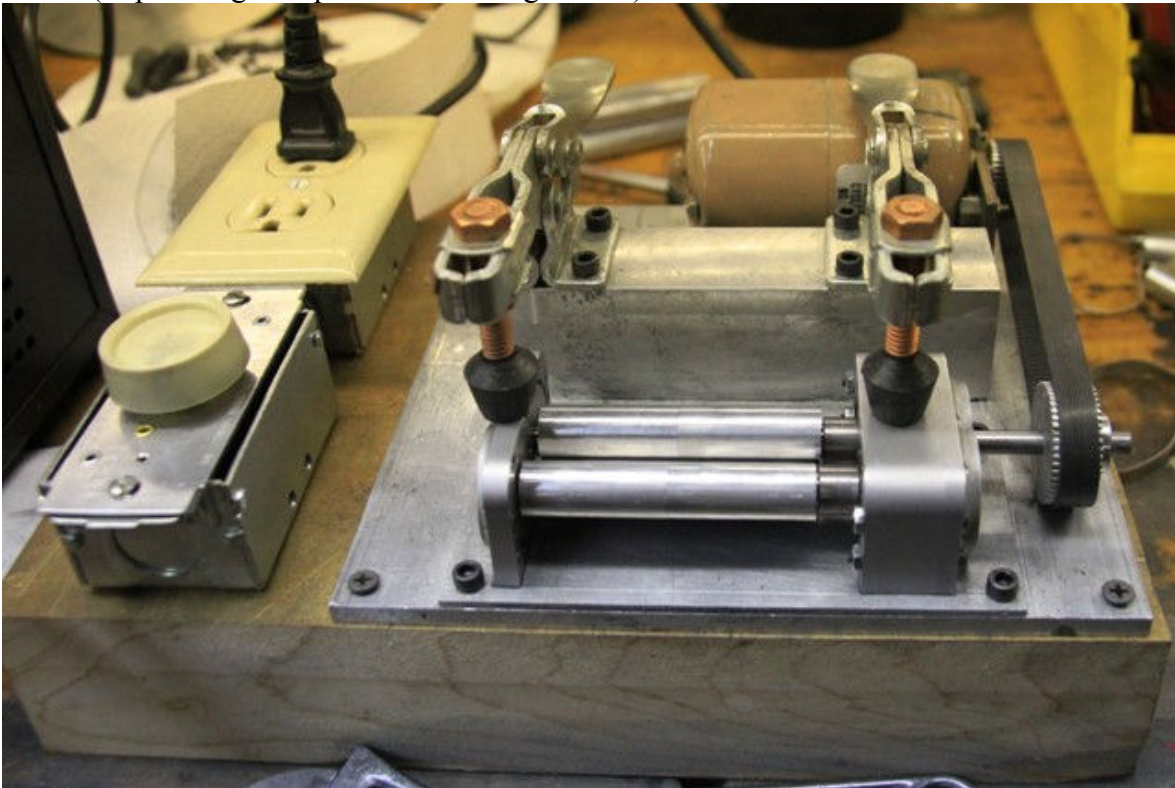
Pic #2 (Checking for proper gear alignment)



Pic #3 (Supercharger impellers in test covers)



Pic #4 (Supercharger impellers in rotating fixture)





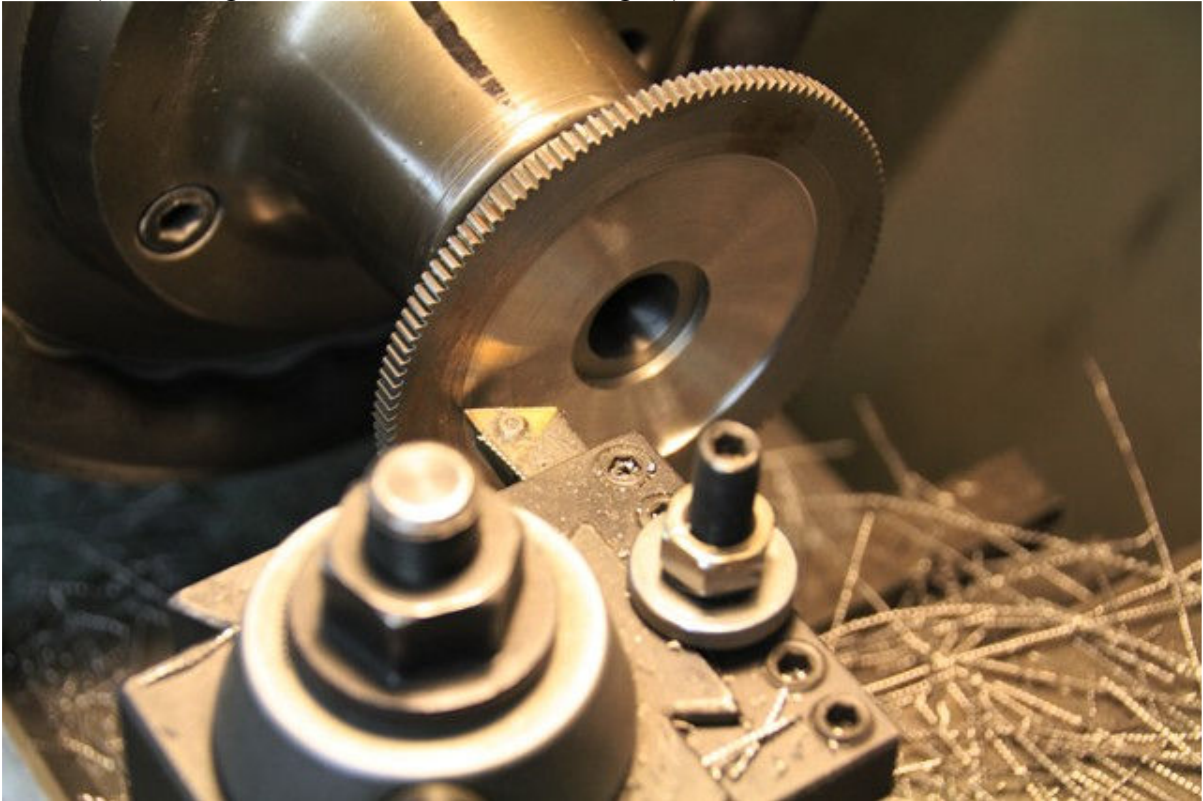
Pic #5 (Supercharger impellers showing that each shaft is timed and pinned)



Pic #6 (Completed and matched sets of supercharger impellers)



Pic #7 (Machining recess in back side of starter gear)

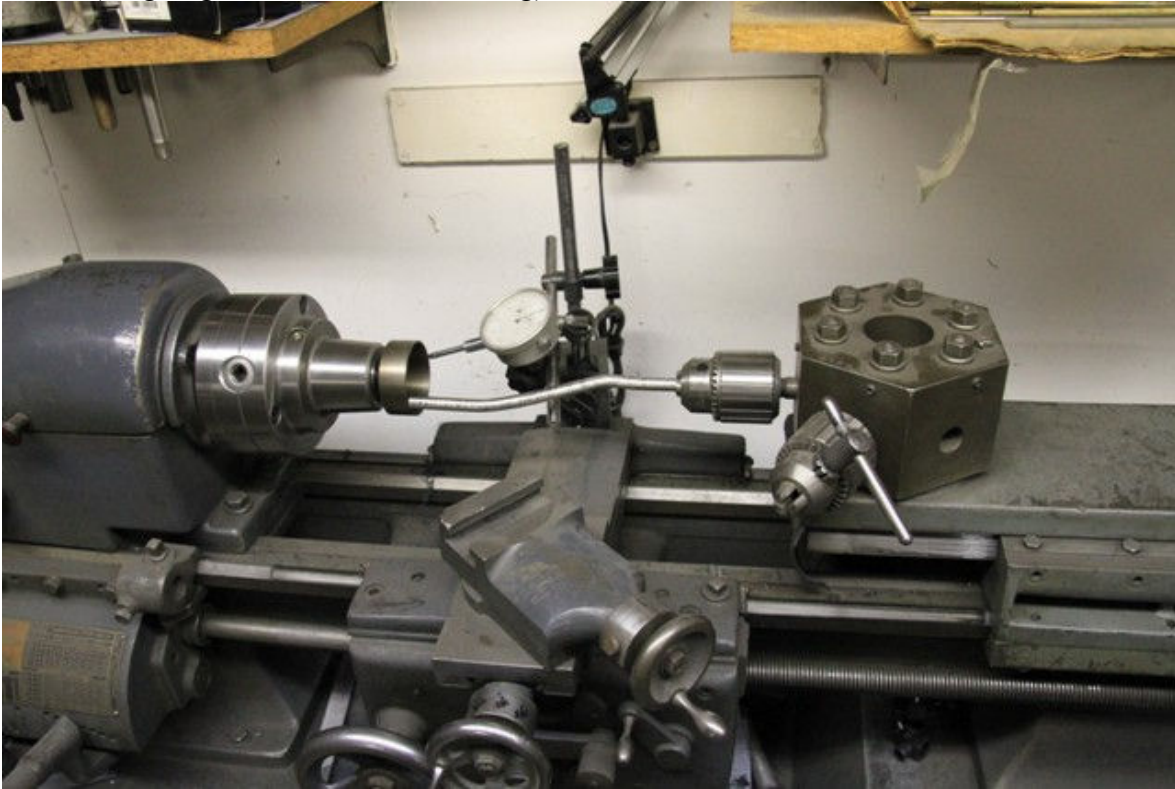


Pic #8 (Welded drive shaft and clutch bell)





Pic #9 (Aligning clutch bell after welding)



Pic #10 (Partial display of semi-completed engines)





