Oil Field Masterpiece – Part II

By Craig Prucha

The Restoration Comes to an End, and the Swan Runs for the First Time in Over 50 Years

Editor's note: *This article is the second installment of a two-part series chronicling Craig Prucha's restoration of a 25 HP 1901 Swan oil field engine. Part I appeared in the March 2004 issue of* GEM.

With the engine bed and cylinder prepped, I turned my attention to the sideshaft assembly. The sideshaft was pretty well rotted away, so I made a new one from stainless steel and bought a new set of gears for driving the governor. The new gears are nice, and they came with a small hole bored in the center so I could machine the gear's bore for my particular application. I was very fortunate to find gears that exactly matched the center distance of the sideshaft and the governor shaft. There are, however, some differences between the original gear set and the new gear set. For one, the number of teeth per gear is different (although the ratio is the same), and the tooth profile of the new gear set is different.

The governor assembly was the next part of the restoration to tackle. The governor shaft was rusted solid in the governor housing, and the governor housing had a crack in it from rust and moisture swelling and expanding. The governor parts are pretty fragile, so to make sure nothing broke during disassembly I drilled out all the pins holding the governor balls. I cut off both ends of the center shaft and heated up the housing with a torch. I did this repeatedly – followed by a good soaking in kerosene – but I still couldn't get the parts to free up. Finally, I put the governor housing in a press, and the shaft started to move. The shaft finally came out, and I repaired the cast iron governor housing by welding the crack with Ni-rod and grinding it flush.