

SAAB Engine Running Again

Written by Administrator
Thursday, 25 October 2012 21:11

It took longer than anticipated to get the SAAB engine repaired and running again, mainly because there were problems sourcing the parts. The engine is bored to 71mm (1mm oversize), has new pistons, new crankshaft main bearings and and connecting rod big end bearings plus all new seals.

The correct pistons are only available from very few sources and when I eventually got a set of the required 71mm pistons I noticed that one of the three was 70mm even though the package was labeled 71mm. It took a while to get the piston changed to the right size. Then I took the engine block to the machine shop for boring and instructed them to machine the cylinders to correct clearance to these exact pistons. The cylinder block top and cylinder head was planed at the same time. I also took the crackshaft to a fellow two stroke Saab enthusiast who has repaired many crankshafts. This crankshaft is different than a four stroke crankshaft because all the bearings are ball or needle bearings and to get them changed you must dismantle the crankshaft in a press. After putting the crankshaft back together with new bearings it needs to be trued for straightness and a special jig is needed for that.

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Because of the crankshaft construction, all pistons must be assembled to the connecting rods and then the whole crankshaft assembly including all three connecting rods and pistons need to be lifted onto the cylinder block at once. It took a little bit of figuring out on how to accomplish that because the piston rings needs to be compressed and held in correct orientation before the pistons will go into the cylinders. Then I got an idea of using short sections of regular fruit tin can to compress the piston rings. The tin can sheet is thin enough to cause no problems and after the pistons are in cylinders the tin can section can easily be cut and pulled away from around the connecting rod.

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When the pistons were in and the engine block bottom half in place, I checked the top dead centre position mark on the crankshaft front end. Bit uncommonly, the SAAB engine uses the middle cylinder (#2) as the ignition reference instead of either end cylinders as usual.

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Rest of the assembly was really straightforward, installing cylinder head, flywheel, clutch plus some smaller items and then lifting the engine back in place. Installing manifolds, carburettor, starter, generator, etc. back in was straightforward as well and it was soon time to try starting it the first time after the rebuild. Below is a video from the first try. The air filter is still off, and thus

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the loud intake sound.

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It appeared that the connection between the front muffler and the exhaust pipe was leaking (hence the smoke) and the ignition timing is still slightly off and need to be adjusted with a strobe.