

Summary of Engine Break-In Procedures

For the first 50 hours of operation since overhaul (approximately)

This applies whenever new piston rings are fitted to one or more cylinders. The engine must be handled carefully and correctly during this break-in period, to ensure that the piston rings "wear-in" correctly against the cylinder walls. The main concern is local overheating at the rings which can prevent ring seating & may cause scoring. These notes are taken from Leavens Aviation published notes.

- 1) Use only Mineral (non-detergent) oil
- 2) No circuits during first 10 hrs since overhaul
- 3) Keep ground running to an absolute minimum
- 4) Keep the mixture fully rich at all times in flight, for cooler running
- 5) On take-off apply partial power, then at about 40 mph apply full power
- 6) After take-off, reduce power a little (at a safe height) and keep airspeed 5-10 mph higher than normal (for good cooling)
- 7) Avoid large and abrupt power changes in flight
- 8) Cruise at 70-75% power, ref POH (it's not good to cruise at low power)
- 9) Avoid power off glides, aim to keep at least 1500 rpm during approach
- 10) Allow engine enough time to cool between flights (it should get cool enough so you can safely rest your hand on the cylinders)

These procedures are very important for the engine, and abuse may affect the warranty coverage, and may cause large costs to be incurred.

When the oil consumption has reduced & stabilized, the oil will be changed from Mineral to the normal Ashless Dispersant oil, typically at about 50 hours since overhaul. Look out for placards or notices that will advise of this change.