



### Initial recommendations:

- **Fly below 5000 feet:** Maintain an altitude below 5000 feet to avoid significant pressure variations.
- **Do not lean the mixture:** Keep the mixture rich to ensure proper lubrication and prevent overheating.
- **Make the first flight as long as possible:** Conduct a prolonged flight to avoid rapid idle and heat/cool cycles.
- **Use 100LL fuel:** Utilize 100LL fuel for cleaner combustion and improved performance.

### Below is a more technical list to help you perform the break-in optimally.

- 1- Use straight mineral oil for normally aspirated engines only. Turbo engine models must use oil with ashless dispersant (W).
- 2- For the initial flight, idle the engine at 850 – 1000 RPM for three to four minutes. Shut down and inspect for oil leaks. During ground runs, do not permit cylinder head temperatures to exceed 400°F or oil temperature to exceed 200°F.
- 3- Start the engine, perform a normal run-up, taxi, and take off immediately to minimize ground time. Reduce manifold pressure as soon as practical. Slowly reduce engine speed to maximum continuous RPM (top of the green range). For fixed pitch propellers, reduce power to 75%.
- 4- Cycle the propeller before flight only enough to verify control. This will ensure the propeller hub has oil pressure prior to take-off.
- 5- Maintain a shallow climb to keep cylinder head temperatures as low as possible. Maximum permissible cylinder head temperatures are published in each specific engine's type certificate data sheet, ranging from 450°F to 525°F. Consult your specific engine's type certificate data sheet for maximum operating temperature.
- 6- Level off at altitude and maintain 75% power for at least 30 minutes. During the first 50 hours of the break-in period, piston rings will seat best if cruise is maintained at 65% to 75% power. Oil consumption will also be optimized under these operating conditions. Normal ground idle may be used after the engine temperatures and oil consumption have satisfactorily stabilized.
- 7- Keep flying weight to a minimum to reduce power requirements during take-off.

*Find an up-to-date version of this document online at: <https://www.aeroatelier.aero/en/break-in.html>*