



SERVICE INFORMATION LETTER

SERVICE INFORMATION LETTER NO. 0099

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Date: August 6, 1980
Subject: Corrosion Control on Low Usage Aircraft
Model: All
Serial Nos: All

Aircraft that see low usage or are stored for extended periods exhibit an accelerated rate of corrosion damage. Special attention should be given to aircraft inactive in corrosive atmospheres (coastal, high humidity, air pollution, or sandy areas) to assure components remain in a serviceable condition.

Lycoming Service Letter No. L180A states "Engines in aircraft that are flown only occasionally may not achieve normal service life because of corrosion; this occurs when moisture from the air and products of combustion combine to attack cylinder walls and bearing surfaces during periods when the aircraft is not used.

The procedures for combating this condition consists of coating the vulnerable surfaces with rust inhibitive compounds as herein described. However, the need for doing this must be evaluated by the owner or operator of the aircraft, based on environmental conditions and frequency of aircraft activity.

Essentially, the Lycoming Service Letter discussed two conditions and their maintenance procedures; (1) intermittently flown aircraft in favorable atmospheric conditions can be adequately protected by turning the engine over five revolutions by means of the cooling fan. Unless the aircraft is flown, this should be done every 5 days. After 30 days the aircraft should be flown for 30 minutes or a ground run-up should be made long enough to produce an oil temperature within the lower green arc range. Avoid excessive ground run-up. (2) Aircraft which will be inactive for a period exceeding 30 days should be treated with a special corrosion preventative oil mixture and procedure. Specific instructions for conditions (1) and (2) are contained in Lycoming Service Letter No. L180A.

Similarly, the maintenance procedures to be followed for the helicopter airframe and drive system are categorized in terms of aircraft with low usage, and those scheduled to be inactive for an extended period. This information is intended to cover both hangared and outdoor conditions unless otherwise noted and is subject to owner/operator judgement regarding the helicopters operating environment, and should be considered in addition to the normal servicing requirements.

Aircraft with low usage (flown short periods, several times per month)

- a) Tie down main rotor blades with collective locked half way up to relieve the steady load on the lamiflex bearings.
- b) Use covers for main rotor and tail rotor assemblies.
- c) Cover the top seal on the main rotor transmission housing to prevent water accumulation.
- d) Protect the windshields and interior equipment with suitable dust covers and/or solar shields.
- e) Cover the pitot and static air vents.
- f) Wash aircraft to remove contaminants monthly.
- g) Prior to the next flight:
 - 1. Do a THOROUGH preflight, removing all covers and tie downs, checking oil levels and evidence of water contamination.
 - 2. Check for rust or corrosion on all exposed parts. (blade bolts, etc.)
 - 3. Lightly oil the clutch engagement rod end and bellcrank bearings.
 - 4. Purge tail rotor grips and drive shaft bearings.
 - 5. Check all controls for freedom of movement.
 - 6. Check oleostrut for proper extension.

Aircraft becoming inactive for 1 to 6 months or longer.

- a) The aircraft should be hangared.
- b) Prepare engine for storage per Lycoming Service Letter No. L180A.
- c) Remove blades.
- d) Follow steps (b) thru (f) of "Aircraft with Low Usage".
- e) Disconnect battery
- f) Prior to next flight:
 - 1. Do a complete 25 hour inspection.
 - 2. Check the ground handling tires for inflation and the wheel bearings for lubrication.
 - 3. Check turbocharger turbine for freedom of motion.

4. Identify sources of all oil leaks and repair as necessary.
5. Inspect main rotor blades for corrosion.
6. Ground run and reinspect for oil leaks.
7. Follow all instructions in “Aircraft with low usage”, paragraph, prior to next flight.

Aircraft inactive for periods exceeding 6 months should have a complete 100 hour engine and airframe inspection prior to flight.