

# Aviation Safety



## Aircraft and Components with Low Utilisation

Safety Leaflet



## IGA 3

## **Recommendations for Aircraft and Components with Low Utilisation**

Aircraft and components (including engines), which are not flown often, may require additional maintenance. These may be subject to damage from corrosion and contamination, which may adversely affect their safe operation and service life. Some manufacturers publish guidance as to how best protect these aircraft, engines and components.

Failure to store the aircraft/components in accordance with manufacturers' guidelines may affect the safe operation of the aircraft/engine and warranty claims. Manufacturers' recommendations should be followed when returning an aircraft to service following storage. Failure to properly store or 'return to service' an aircraft/component may result in an aircraft accident/incident.

The need for an aircraft storage programme must be evaluated by the owner/operator. It is important to consider the recommendations of the manufacturers, the environmental conditions and frequency of aircraft activity. For certain aircraft manufacturers, aircraft which remain inactive for 30 days, or more, require a storage programme. While some manufacturers recommend, in coastal areas, that the aircraft should be flown at least once a week for a minimum of one hour to remain active. Initiating an effective storage programme shall minimise the risks to your aircraft, components and engine(s).

***Where it is not possible to keep an aircraft active, it is important that the owner/operator initiates a storage programme.***

Owners/Operators are encouraged to familiarise themselves with the recommendations published by the aircraft, component and engine manufacturers with regards to storage.

Typically, aircraft storage involves covering all openings which may allow moisture/dirt ingress, securing the aircraft and protecting the components. If the airplane is to be stored outside, the pitot tubes, static vents, air vent openings in the engine cowl, and other openings may require protective covers to prevent entry of foreign objects including dirt, insects and birds. Component manufacturers may also issue

recommendations regarding the safe storage of the component e.g. GPS units, avionics boxes and tyres.

There is no practical procedure that will guarantee corrosion prevention on installed aircraft engines. Corrosion occurs when moisture from the air and products of combustion combine to attack engine internal surfaces during periods when the aircraft is not used. Areas of primary concern are often; cylinders, piston rings, valves, valve guides, camshafts and lifters. Susceptibility to corrosion is influenced by various factors including climate, season and usage. Coastal climates can be particularly corrosive.

Engine preservation procedures may consist of coating the vulnerable surfaces with rust inhibitive compounds. For shorter term storage, it may also be necessary to rotate the propeller weekly. For longer term storage, it may be necessary to attach a warning to the propeller indicating that the engine has been preserved and the propeller should not be moved.

Manufacturers' recommendations should be followed when returning an aircraft to service. Failure to do this may result in an aircraft accident/incident. A thorough pre-flight inspection is vital to assess if any damage has occurred during the period of inactivity.

Note: Aircraft must be maintained in accordance with the applicable regulations; nothing in this Safety Leaflet supersedes those requirements.

### **Where to find the manufacturers' recommendations:**

For Aircraft storage, the information is usually contained within the Service Manual or equivalent.

For Engine or Component preservation, recommendations may be included in the Engine/Component Service Manual a Service Bulletin or a Service Letter. Examples of some below:

<b>Textron Lycoming</b>	Service Letter No. L180B 'Engine Preservation for Active and Stored Aircraft'
<b>Teledyne Continental</b>	Service Information Letter SIL99-1 'Engine Preservation for Active and Stored Aircraft'
<b>Jabiru Aircraft Engine</b>	Instruction & Maintenance Manual Section 5.8 'Engine Preservation'
<b>BRP Rotax</b>	Operators' Manual Section 11.2 'Engine preservation'

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