

**DEPARTMENT OF CIVIL AVIATION  
MALAYSIA  
AIRWORTHINESS NOTICE**

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**FATIGUE LIVES**

1. For fatigue reasons the major components (e.g. wings and centre-sections) of certain types of aircraft have lives restricted to a specific number of flying hours, flight or landings. These restrictions have, in the main, been confined to large transport type aircraft but more recently it has been found necessary to introduce similar restrictions on certain smaller types of aircraft, some of which are operated in the Private Category.
2. The 'lifing' of components is intended to prevent structural failure under the action of repeated air and ground loads experienced in service, the lives being based on the results of tests carried out by the manufacturers of the aircraft. If the specified fatigue life of a critical component is exceeded, the possibility arises of catastrophic structural failure. Where fatigue lives have been imposed, full details have been published by individual manufacturers in their Service Bulletins and compliance with such information is required by the DCA. Structural Life limitations are determined for Likely Average utilisation of a type of aircraft. Any operations which depart substantially from the typical require reassessment of the structural life limitations for those specific operations and may require alteration in the Safe Fatigue Lives. Examples of operations in this category are low level flights in a maritime surveillance, or geological survey role (particularly using pressurised aircraft), or long endurance operations.
3. For the purpose of establishing structural life limitations a landing is defined as an occasion when the main undercarriage wheels make contact with the airfield surface and lift is significantly destroyed. A flight is associated with each landing and, therefore, the total number of flights pressurised and unpressurised is equal to the total number of landings. A pressurised flight is one in which the aircraft's pressurisation system is operated at a pressure differential of 14 kN/sq m (2 lb/sq in) or above.
4. Because of the transfer of components from one aircraft to another, it has, in some instances, been impossible to establish the remaining safe life of individual components. For this reason it is necessary to ensure that when a component in this category is installed in an aircraft, a record is kept with the aircraft documents showing, as applicable, the hours flown and number of flights or landings already sustained by the component at the time of installation. In the case of pressurised flights the applicable pressure differential may be significant. Certificates of Release to Service may not be signed until the signatory is satisfied that the required history of the component has been established.
5. Failure to comply with the above procedure may, due to the absence of evidence showing that the components in question have any remaining safe life, results in owners or operators being required to replace such components prematurely.

NOTE: In addition to recording operating hours of Engines, Auxiliary Power Units and Propellers, the DCA require on most engines, auxiliary power units and propellers that a record be kept of cycles completed. Cycles are defined by the Manufacturer of each engine, auxiliary power unit and propeller. (See Airworthiness Notice No. 44 for engines).

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MALAYSIA