
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/BEECH 55/61 Amdt 1 and issues the following AD under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Beechcraft 55, 58 & 95-55 (Baron) Series Aeroplanes

**AD/BEECH 55/61
Amdt 2**

Wing Fatigue Life Limitation

3/2003

Applicability: All models 58, 58A, 58TC, 58P and 58PA series.

Requirement: Retire the wing spar and wing centre section spar low cap (and associated structural fittings) together with the wing rear spar upper and lower attachment fitting assemblies.

The model 58TC and 58P life limitation assumes an average mean cruise weight of 2490kg and one landing every 40 minutes. Should the mean cruise weight be greater than 2540kg or should the landings occur at a greater frequency than one landing every 30 minutes the Authority must be advised as it will be necessary to reassess the life limitation.

Note 1: The wing rear spar attachment fitting assembly includes both fuselage and wing fitting components.

Note 2: On the basis of currently available fatigue substantiating data, only one spar cap replacement is permitted. This will allow a single lifetime extension from spar cap replacement.

Note 3: For aircraft which have had winglets fitted subsequent to manufacture, the retirement life, in hours, is to be calculated using the formula;

$$\text{Retirement Life Formula: } RL = A + RL_W \left(1 - \frac{A}{RL_{W/O}} \right)$$

Where:

RL = Retirement Life (Hours)

A = Hours flown before winglets were fitted

RL_W = Retirement Life (Hours) with winglets fitted

RL_{W/O} = Retirement Life (Hours) without winglets fitted

Beechcraft 55, 58 & 95-55 (Baron) Series Aeroplanes

AD/BEECH 55/61 Amdt 2 (Continued)

The Value for RL_w will need to be specified based on approved data from the Supplemental Type Certificate Holder or, in the absence of such data, the value selected shall be approved by the Civil Aviation Safety Authority.

- Compliance:
1. For models 58 and 58A series: before exceeding 16,000 hours time in service or if winglets were installed, retirement life is in accordance with the Retirement Life Formula specified in this AD.
 2. For model 58TC series: before exceeding 10,000 hours time in service, or if winglets were installed, retirement life is in accordance with the Retirement Life Formula specified in this AD.
 3. For models 58P and 58PA series: before exceeding 13,250 hours time in service, or if winglets were installed, retirement life is in accordance with the Retirement Life Formula specified in this AD.

This Amendment becomes effective on 20 March 2003.

Background: Analysis and fatigue tests by the manufacturer have established the above retirement lives for the wing main spar and associated structure. Amendment 1 clarified the intent that the applicability includes all pressurised Baron aircraft.

This Amendment adds a formula to calculate the wing structure retirement life for aircraft that have had winglets installed since the aircraft was manufactured.

Amendment 1 of this Airworthiness Directive became effective on 30 November 2000.

This original issue of this Airworthiness Directive became effective on 31 March 1981.



David Alan Villiers
Delegate of the Civil Aviation Safety Authority

14 January 2003