

AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/AC/83 Amdt 7 and issues the following AD under subregulation 39.1 (1) of CASR 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.

Twin Commander (Gulfstream/Rockwell/ Aerocommander 500, 600 and 700) Series Aeroplanes

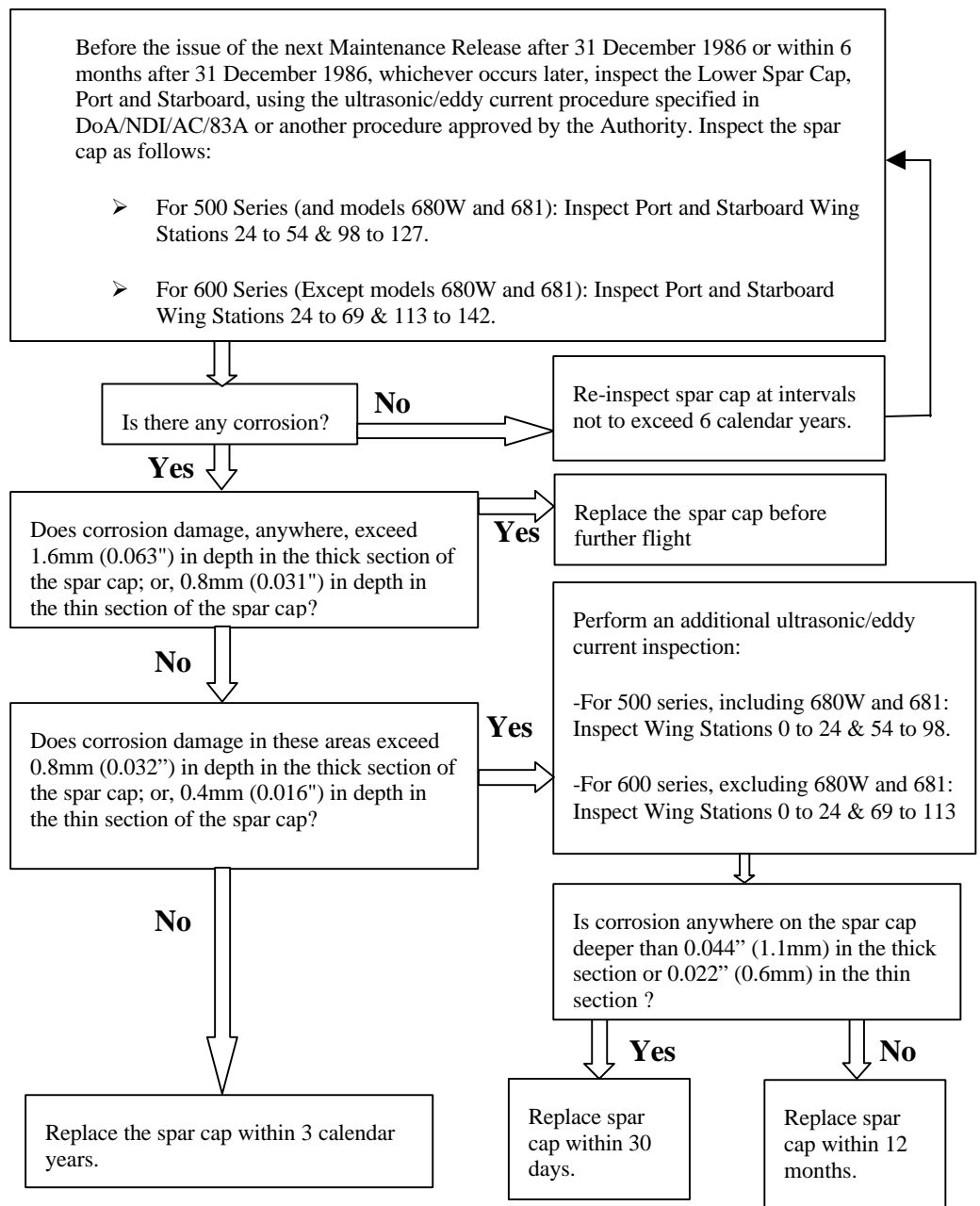
**AD/AC/83
Amdt 8**

Corrosion of Wing Lower Spar Cap

11/2003

Applicability: All 500U, 500S, 680W, 680FL, 680FLP, 681, 685, 690, 690A, 690B aircraft with Serial Numbers after S/No. 1731.

Requirement:



**Twin Commander (Gulfstream/Rockwell/ Aerocommander 500, 600 and 700) Series
Aeroplanes**

AD/AC/83 Amdt 8 (continued)

Note 1: If spar cap replacement is necessary, refer to AD/AC/86 Amdt 1 for details and instructions on spar cap replacement.

Replacement of the spar cap constitutes terminating action for this Directive.

Compliance: As per flowchart in the requirements section.

This Amendment becomes effective on 30 October 2003.

Background: Several aircraft have been found with severe corrosion between the aluminium spar cap and the internal CRS strap. This necessitated spar cap replacement in those aircraft. Subsequent amendments after the initial issue of this Directive developed the inspection procedure and periodicity, and defined applicability.

Amendment 6 introduced terminating action after the detection of corrosion. The previous issues of this Directive addressed static strength considerations only. It is now known that fatigue implications are the more serious concern. The spar is known to be very sensitive to fatigue cracks emanating from very small corrosion pits. Continued airworthiness by on-going repetitive inspections is no longer permitted past a certain time, and terminating action (i.e. eventual replacement of spar cap) is required.

Amendment 7 was issued to include additional information to the Requirement 3 instruction and to add a note to the requirement part of this Directive.

This amendment is issued to clarify the requirements and compliance. The AD requirements and compliance have been simplified by presenting them in a flowchart format, so the logic of the AD can be followed easily. In this amendment, any references to percentage limits for corrosion in the previous amendment have been changed to equivalent numerical values in inches/millimetres for clarity. The corrosion limits, compliance and requirements are unchanged. Only presentation has been altered.

The original issue of this Airworthiness Directive became effective on 16 April 1986.



David Villiers
Delegate of the Civil Aviation Safety Authority

18 September 2003