

AWB 51-2 Issue 1, Partenavia Wing Spars

Partenavia Wing Spars

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Applicability

Partenavia P68 aircraft, serial number 1 to 400.

Background

CASA has received a number of Major Defect Reports (MDRs) concerning cracking of Partenavia wing spars in inaccessible areas. Although there are currently several Airworthiness Directives (ADs) that comprehensively detail structural inspection requirements of this area/structure, maintenance personnel continue to misinterpret the requirements of these special inspections. Personnel seem to believe that inspection of the structure entails inspection through existing panels with limited application of specialised inspection aids such as borescopes. These inferior inspection practices can lead to a failure to accurately and correctly comply with the special inspection requirements, with significant defects going undiscovered with potential catastrophic consequences.

Recommendations

Maintenance personnel are advised to carefully study the aircraft's Instructions for Continued Airworthiness (ICA) to ensure that they fully understand the intent of the requirements detailed within the document. In the case of the documents that illustrate the inspection requirements for Partenavia wing spars, the intent is for the complete structure to be inspected, irrespective of access difficulties.

To determine the intent of ADs or Service Bulletins (SBs), maintainers should examine the background of the document in order to discover the rationale behind its issue. This should convey a valuable insight regarding the defect origins and history, giving the maintainer the focus of concern. Sometimes the focal point of a special inspection can be defined simply by its title, such as is the case with Partenavia ADs and SBs regarding the aircraft's wing structure.

To expand this logic further, AD/P68/43 amendment 1 'Wing and Airframe - Fatigue Life Limit' explains the background of the AD as a deficiency of the aircraft manufacturer to accurately determine the fatigue characteristics of the airframe. This AD imposes a mandatory inspection program and component retirement life for the aircraft. This background therefore gives the maintainer an indication of the

significance of the defect. Consequently, when the aircrafts ICA details that the entire spar should be inspected with a 10X magnifying glass, every effort should be made to closely inspect the spar, regardless of difficulties of accessing inspection sites. Failure to closely adhere to this maintenance instruction could lead to a defect being missed or overlooked.

ICAs provide generic disassembly/assembly instructions and minimum inspection criteria for maintenance personnel, as well as notes, warnings, etc that the maintainer should be made aware of. It is recommended that maintainers make every effort to meet these requirements to ensure they are satisfying the special inspection requirements completely.

All defects found while complying with ADs must be reported to CASA as required by CAR 51B.