AWB 57-1 Issue 1, Wing corrosion Cessna 100 series

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Applicability

Single engine 100 series Cessna aircraft having semi-cantilever (wing struts) wings that are older than 15 years since date of manufacture.

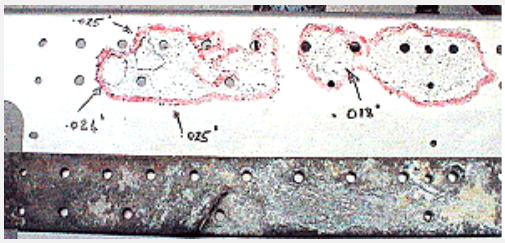
Purpose

A submitted major defect report has emphasised the value of maintainers carrying out additional disassembly of an aircraft's structure when carrying out maintenance. In order to be satisfied with a structure's integrity and to expose concealed defects, it is sometimes necessary to dismantle a structure to a greater extent than that detailed in the instructions for continued airworthiness for the aircraft or aeronautical component.

Presently there is insufficient statistical data available to allow for the implementation of a formal inspection procedure.

Background

While undertaking an extensive refurbishment of a Cessna 172-M, a workshop decided to remove the wing spar attach plates to perform in-depth corrosion inspection. Externally the area gave every indication that it was serviceable (see figure 1), however after the plate was removed extensive corrosion was revealed (see figure 2). Several other 100-series Cessna wings were inspected with similar results.

Figure 1	Figure 2
	

Recommendations

Maintenance personnel should pay particular attention while inspecting this critically structural area. In some circumstances further disassembly may be required to satisfy the LAME of the integrity of the structure. Further disassembly should only be attempted if the workshop has the appropriate tooling, jigs and expertise to undertake the task.

To assist CASA with defect assessment and statistical data, all defects should be reported to CASA as soon as they are discovered (as required by CAR 52). It would be appreciated if photographs, preferably digital, could be attached to the MDR for defect representation. A digital photograph allows for visual assessment of the defect and is easy to transmit electronically.