

Gulfstream (Grumman American/ American Aviation) AA-5 Series Aeroplanes

AD/AA-5/27
Amdt 1

Wing Attach Shoulder Bolts

10/95 DM

Applicability: AA-5, AA-5A, AA-5B, and AG-5B aircraft.

Requirement:

1. Remove the subject bolts or other approved replacement bolts, in accordance with American General Aviation SB-185.
2. Inspect the bolts for cracking at the bolt shoulder using either the Magnaflux or Fluorescent Dye NDI technique and discard any bolts with indications of cracking.
3. Install bolts in accordance with the requirements of American General Aviation SB-185.

Compliance: Unless already accomplished, prior to attaining 1000 hours bolt time in service, or within 10 hours time in service after 23 August 1995, whichever occurs last; thereafter at intervals not exceeding 500 hours time in service.

Background: A MDR was received stating that a bolt had been found cracked when inspected using magnaflux, instead of visually, in accordance with the Requirement document. The defect was highlighted in the AAC Major Defect Summary. However, subsequent laboratory examination of the bolt has revealed that the fatigue cracking could be attributable to the rapid change in section at the shoulder and the sharp edge revealed at X230 magnification.

Failure of a shoulder bolt may compromise the structural integrity of an aircraft and could result in a loss of flight control.

Amendment 1 is raised as the result of a random inspection of a second aircraft where one of the bolts was found to be fully fractured.