

LAA/AWA/18/10
5th December 2018

Challenger Microlight Aircraft

Inspection of Lift Strut Lower Attachment Bracket

In 2008, a Canadian registered Challenger aircraft suffered a catastrophic in-flight failure of a lower lift strut attachment bracket. The bracket failed across the bolt hole at the bracket's attachment to the fuselage. In response to this failure, an Airworthiness Information Leaflet (AIL) (LAA/MOD/177/015 issue 1) was issued requiring owners of Challenger aircraft operating under an LAA administered Permit to Fly to dismantle the connection, perform a close visual inspection within 5 flying hours and re-inspect each subsequent 50 flying hours; a modification was also introduced which reduced the bending of the bracket

LAA Engineering have recently been made aware by engineers from the Transportation Safety Board of Canada of another fatal accident involving a Challenger aircraft; this latest incident occurred in Ontario, Canada, earlier this year (30th July 2018).

During the post-crash investigation, investigators found that the bracket securing the right front lift strut had failed in flight which led to the right wing separating. Examination of this bracket revealed that the failure had occurred because of fatigue in the material surrounding the attaching bolt hole.

Investigators decided to carry out a fleet inspection of the lift strut attachment brackets on aircraft registered in Canada; this investigation is ongoing but, alarmingly, out of the 22 brackets inspected so far, 8 have been found to have metallurgical defects or cracks.

In response to this failure LAA Engineering have reissued the AIL (now LAA/MOD/177/015 issue 2) increasing the frequency between inspection to 25 hrs. and introducing an annual inspection requirement. LAA Engineering have advised owners that the reissue of this AIL should be considered an interim measure and further updates should be expected.

LAA/MOD/177/015 issue 2 can be downloaded [HERE](#).



Fig.1 The Challenger is a high wing, tricycle gear, pusher engine, kit-built microlight aircraft. In the UK some 50 aircraft are listed as LAA Permit to Fly aircraft with a small number having transferred to the de-regulated microlight category (SSDR).

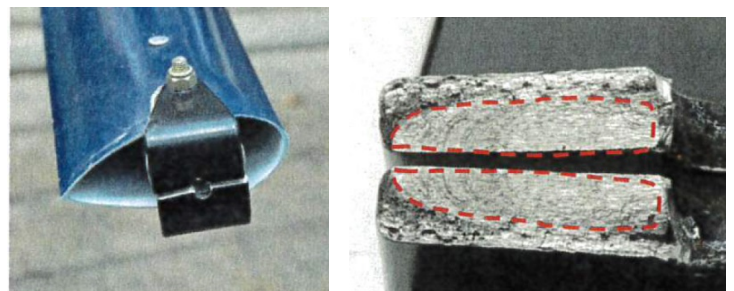


Fig.2 (Left) During the fleet inspection being carried out by the Canadian authorities a number of potentially lethal failure issues were discovered. This picture shows a crack right across the attachment bracket.

Fig.3 (Right) The hallmarks of fatigue in this bracket can be seen in this close-up of the bracket's fracture face