

Vans Aircraft

Rear Spar Web – Inspection for Cracking

Service Bulletin 16-03-28

LAA Engineering has recently been made aware that Vans Aircraft have issued a Service Bulletin requiring immediate (before further flight) inspections of the rear wing spar web because of the possibility of cracking at the inboard aileron hinge bracket on all RV 3, 4, 7, 8, 9, 10 and 14 aircraft.

During a communication with engineers at Vans aircraft they suggest that, whilst there have been no catastrophic failures of this component in service, a closer stress-analysis of this area, completed by Vans, suggest that fatigue cracks here are likely but, given the fairly light usage many RVs see, most will not have problems. Higher time airframes and those subjected to regular aerobatics will be more prone to cracking.

At the time of writing this ALERT three LAA RV owning members have let us know the results of inspections they have made. Two of the aircraft are clear of cracks and one, a fairly high time aircraft often used for aerobatics, has cracks emanating from both the top and bottom rivet connections (see fig. 2).

Clearly, cracking at this point on the airframe must be taken seriously and LAA engineering suggest that an inspection be made at the earliest opportunity; though we don't feel that an aircraft needs to be grounded until the inspection is completed (as has been suggested in the SB).

Because cracking is more likely in aircraft that regularly perform rolling aerobatic manoeuvres, our strong suggestion is that further aerobatics are not carried out until the airframe has been inspected and its airworthiness status determined.

Whilst we have no reason to suggest that the Vans repair scheme isn't appropriate, LAA members are reminded that any repair scheme affecting an LAA aircraft must be approved by LAA Engineering before a repaired aircraft is cleared for further flight.

Naturally, should you find a crack on your aircraft, it's important that you let us know about it. Vans Service Bulletin can be downloaded [HERE](#).



Fig. 1. Cracking of wing aft. spar web at the inboard aileron hinge. This picture, taken from the Service Bulletin, shows a view taken from inside the wing (looking aft.). (Courtesy of Vans Aircraft).

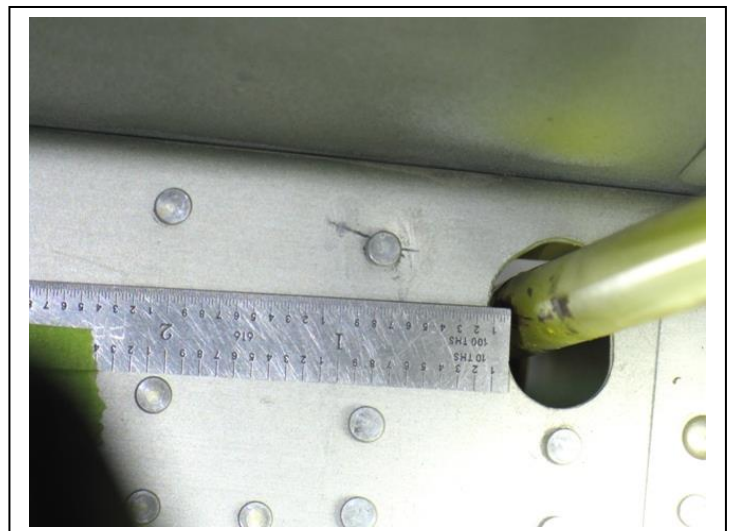


Fig. 2. This picture shows a well-developed crack from the top of the bracket; Vans Aircraft suggest that, should a crack develop it will be slow to propagate and, based on examples found thus far, the issue is less related to hours flown than the aircraft's usage profile. (Courtesy of Vans Aircraft)