Continuing Airworthiness Notice – 27-012

Avid and Kitfox Aircraft fitted with Flaperons

13 September 2018

Issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety. A Continuing Airworthiness Notice (CAN) is intended to alert, educate, and make recommendations to the aviation community. A CAN contains non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD). The inspections and practices described in this CAN must still be carried out in accordance with the applicable NZCAR Parts 21, 43 and 91.

CAN numbering is by ATA Chapter followed by a sequential number for the next CAN in that ATA Chapter.

Applicability:

All Avid and Kitfox aircraft variants fitted with flaperons.

Purpose:

This Continuing Airworthiness Notice (CAN) is issued to bring attention to a recent airworthiness concern with the flaperon control system on an Avid C model Mk 4 aircraft.

Other Avid aircraft variants fitted with flaperons, including early Kitfox aircraft variants fitted with flaperons, may have a similar flaperon control system configuration as the Avid C model Mk 4 and may be prone to the same safety concern.

Background:

This CAN is prompted by a report from an operator of an Avid C model Mk 4 aircraft of experiencing a loss of aileron control shortly before touch down. The starboard wing dropped, the aircraft impacted the ground, spun around almost 180 degrees and came to rest on the right hand side of the airstrip. The occupants of the aircraft were fortunate to survive the accident.

The starboard undercarriage leg was destroyed, the starboard wing tip damaged and a propeller blade broken. A closer inspection of the aircraft revealed that the aileron control at the end of the starboard flaperon was completely broken off, which resulted in the loss of aileron control. The starboard flaperon was found undamaged, which indicated that the flaperon linkage failed in flight and not as a result of the crash landing.

The flaperons on the accident aircraft have a 3/4 inch central aluminium spar tube with a joint where this tube enters a 4130 steel bellcrank. The aluminium tube at this joint was found snapped off, due to what appears to be corrosion and fatigue. For further detail refer to photographs 1 and 2 on the following page.
This flaperon tube failure on the accident aircraft has also been promulgated via the Sport Aviation Corp (SAC) website. Refer http://www.sportflying.co.nz/defects-and-problem-reports.html

Recommendation:

Operators/maintainers of affected aircraft are encouraged to inspect the integrity of the flaperon control system on their aircraft for any defects, and more specifically for corrosion, which could result in failure and loss of aileron/flap control. Enquiries regarding this Continuing Airworthiness Notice should be made to:

Owen Olls
Airworthiness Specialist
Email: owen.olls@caa.govt.nz
Phone: 04 560 9569

Photograph 1 – Starboard flaperon aluminium spar tube failure at the joint where this tube enters the 4130 steel bellcrank (Note: In these photographs the aircraft wings are folded).

Photo 2 – A closer view of the failed starboard flaperon control rod.