

CAA use only	OCC NO.	FILE NO.	SAI
	<input type="checkbox"/> Critical	<input type="checkbox"/> Major	<input type="checkbox"/> Minor

Defect Report CAA

Flapperon Tube failure

CIVIL AVIATION AUTHORITY OF NEW ZEALAND

If faxing this form send to 64-4-560 9469, otherwise email to ca005@caa.govt.nz

Date found	03-12-16	Time	1700	NZST	<input type="checkbox"/> NZDT	<input checked="" type="checkbox"/> UTC	<input type="checkbox"/> Location	Private Strip, 5nm south of NZWR
Aircraft manufacturer and model	Avid Flyer – C Model / Mk4			A/C registration	ZK-			
Operator				Client ID	25764			

Engineering details		Major component/system affected	Flaperon Control									
ATA code		Part defective	Flaperon Bell Crank									
Manufacturer	Avid Aircraft			Model	Avid Flyer – C Model /Mk 4							
Part number	-			Serial number	-							
TTIS	365	Hours	365	Cycles	TSO		Hours	TSI		Hours		Cycles
Detection phase	<input checked="" type="checkbox"/> unscheduled		OR		<input type="checkbox"/> scheduled maintenance		Manufacturer advised <input type="checkbox"/> Yes <input type="checkbox"/> No					
Found when complying with	<input type="checkbox"/> AD	<input type="checkbox"/> SB	Specify reference		Aircraft Accident							
Maintenance provider				Client ID	25764		Phone	09 4224418				

Description of defect

The main aluminium tube which runs the full length of the Flaperon has failed at a point where the Flaperon Lever fits up against the first Flaperon bearing. It would appear that corrosion and fatigue have resulted in the complete inflight failure of the control system.

Continue on a separate sheet if necessary

Cause

The main aluminium Flaperon Tube which passes through the entire length of the Flaperon, and extends into the fuselage, allowing the Flaperon Control Lever to be glued and riveted in place. This is a homebuilt aircraft and the Flaperon was supplied from the factory in a full assembled state. The Flaperon Lever is positioned hard up against the first bearing, which is attached to the trailing edge of the wing. The Flaperon Lever is made of 4130 Chrome Molly tube. Over time, moisture has entered the joint between the bearing and the 4130 tube and corrosion or cracking has taken place. The detection of this is not possible when carrying out a normal pre-flight inspection or an annual inspection for a permit to fly. This corrosion has interacted with the aluminium tube to a point that the aluminium tube has failed and the Flaperon Lever has sheared off when on a landing manoeuvre. The right hand wing failed to respond to the control input by the pilot. The aircraft appeared to have stalled due to the immediate loss of flap function on the right hand wing. It remained in a down wing attitude and the aircraft came in contact with the ground causing the aircraft to impact heavily, damaging the undercarriage, propeller, and right hand wing tip. The aircraft rotated 180 degrees and continued to travel some length along the grass runway until it stopped.

Action taken

CAA, RAANZ, SAC, the Avid chat forum in the USA, as the Avid factory no longer exists. My I.A.

Safety Number 0508 4 SAFETY
0508 472 338

CA005D
Rev date: 09/09/03



