



# THE GLIDING FEDERATION OF AUSTRALIA INC.

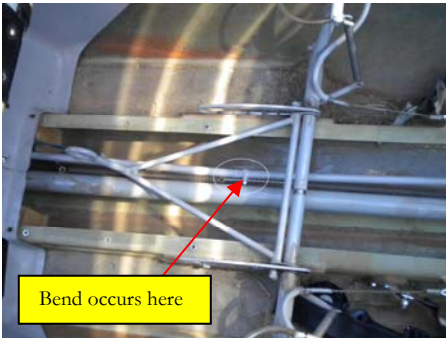
LEVEL 1 34B SOMERTON ROAD, SOMERTON VIC 3062  
PHONE +61 (0) 3 9303-7805, FAX +61 (0) 3 9303-7960. A.B.N. 99 008 560 263

15 July 2010

## AIRWORTHINESS ALERT 2010-1

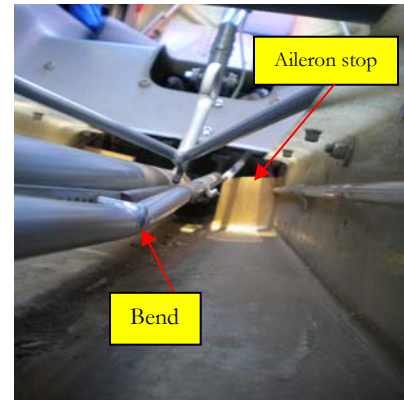
### ASK-21 Sailplanes & ASK-21 Mi Powered Sailplanes

On Monday 12 July, during the performance of the Pre Take-off checks, an ASK-21 sailplane was found to have restricted movement of the controls. The restriction was caused by a bend in the pushrod connecting the front & rear trim levers. This resulted in the pushrod being displaced downwards into an area normally occupied by the aileron/elevator control tube, preventing it from moving left towards the wooden stop shown in the picture to the right. This caused blocking of right aileron travel and could have led to loss of control had it occurred during flight. Discovery of this problem while on the ground proves the value & importance of a properly conducted Pre Take-off check.



The damaged rod can only be seen once the cockpit floor panel forward of the rear seat has been removed. It

is not known for certain how the damage occurred, but high compressive loads could be generated in the pushrod by overtravel of the front trim lever once the trim has reached its forward limit, as the stops are incorporated at the rear. The pushrod has a stud welded on the top side for attachment of the trim springs. Shrinkage caused by the welding process will result in a slight downward bow and probably some local softening of the tube. Excessive compression loads would result in distortion at this focal point.



There are at least two ways that excessive load could be applied to the trim lever. The picture to the left shows how it is possible for the front harness buckle to lodge between the front stick and the trim lever. Forward movement of the stick, or more likely the rear stick, would exert significant pressure on the trim lever, resulting in very high compression loads in the pushrod connecting the two trim levers. Similar loads could also be applied if an occupant entering the front cockpit in an awkward manner accidentally put a foot on the front trim lever.



**It is highly recommended that the trim pushrod be inspected for damage before further flight.**

Inspection requires removal of the cockpit flooring panel forward of the rear seat. A 300 mm straight edge held against the pushrod underside will show any bend. Bear in mind that there may be a slight bend from new, but with the straight edge held centrally beneath the welded stud this should not exceed 1 mm at one end of the straight edge while the other end is in contact with the tube. With the trim in full forward, full rear and mid range positions, check throughout the full movement range of elevator & aileron controls that the trim pushrod does not contact the aileron/elevator control tube or the wooden aileron stop.

**If excessive bending of the trim pushrod, or interference to the travel of the aileron/elevator tube is found, the aircraft is to be immediately withdrawn from service and this office notified.**

  
GFA  
STOA

John G Viney,  
Senior Technical Officer, Airworthiness

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