

AIRWORTHINESS ADVICE NOTICE

TYPE AFFECTED: SZD-50-3 Puchacz

SUBJECT: Miscellaneous airworthiness information.

BACKGROUND: Refer AN 106 for historical SZD-50-3 Puchacz airworthiness advice. Issue 4 includes type life extension information and reference documentation.

LIFE EXTENSION: Major Change Approval 10081142 for SZD-50-3 'Puchacz' extending life up to 12000 hours can be executed, provided that the inspection in Service Bulletin BE-064/SZD-50-3/2022 and required parts replacement is carried out.

Life extension from 6000-6750 hrs incorporate Service Bulletin BE-051/SZD-50-3/2003

Life extension from 6750-12000 hrs incorporate Service Bulletin BE-064/SZD-50-3/2022.

DEFECTS: 1. Puchacz canopy latch mechanism. Canopy opening in flight due to poorly rigged and/or worn latch mechanism.

There have been reported incidents in and outside of Australia of uncommanded canopy openings in flight. One such occurrence took place whilst on aerotow in turbulent conditions, one occurred during the recovery from a spin and one other whilst performing a left hand side slip. Only one of the above Australian occurrences resulted in the loss of the canopy. A partially locked, worn or incorrectly rigged latch system will greatly increase the chance of the canopy opening in flight under certain flight conditions.

The latch system comprises two levers, one located at the front of the canopy and one at rear. Both levers latch on the over-centre principle. The latch has a roller which engages a ramp. Each latch has an adjustable pivot bush and off-centre eccentric cam. The outer circumference is knurled and rotates to a rigging position so as to enable a positive over-centre lock.

SIGNED:



GFA Chief Technical Officer

For and on behalf of:

**THE GLIDING FEDERATION
OF AUSTRALIA**

It is important to rig the locking mechanism so as to have both front and rear latches positively engaged, over-centered and locked. No free play is allowed. Replace any worn parts. Refer to the Puchacz Maintenance Manual for further rigging instructions. Recommended immediate maintenance actions are to inspect the canopy latch operating levers and latches for worn or damaged parts; functionally check canopy latching operation from forward and aft canopy; with canopy closed and latched, check for no upward movement at leading edge of canopy positions; and replace any existing worn parts before further flight.

2. Damage to rudder support ply plate caused by incorrect rudder rigging.

During an annual inspection the ply plate at the base of the fin which supports the rudder drive quadrant mounting bracket was found broken. Inspection of a second aircraft revealed similar damage. AWA 2009-2 now cancelled was issued at the time.

The drive quadrant pivots on the steel brackets fabricated from two diamond shaped plates with side gussets & is attached to the plywood by three tubular rivets and an 8 mm bolt at the forward end. A nylon bush attached by this bolt serves as a rudder overtravel stop by limiting rotation of the drive quadrant. There are lightening holes in the upper & lower metal plates, through which the plywood is visible.

The failure occurred span wise between the tubular rivets on the left and right side of the bracket and may be visible in the lightening holes. It could be difficult to detect during an annual Form 2 inspection and would be virtually impossible to detect during a normal DI.

When the rudder cable circuit & pedal stops are correctly adjusted, the quadrant does not contact the rear stop, but incorrectly rigged rudder pedal stops could permit significant foot loads to be applied to the rear stop. This would be exacerbated by loose rear cables.

It is essential that the rudder system is correctly rigged, the primary rudder stops on the rudder pedals must positively contact at full rudder deflection. The Puchacz inspector must additionally be aware of the potential for hidden structural damage when performing inspection on this type.





3. Perspex Canopy Glue Failure

The glue attaching the canopy perspex to the frame has been known to fail on a Junior and other SZD sailplanes. One such example resulted in the full perspex departing the frame on a winch launch. The canopy was original, the glider a 1988 model. AWA 2015-3 was issued now cancelled. The glider had recently completed the manufacturers 3000-hour life extension inspection. Post examination showed a clean separation with little or no glue bonded to the perspex, the bulk of the glue remaining on the frame. The type certificate holder was advised but stated this was the first failure reported. It is highly recommended that canopies that are original as manufactured (the perspex never replaced) be regularly inspected for suspected glue failure. Any disbond identified must be repaired immediately.