TECHNICAL NEWS SHEET

TNS issue 1/2019 11TH July 2019

Airworthiness Information

1. SZD-54-2 „Perkoz" sailplanes EASA AD 2018-0237-E Mandatory
https://ad.easa.europa.eu/ad/2018-0237-E
Flight Controls – Elevator Control System – Inspection

2. HPH Glasflügel 304 sailplanes EASA AD 2018-0207-E Mandatory
https://ad.easa.europa.eu/ad/2018-0207-E
Equipment / Furnishings – Towing Release Mechanism – Inspection

3. SOLO KLEINMOTOREN GmbH 2350 EASA AD 2019-0029 Mandatory
https://ad.easa.europa.eu/ad/2019-0029
Engine – Propeller Reduction Gear Excentric Axle Bearings – Replacement

4. Rotax 914 and 915 engines EASA AD 2018-0265R1 Mandatory
https://ad.easa.europa.eu/ad/2018-0265R1
Engine – Exhaust Valve – Replacement

5. Nimbus-4 powered sailplanes EASA AD 2019-0033 Mandatory
https://ad.easa.europa.eu/ad/2019-0033
Engine Fuel & Control – Carburettor Throttle Valve Shaft Linkage – Inspection / Modification

6. CEAPRA DR400 aeroplanes Proposed AD No.: 19-028 Recommended
https://ad.easa.europa.eu/ad/19-028
Air – Air Intake Duct – Modification

7. CEAPRA DR400 Aeroplanes Proposed AD No.: 19-124 Recommended
https://ad.easa.europa.eu/ad/19-124

8. SZD-54-2 „Perkoz" sailplanes EASA AD 2019-0077 Mandatory
https://ad.easa.europa.eu/ad/2019-0077
Standard Practices / Structures – Wing, Fuselage and Horizontal Stabilizer Fitting Bushings – Inspection / Replacement / Securing Modification

9. CEAPRA DR400 aeroplanes Proposed AD No.: 19-120 Recommended
https://ad.easa.europa.eu/ad/19-120
Engine – Thermostatic Oil Cooler Bypass Valve – Inspection / Installation

10. Stemme S12 powered sailplanes EASA AD 2019-0130-E Mandatory
https://ad.easa.europa.eu/ad/2019-0130-E
Main Landing Gear – Upper Connection – Inspection / Repair

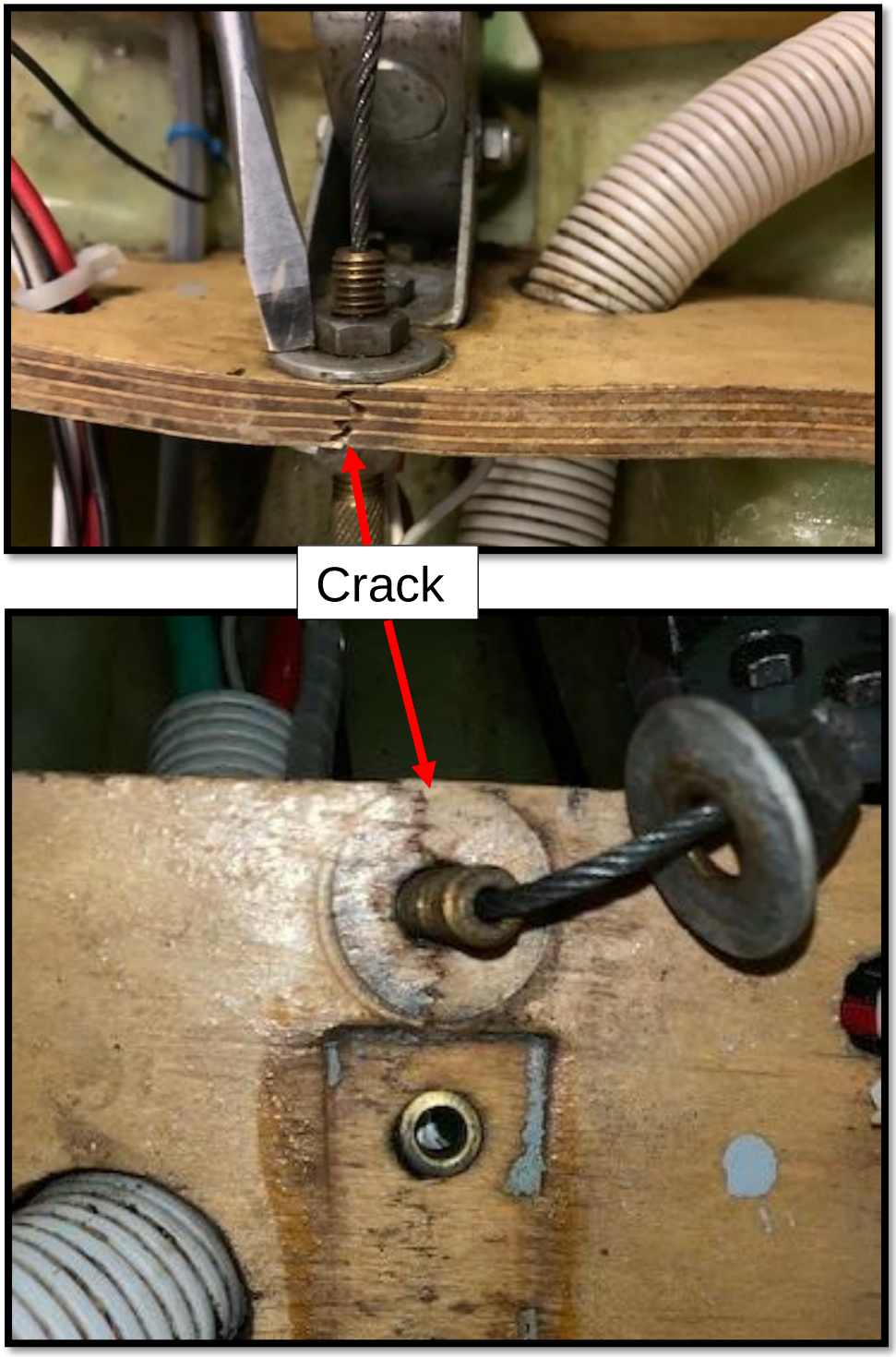
11. Ventus sailplanes and powered sailplanes EASA AD 2019-0079 Mandatory
https://ad.easa.europa.eu/ad/2019-0079
Flight Controls – Air Brake Control – Inspection / Replacement

12. ASW 20 but could apply to others LBA AD 84-43 Mandatory
https://www.alexander-schleicher.de/wp-content/uploads/2015/02/200_TM17_E_HB.pdf
We have had reports of cracks in the wooden plywood frame that the C of G tow hook is bolted to. See images below. This was an issue well known about in the early 1980s (especially after gear-up landings).

The LBA issued an AD in February 1984 to deal with it by reinforcing the hook mounting structure. The mandate was to have this completed by 3000 hours or December 31st 1984 (whichever came first). It is clear from the reported cracks some gliders have not complied with this AD.

The AD is poorly worded/translated, but mandates amendments to the Flight and Operations Manual. But in those updates (on page 40g) it says ‘A successful reinforcement of the forward tow hook bulkhead of the C of G towhook’ which in a roundabout sort of way means you must reinforce the hook. We can understand why some people did not realise hook reinforcement was mandatory.

The full details are on the Schleicher website. It is found in Schliecher TM17 on page 40g and 40h. This should be taken to be mandatory even if not yet embodied.



13. Schleicher ASW 19 LBA AD 84-31 Mandatory

https://www.alexander-schleicher.de/wp-content/uploads/2015/02/191_TM16_E_HB.pdf

This the same as the AD for the ASW20 in item 11 but for the ASW19 that has the same hook design. The full details are on the Schleicher website. It is found in Schliecher TM16 on page 28f and 28h. This should be taken to be mandatory even if not yet embodied.

14 Tost hook life LBA AD 1989-018/3 Mandatory

https://www.tost.de/service/allgemeine-technische-informationen/?lang=en

The quality team on audits have found there is some confusion about how the mandatory Tost hook max life of 10000 actuations is implemented. Please see the advice on Tost website. There are very few scenarios where the life of a hook can go beyond 2000 launches.

15 Engine Fire Containment and Retardation GFA AD 687 Issue 1 Advisory

http://doc.glidingaustralia.org/index.php?option=com_docman&view=document&slug=gfa-ad-687-issue-1-2018-03-15&layout=default&alias=2553-gfa-ad-687-issue-1-2018-03-15&category_slug=gfa-ad-601-700&Itemid=132

Australian Gliding Federation of Australia AD (has no legal mandate in Europe) highlighting fire retardation protection on motor gliders and sustainers. Well worth looking at.

General Information

16 ASW 17, ASW20F and Centrair Pegase Advisory

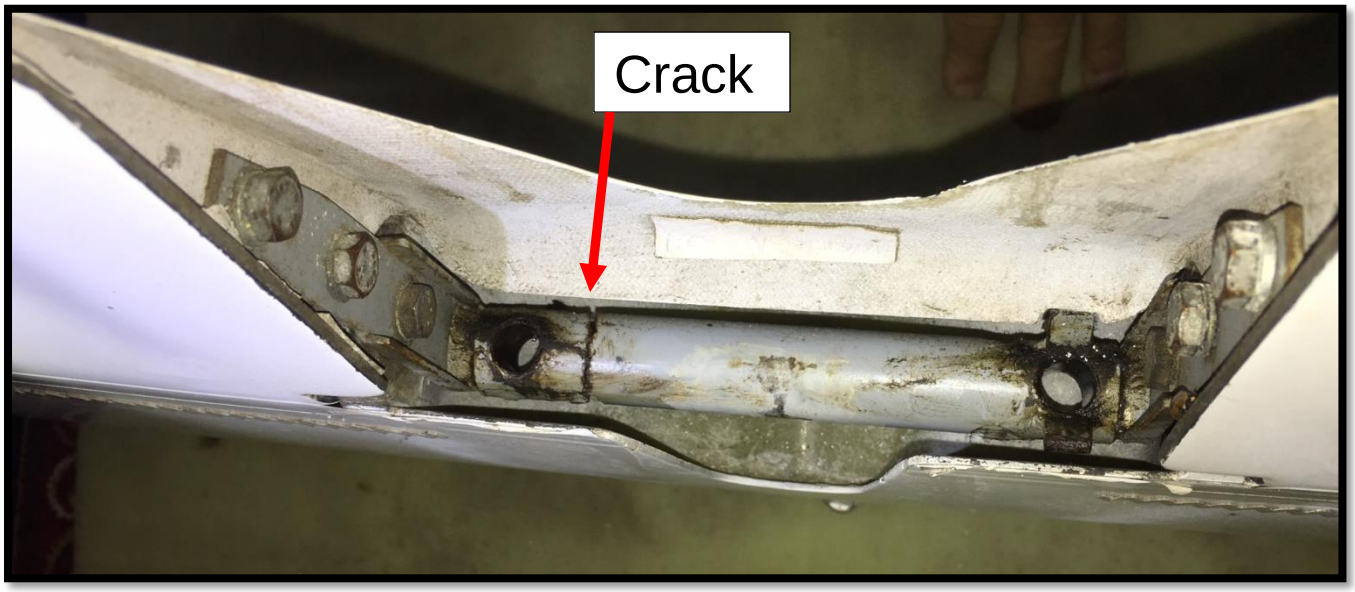
This the same as the for the ASW20 in item 11 and 12. The ASW17, Centrair ASW20f and Pegase have similar hook designs but no AD mandating their reinforcement. We advise close examination of the wooden frames and their mountings every annual or heavy landing/gear up events.

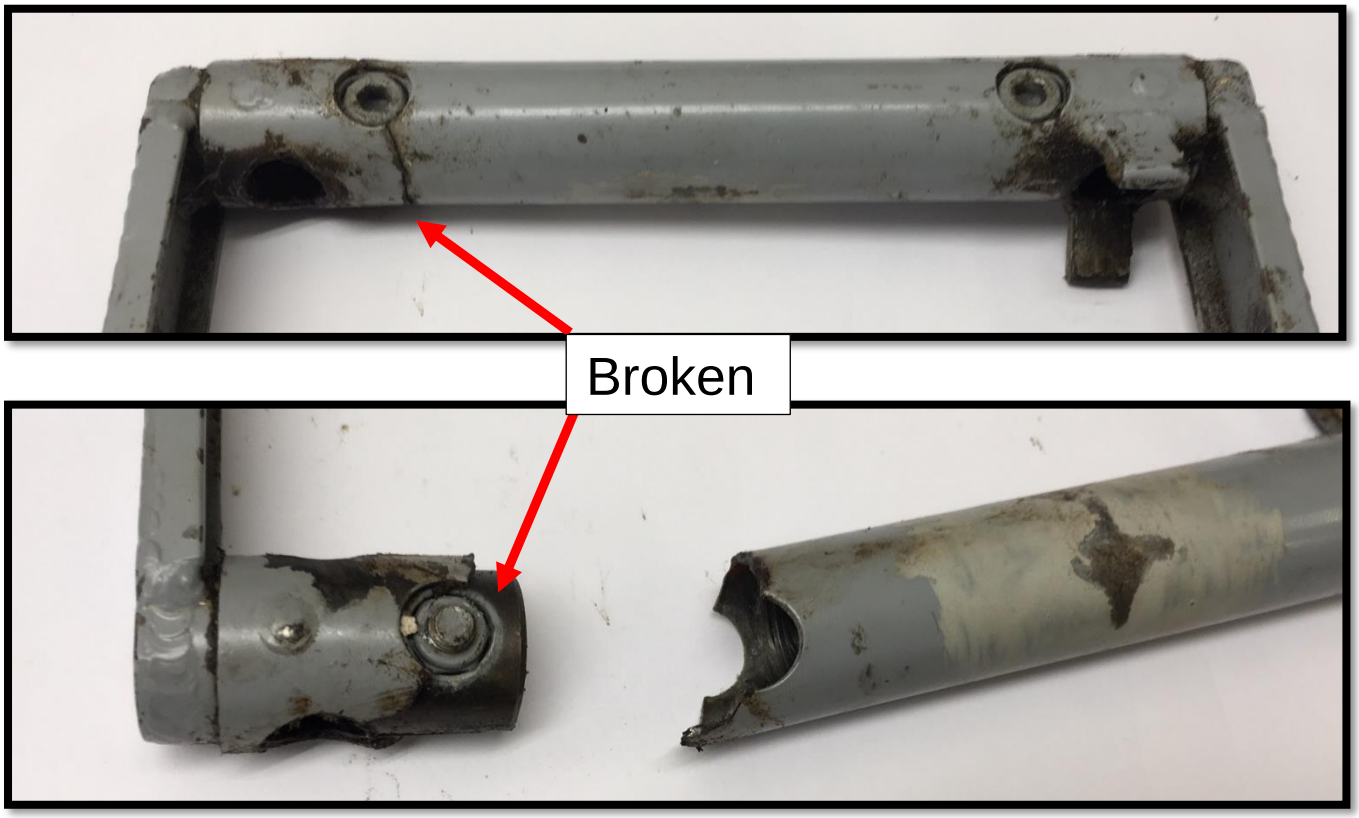
17 Lak 17 aileron horn corrosion but has been known on other types Advisory

This severe corrosion is a most likely the result of moisture collecting in horn area, possible while parked outside. This shows the importance of having a careful look in horns at every annual. This has been known on other manufacturers of glider as well.

18 Nimbus 3T Elevator U bracket. But applies to most Glasflugel and Schemp Hirth fixed tailplanes types. Advisory

See images below. This glider was left rigged outside for a Summer and this crack was found after its derig. The damage was partially hidden by grease. It is almost certanly caused by a heavy landing/groundloop or possible tow out stress.





19 Arcus/Duo XLT U/C gas struts Advisory

The Arcus/Duo XLT U/C is quite heavy to raise. To help raise it, there is a gas strut that pulls with 200 Newtons (20 kg). Some of these gas struts only last a year or two, as struts that pull don't last as long as struts that push. With the strut U/S it is possible to raise the U/C if both pilots pull hard on their levers. But this overloads the mechanism and breaks it. It is vital to change U/C gas struts if you suspect they are failing.
Reported by Tim MacFadyen

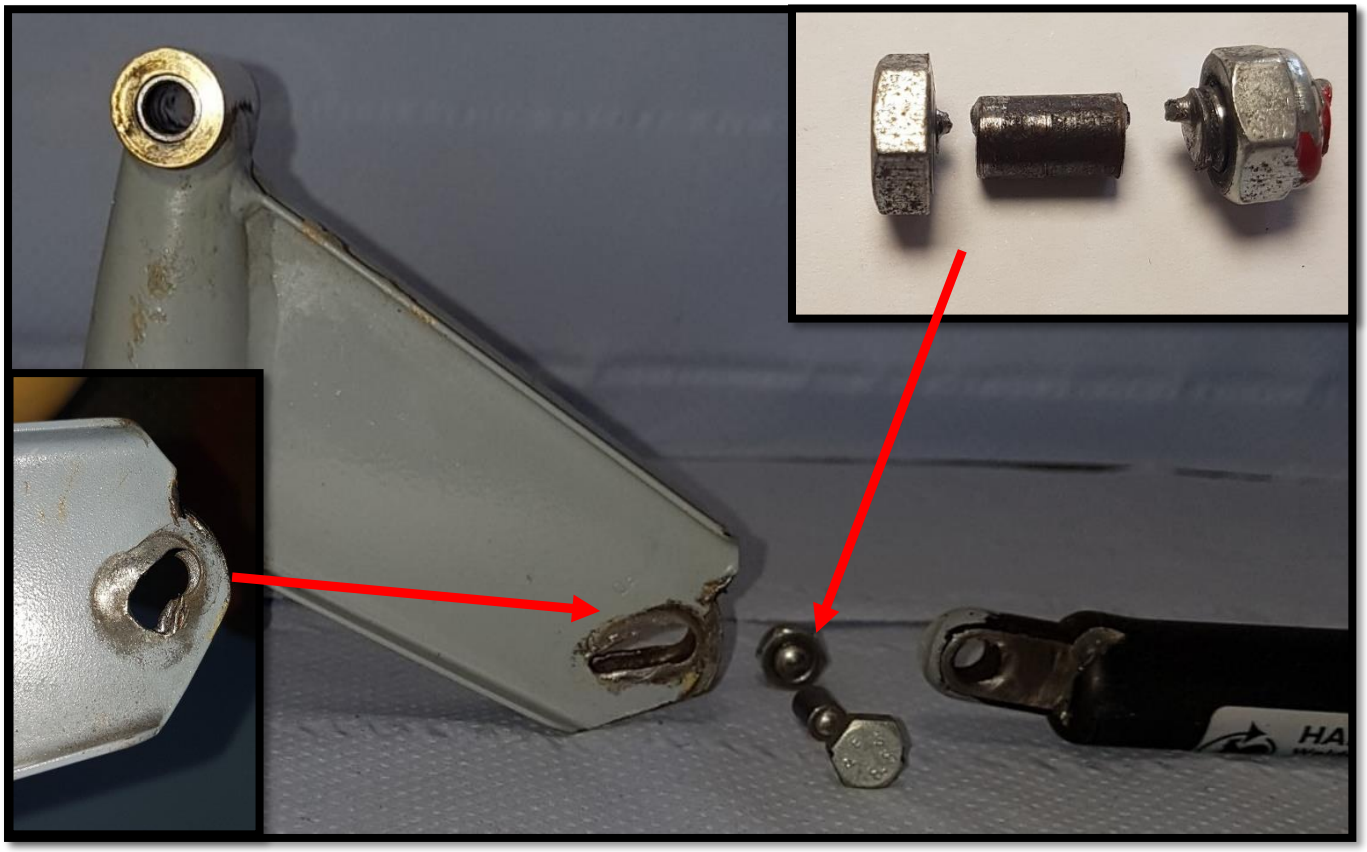
20 ASK21 seat back mount **Advisory**

Broken seat back mount. A very rare failure in this 7000 hour part. This most likley caused by having only 1 side engaged when load was applied to it.. Another part to closely look closely for cracks on annual maintenace.

21 ASK21 front and rear Canopy hinges (applies to most front/rear hinge canopies) **Advisory**

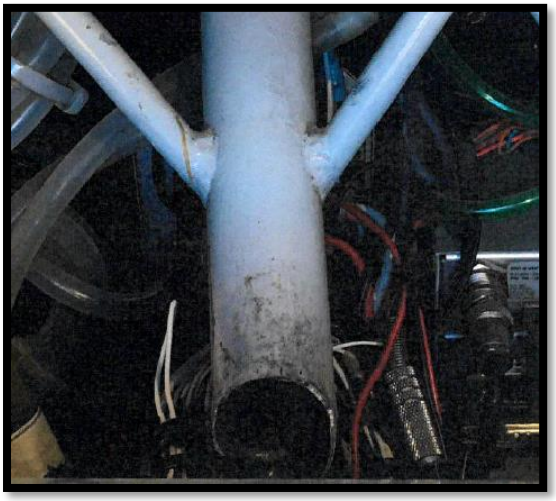
This canopy hinge had so much wear it eventually broke. Because the gas strut puts constant presure on the hinge, it can make play difficult to detect. In this case the hinge bracket elongated, then the bolt wore through and then due to the wear the edge of the gas shaft contacted the hinge bracked and eventually broke.The system should have no play at all when maintained correctly.

The best way to help detect the elongations and worn bolts is with the canopy open, to flex the canopy further beyond its natural upright position and see if there is any free play beyond that point.



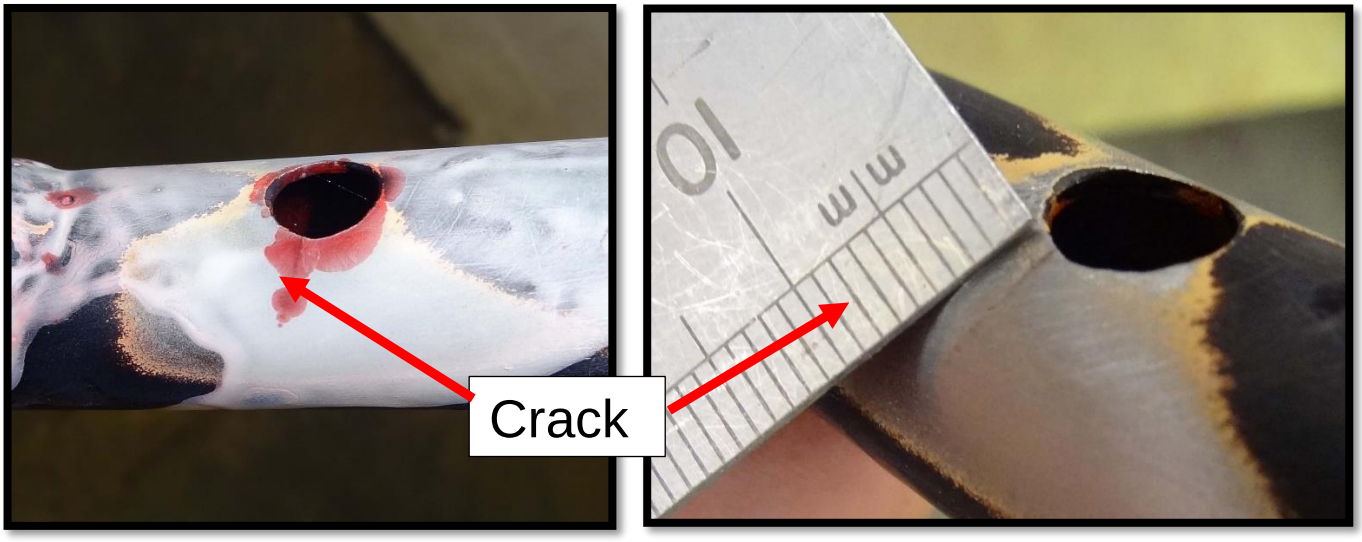
22 ASK21 front canopy support and tensioning bars. **Advisory**

The front canopy mount failed (had over 12000 hours on it) and the canopy became detached due to a fatigue failure. As in the previous item a more thorough examination of the canopy mechanism (zero play) and stops might have prevented this.



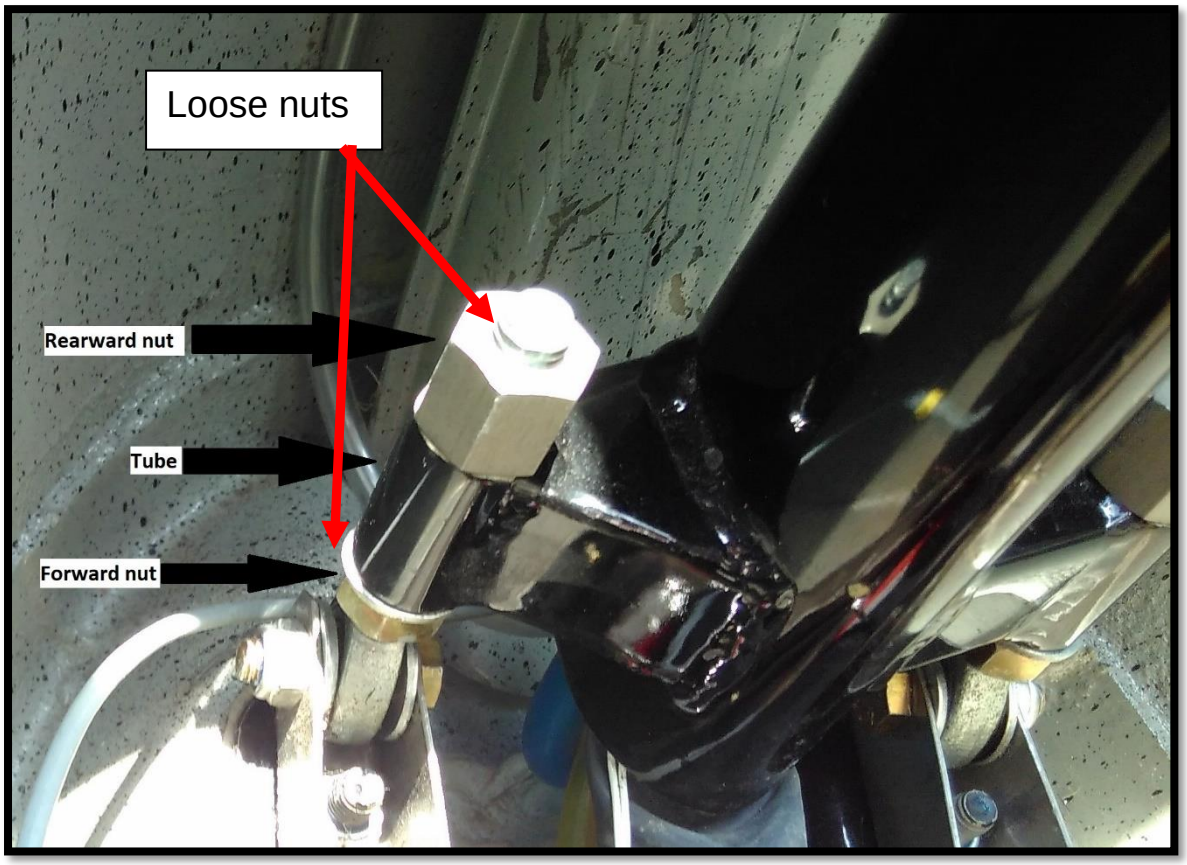
23 ASK21 rear Canopy hinges **Advisory**

This rear canopy frames requires weakening holes so that when jettisioned in an emergency, it breaks off at the weakening hole. In this case the hole has been overstressed (possible do to slamming open in high winds?). Not an easy repair as it is not acceptable to just weld the crack. The tube requires changing which in order to make the canopy a good fit is quite a lot of skillful jigging prior to welding.



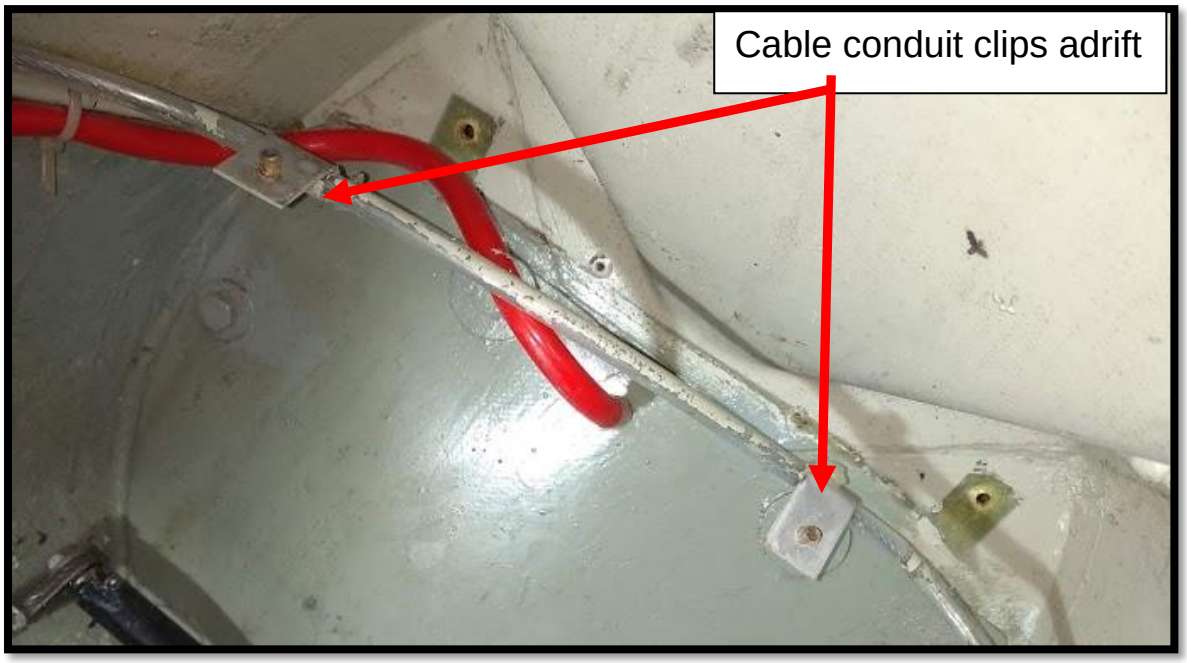
24 LS6/7/8/9/10 canopy adjustment **Advisory**

This canopy became difficult to close over a period of time. Upon examination it was discoevered the forward strop had moved as the nuts were not fully locked.



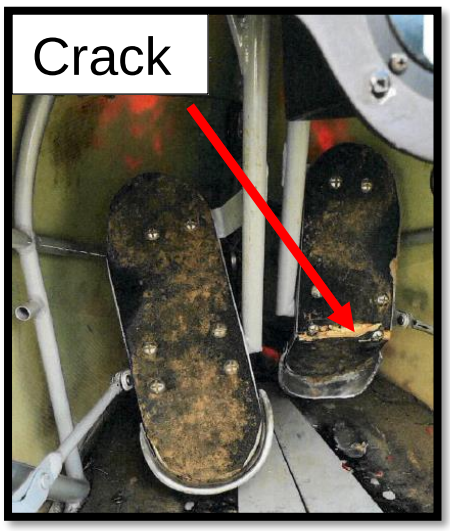
25 Glasflugel Mosquito canopy jettision cable conduit **Advisory**

The emergecy jettision handle pulls a cable that pulls 2 pip pins out to jettision the canopy. In the below image the cable conduit has come adrift from the front fuselage bulkhead. It was held on with rivets. Always test this during annual maintenance while looking at these conduits for play.



26 ASK13 front rudder pedal heal failure. Advisory

The front rudder pedal heel plate failed in flight. As you can see from the image the wood failed after being overstressed. It is very likely there was damage on this prior to the flight. The most likely scenario is that there was insufficient clearance between the front floor and the bottom of the pedal after the heel plate had been bent wedging it on the floor. .



27 Puchacz trimmer actuator failure Advisory

The actuator was found to have failed when the trimmer stopped working. Piano cable failures are quite common, but not the arm. This can only be inspected with the tailplane off.

28 Astir U/C leg failure but did not collapse Advisory

This was caused by the U/C down locks not locking symmetrically/correctly. So one leg took most of the load, until it broke at which point the other leg was strong enough to support the glider. Every annual and after heavy landings the U/C over centre locks must be checked for symmetry and play.

29 Slingsby Kestrels, and most pre 1984 DG and Schemp Hirth gliders Advisory

http://www.streifly.de/TN-5-2018.pdf

Most of these gliders have the old style tost hooks with the side plates (that often get damaged in gear up landings)**.** Last year a mandatory AD on most Glasflugel gliders was issued on this type of hook installation. We recently had an issue with a DG200 that had release problems and upon checking it did not comply with the AD. Despite the same hook as Glasflugel for bureaucratic reasons it was not applied to DG. At some point we do expect this the Glasflugel AD to apply to all hooks of this design.

30 Battery retention requirements and checks Mandatory

https://members.gliding.co.uk/wp-content/uploads/sites/3/2015/04/Battery-maintenance-and-testing-AMP-4-9.pdf

An out landing in a crop field resulted in a Vega experiencing approximately 10G deceleration. Apart from bending the main pin (requiring a hacksaw blade to saw through the pin to derig it), the only other damage was the glider battery smashed the canopy. This highlights the problems of some legacy glider battery installations not being sufficiently crashworthy enough to meet the current requirements.

The requirements of battery installations are not well known. Pre EASA, the BGA required 25 'G' in all directions (however this was more word of mouth rather than written). But EASA do specify the absolute minimum retention requirements for batteries. The 'G' table below is taken from EASA CS 22 design requirements. Ideally aim for 25G in all directions and treat the EASA requirements as the absolute lowest limits.

We have updated the BGA AMP section of advice on battery maintenance including how to legally (using EASA CS Stan 3) mount batteries and check the retention is adequate. **All BGA inspectors are to read this and apply it at the next annual maintenance, or sooner if you think there is a deficiency.** If a battery mount does not meet the requirements, then the glider must have a defect raised and no battery fitted until the installation is exchanged for a compliant one.

Canopy hole caused by failed battery mount

Upward	7·5 g
Forward	15·0 g
Sideward	6·0 g
Downward	9·0 g

Vega Barograph holder converted into a battery holder did not meet EASA 'G' requirements

31 Logbooks and SDMP and final phase out of GMP Mandatory

From 1st October, all ARCs will only be accepted if the SDMP maintenance program and new style EASA logbooks are used. New Form 276 will be issued to reflect this near that date. Logbooks must have all applicable, non-applicable plus recurring ADs as well all Lifed items entered on the pink pages.

32 ASK13 BGA mods and inspections Mandatory

The quality auditors have noticed that several ASK13 do not meet BGA airworthiness requirements in respect of the following mods and inspections from the BGA compendium;

ASK-13 series (including Jubi GmbH aircraft)

M	Rear stick	Comes out of mounting lock into place	TNS 04/83
M	Canopy	Strap fouls rear stick/brake lever. Fit secondary bungy strap.	
M	Elevator	Inspection for bent elevator arms	BGA 004/08/2000 Iss1 TNS 08/00
R	Controls	Inspection of aileron and air brake control support brackets	BGA 008/10/2000 Iss 1 TNS 10/00
M	Elevator drive	Inspection of engagement	BGA 010/12/2000 Iss 1TNS 12/0
M	Structure	Structural inspection due at next annual after 1st Nov 2015	BGA 042/07/2004 issue
M	Flight controls	Elevator rib 1 inspection increased frequency to every year	BGA 043/07/2004 issue 2 TNS 1-2015
M	Flight controls	Elevator trim tab control horn end rib inspection	BGA 045/07/2005 issue 1 M
M	Aircraft structure	Glue failure and fin corrosion inspection	BGA Inspection 042-07 issue 6

33 CS Stan 3 Mandatory

https://members.gliding.co.uk/wp-content/uploads/sites/3/2016/01/CS-STAN-AMP-2-7-.pdf

EASA have issued a new updated version 3 of CS Stan that enables more changes to be accomplished using FAA AC43 manual as the reference. It is particularly relevant for exchanging old battery installations for more crashworthy ones if required.

Gordon MacDonald
Chief Technical Officer

Compliance Statement:

All mandatory inspections and modifications have been included up to the following:
CAA CAP 455 Airworthiness Notices, Withdrawn. See CAP 562 and CAP 747.
CAA CAP 747 Mandatory Requirements for Aircraft: issue 3, amdt 2017/01 superseded on 21 July 2017
State of Design Airworthiness Directives: review date 11/07/19

For reference:

FAA Summary of Airworthiness Directives: Small Aircraft, Biweekly 2019-14, 6/24/2019 - 7/7/2019
EASA Airworthiness Directives: review date 11/07/2019
EASA Airworthiness Directives: bi-weekly issue 13
CAA CAP 476 Mandatory Aircraft Modifications and Inspections Summary: issue 287

Maintenance Programme:
CAA/LAMS/A/1999: Issue 2, amendment 0
BGA GMP: Issue 1, amendment 2