TECHNICAL NEWS SHEET

TNS issue 3-2020 30th September 2020

Airworthiness Directives (ADs)

1. G102 Astir and Grob 103 (Twin Acro/Astir) EASA AD 2020-0121 Mandatory

https://ad.easa.europa.eu/ad/2020-0121 Flight Controls – Elevator Control Pushrod – Inspection / Replacement

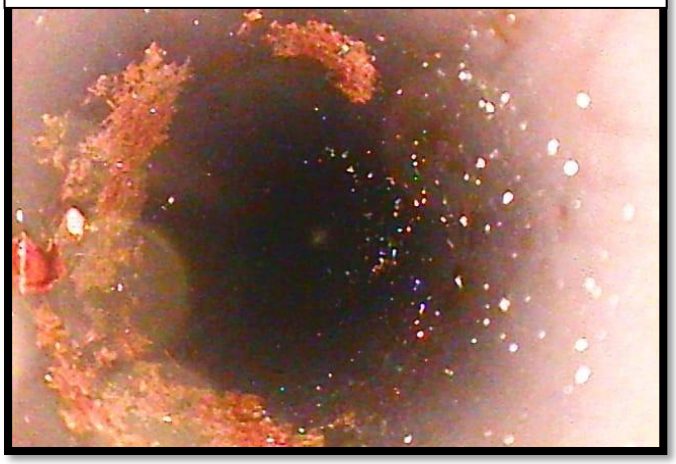
2. G102 Astir and Grob 103 (Twin Acro/Astir) EASA AD 2020-0138 Mandatory

https://ad.easa.europa.eu/ad/2020-0138 Update to previous AD. Flight Controls – Elevator Control Pushrod – Inspection / Replacement

Note this AD states, '***If possible, the first 100 mm of the inside of the pushrod behind the control hole should be inspected for corrosion with an endoscope.'*** This implies that using an endoscope is not mandatory. A 5.5mm endoscope that WiFi's to your phone goes in the 6mm a drain hole in the pushrod (costs around £25 from Ebay/Amazon).

This pushrod passed the inspection as per the AD, but upon putting an endoscope inside showed that it was corroded. On contacting the TC holder (Lindner LTB), they decided this Pushrod must be changed. We strongly recommended that the pushrod is inspected with an endoscope as recommended by the AD.
Also be careful the that reversing the bolts that connect the pushrod to the bell crank have lots of clearance as a few have been assemble with the bolts reversed and then restricted movement.

Corrosion spots in the pushrod. Lindner said replace it despite passing the AD test.



Be careful of reversed elevator system bolts causing a restriction

3. CEAPR DR 400 aeroplanes Mixture Control Cable – Operational Restriction / Replacement

https://ad.easa.europa.eu/ad/2020-0147 **EASA AD 2020-0147 Mandatory**

Engine Controls – Mixture Control Cable – Operational Restriction / Replacement

4. Duo Discus and T versions airbrake stops Proposed AD 2020-119r1 Proposed

https://ad.easa.europa.eu/ad/20-119R1 Flight Controls – Airbrake End Stop Bushings – Replacement

EASA Safety Information Bulletin (SIB)

5. CEAPR DR 400 Aeroplanes - Defective Warning Lights Panel 2020-10 Advisory

https://ad.easa.europa.eu/ad/2020-10

Defective Warning Lights Panel

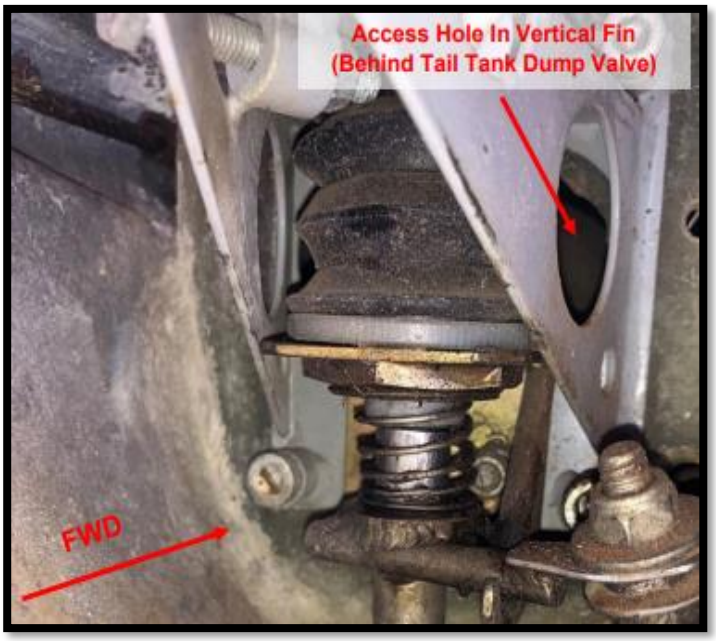
6. CEAPR DR 400 Aeroplanes-Defective Seat Belt Assembly 2020-09 Advisory

https://ad.easa.europa.eu/ad/2020-09

Defective Seat Belt Attachment Rivet Assembly

7 **All aircraft fitted with a relief tube** **GFA AD 688 Issue 1(not applicable in UK)** **Advisory**
http://doc.glidingaustralia.org/index.php?option=com_docman&view=download&alias=2718-gfa-ad-688-issue-1&category_slug=gfa-ad-601-700&Itemid=132
This is from the Gliding Federation of Australia and is not mandatory in UK. This highlights an issue that we have seen many times before, where release hooks and U/C assemblies have suffered heavy corrosion due to urine contamination. Based on the recent Ventus 2 AD where water ballast is sucked into the wing that caused extreme corrosion, it may be that other parts of many gliders could have the same issue.


Figure 1: Elevator Pushrod Failure



8. Sailplane Rigging – Procedures, Inspections and Training **2019-07** **Advisory**
https://ad.easa.europa.eu/ad/2019-07
This is full of good advice on what to do when preparing a sailplane for flight after rigging (this not maintenance).

BGA updated forms and procedures

9. BGA 267 SDMP template updated to full compliance of Part M Light AMC **12th June 2020** **Mandatory**
https://members.gliding.co.uk/library/gmp-manual/sdmp-267-template/
This update incorporates many minor changes that updates the EASA Minimum Inspection Program (MIP) and updates the first 2 pages of owner declarations to latest EASA Part M Light requirements. Note all previously used programs are still compliant and the updated needs only to be applied when you have an update to make to your old SDMP program or when recommending an ARC issue to the CAA.

10. Updated (AMP) for the new BGA 267 SDMP template **12th June 2020** **Mandatory**
https://members.gliding.co.uk/library/amp-manual/amp-sdmp/
This update incorporates the changes from the Part M Light Acceptable Means of Compliance document. This is likely to have a new CRS in November (when the BGA stops being a CAMO and becomes a CAO) and again in January when Brexit happens.

11. Brexit effect on Non UK registered sailplanes on a EASA permit to fly. **Mandatory**
https://publicapps.caa.co.uk/docs/33/ORS4No.1249.pdf
Whenever a new design of sailplane is produced, there is a period where early production aircraft are produced and sold before they are fully EASA approved, as EASA have not yet certified them to CS22 design requirements. A temporary EASA temporary Permit to fly is issued for this period by their country of registration for up to 1 year at a time. Although the permit to fly does not say the aircraft is 'experimental', that is effectively what it is.
After Brexit, only UK registered aircraft on permits will be allowed to fly in UK airspace without calendar restriction (normally 28 days continuous use) and the CAA have not always granted extensions. However, at this moment the CAA are rethinking this policy. The BGA has no knowledge of how many foreign registered UK based sailplanes are on permits. If this affects you. Please contact the BGA ASAP.

Reported issues

12. ASK21 3000 hour checks not being performed consistently. **Advisory** This applies to all types, but particularly K21 with lots of launches and landings. All intermediate 3000 hours inspections are not just inspections. There is usually a requirement for some new parts, oversize pins, new bearings, new cables, new bushes, control mass balance plus a mandatory thorough look inside the normally sealed parts of the airframe. Either by cutting holes or nowadays by camera.

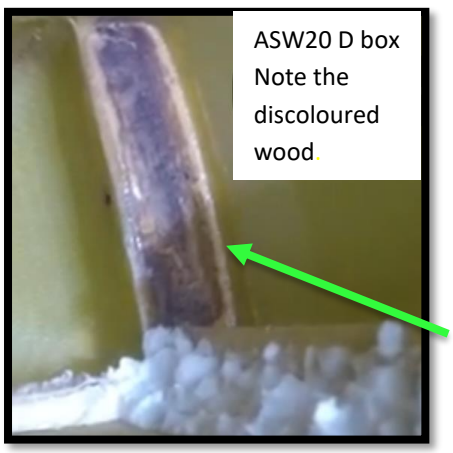
Please look at the old parts in the picture that were replaced during a K21 intermediate 3000 hour inspection.

Note the rubber suspension donuts are not shown in the picture, but usually need changing too.

13. ASK21 & ASW20 wood moisture damage (applies to many other types including Schemp Hirth and Grob) **Advisory**

K21 Spar end has been unprotected for years. It is now rotten and must be replaced.

The end grain of the wooden spar web was totally unprotected and porous. This could and should have been spotted on many previous annual inspections before it went rotten. It was expending due to moisture ingress and was now a little wider than the spar bush.



ASW20 D box Note the discoloured wood.

This could have been prevented with some dehumidifying, some keying up of the end grain and resin painting on the end. But because it was not spotted in time, this required an expensive factory approved repair scheme (it was close to writing the wing off because it was built with an obsolete resin) and some very skilled work to replace the spar web wood and new spar wrap without disturbing the GRP Spar cap or web or running through the middle of the wood.

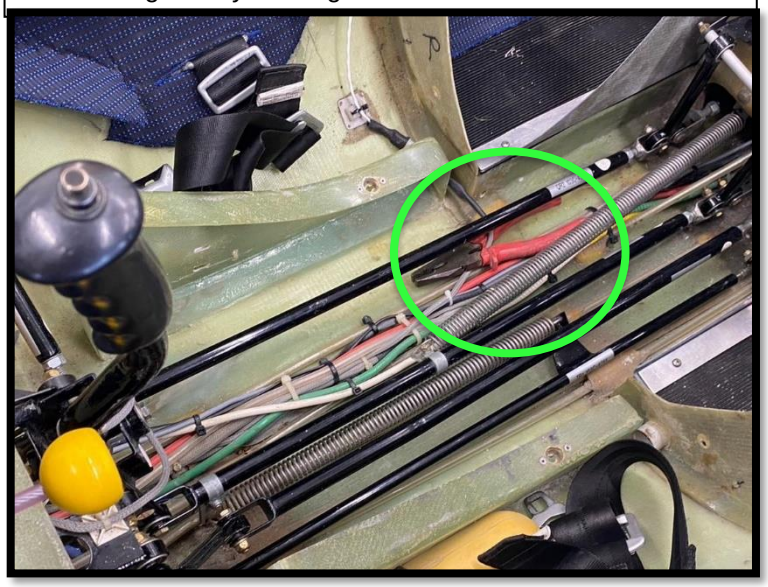
This is a picture inside an ASW20 wing D box while a water bag was being changed. Note the discolouration. In this situation Schleicher should be consulted for advice before next flight.

14. Foreign Objects left in aircraft. **Advisory**

With about 2500 aircraft and aeroplanes in the BGA CAMO, the issue of tool control can never be relaxed. Have a system in place for checking after every job.

Knife blade under seat of Puchacz

Pliers with handles the same colour as some of the Grob 103 tubes. It cannot be proven, but it is possible these were left in this glider by a foreign CAMO after a refinish.

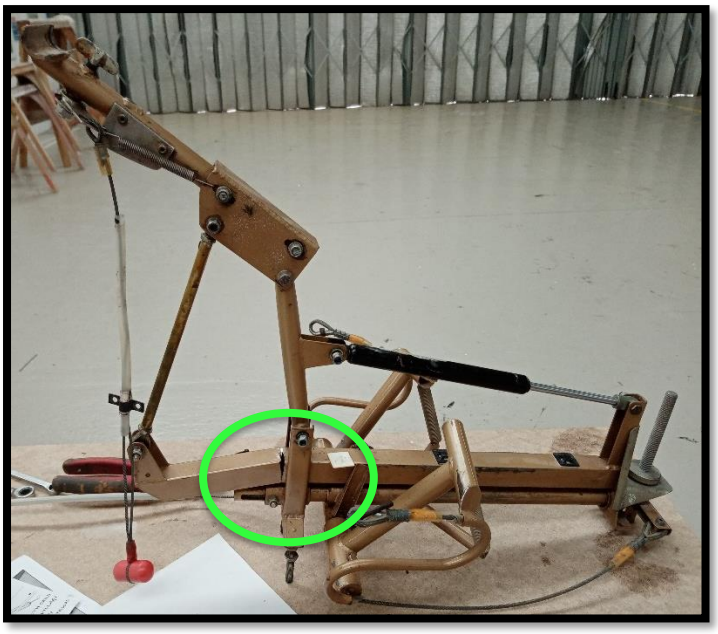


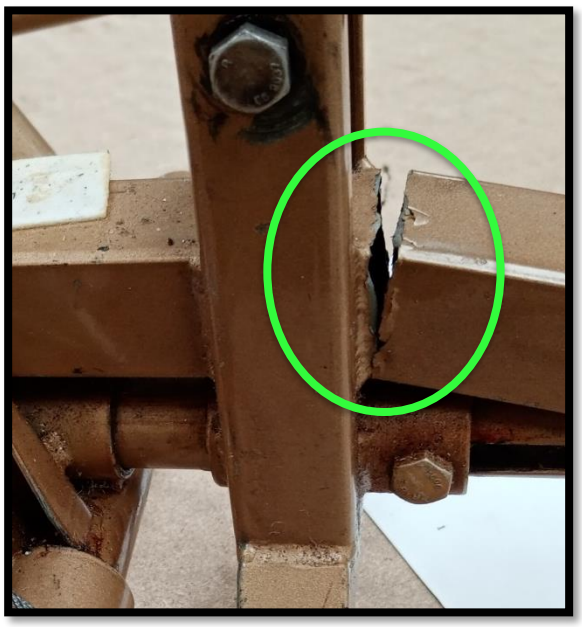
15. Puchacz life extension beyond 6750 hours **Advisory**

A club was understandably surprised to find out that when they applied for a service bulletin to extend the life of their Puchacz, from 6750 to 12000 hours (as had been issued on several other Puchacz in the UK and elsewhere) the Type Certificate Holder could not issue an extension to 12000 hours using their previous 12000 hour extension Service Bulletin, apparently due to Polish CAA regulatory problems. Allstar are now working on a new Service bulletin to extend the life to 12000 hours. But there is no fixed timeline for when this will happen. Contact Allstar for more details.

16. LS4 (but applies to all LS gliders) **Advisory**

This 38 year old LS4 suffered what appears to be a fatigue failure (see images below). This subsequently resulted in the top of the instrument panel being forced down and bending it and damaging the vario. Please check during annual maintenance and advise the BGA if any problems are found.

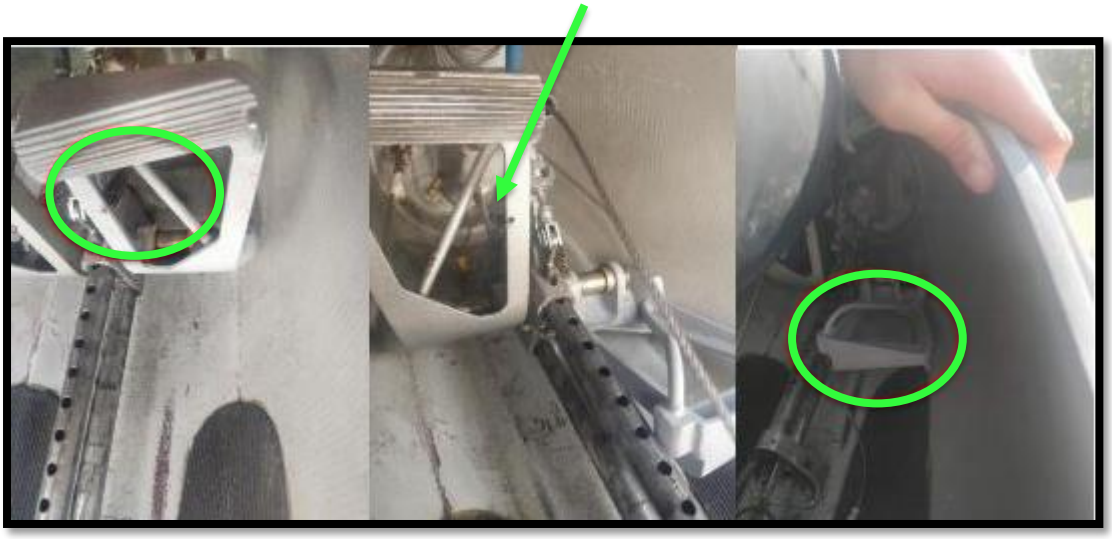




17.

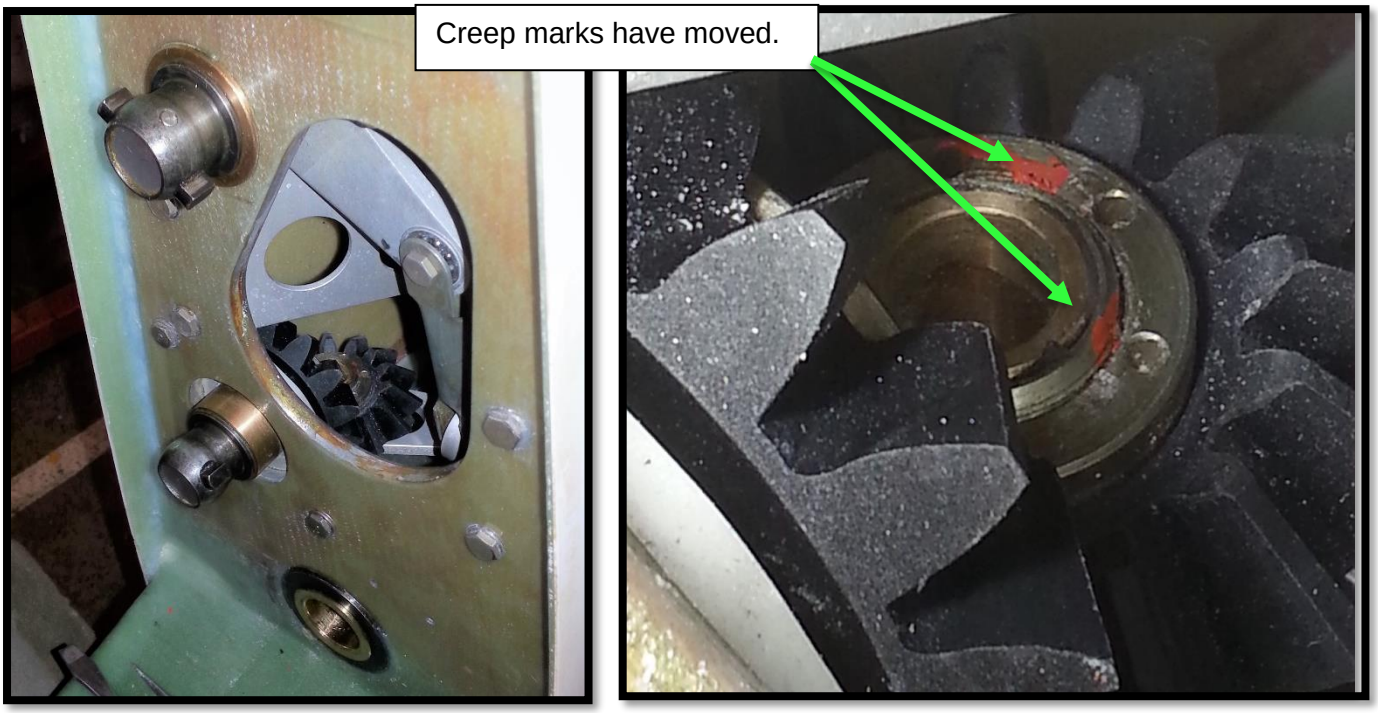
Astir rudder pedal return Spring **Advisory**

Please see image below of a failed Astir rudder pedal return spring (right picture) which should prevent the pedal from folding down. A lot of these springs are now 40 plus years old and becoming fatigued. Consider replacing them before they break.



18. Perkoz airbrake bevel gears movement found on annual **Advisory**

On annual inspection on the port wing it was found that the locking ring on one of the airbrake bevel gears was loose. The creep marks indicate that the ring has turned. The corresponding locking ring on the other wing seems to be loose but has not actually turned on its thread. Allstar say it cannot fall off. If found, contact Allstar for advice



19. ASI and Placards must match **Mandatory**

All sailplanes that have ASI markings mandated (or not mandated but fitted anyway) must have matching the placards that also agree with the flight manuals. The ASI, Flight manual, TCDS and aircraft placards must all agree. Please check at next annual.

20. Propellors fitted backwards! **Mandatory**

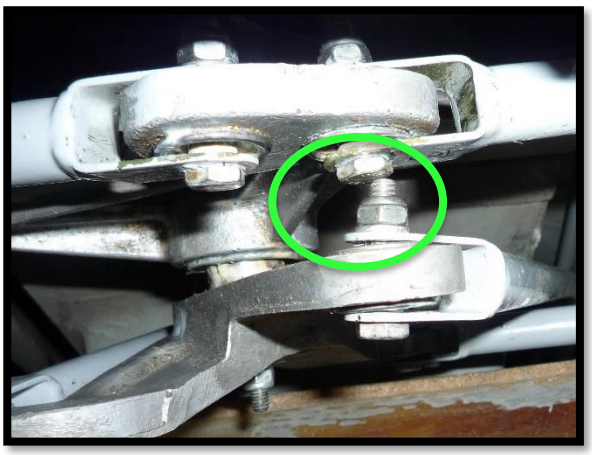
A new turbo glider was delivered to its owner. Upon trying to use the engine it performed very badly. The reason was the propellor had been fitted backwards, so the trailing edge was now the leading edge. Over the years, I have seen this happen quite few times on many different types of aeroplane and microlight, where full RPM can often be achieved with little thrust. Whenever checking a propellor fitment, check the leading edge is where it should be when the crank rotates!

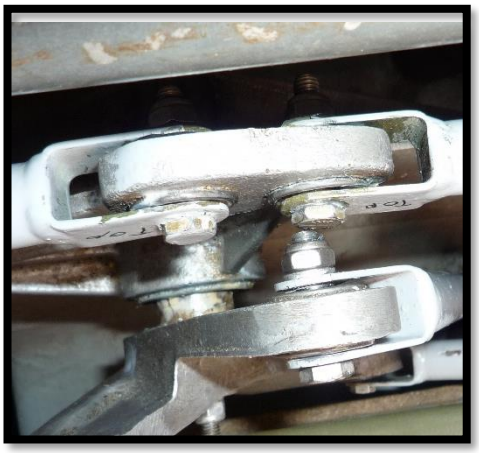
21. Discus mouse nest - applies to most gliders. **Advisory**

This looks like a mouse nest. I am not sure a pilot would spot this on a DI

22. Astir but applies to many others. Interference caused by too long bolt. Advisory

Sometimes what seems like a common-sense solution of using a new bolt that is fractionally longer than the original seems ok. But it can cause problems. Please ensure all replacements are the same size and orientation as the original.



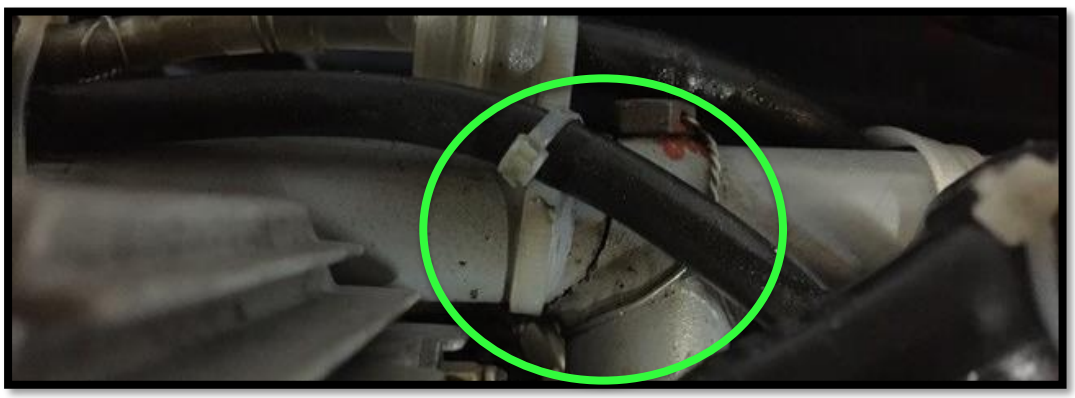


23. T65 Vega elevator slid off the tailplane during rigging. Advisory

When the T65 Vega was first built, the prototype had no method of stopping the elevator sliding off the tailplane if a side force was applied in the trailer or during rigging. Although this could not happen when rigged, the chances of the elevator being damaged in the trailer or during rigging were very high. Before certification, a split pin system was added to and elevator hinge to stop this happening. But during rigging if the split pin is too small the side load can still force the elevator off. Check the split pin and hinge are correctly fitted and not too small.

24 Ventus Engine Pylon cracks but applies to metal pylons Advisory

The flight manual says check this every single flight. Cracks/splits are quite common. Please show owners how to find this.



25. Fatigue life of airframes that apply to most modern and some older types Advisory

Most modern and some older airframes have a fixed fatigue life. For metal airframes the life can be quite short (less than 3000 hours). For most German composite sailplanes it is typically 12000 hours in 3000 hour segments. At the end of the fatigue life, if the Type Certificate holder cannot/does not support a further life extension, then no further extension is possible, and the airframe is permanently grounded. The ASK21 is unusual compared to all other modern gliders in as much it can currently go to 18000 hours in 3000-hour intervals. Some UK ridge site based K21 are approaching 18000 hours. If you have a sailplane within 1000 hours or so to end of life, it is worth asking the Type Certificate (TC) holder if there an option to extend it. If enough people ask then they might spend the money to do it. They are not obliged to do so.

Potential owners of high time gliders should be made aware of this before they unwittingly buy a glider thinking it to be a bargain, but with not many hours left to run until it is scrap. We have seen adverts for some apparently very cheap gliders in Southern Europe. Some of these have been less than 1000 hours away from been out of fatigue life with little possibility of an extension.

A 3000 hour inspection will usually require the approved Technical Note or Service Bulletin. Some of these can be surprisingly expensive just to buy the paperwork. Once a 3000 hours inspection gas been carried out, the extensions are usually formally approved by the TC holder. If the TC holder ceases trading, then the glider will not be able to have a life extension.

Some Eastern European sailplanes have significantly lower fatigue life than 12000 hours. In recent years, SZD Jezow have extended the fatigue lives of several its range of sailplanes. Unfortunately, not before quite few of the effected aircraft were scrapped (eg Bocians, etc) because they had been grounded for years due to being out of life. To reach these new higher fatigue lives, there is a requirement to carry out the inspections detailed in the various Service Bulletins only issued by the TC holder. The below information is the best information I have access to. **The up to date manuals and TC holders data are authoritative.**

PW5/6 is 5000 hours with midlife inspections.
SZD 42 Jantars are 6000 hours with midlife inspections
SZD 9 Bocian is 7000 hours (with aerobatic and speed limitations) with mid life inspections
SZD 30 Pirat is 3200 hours (with aerobatic and speed limitations) with mid life inspections
SZD 36a Cobra 15 is 4000 hours (with aerobatic and speed limitations) with midlife inspections
SZD 50-3 Puchacz is 6750 hours for most but a few are 12000 hours. There are currently has 27 Puchacz currently in the BGA CAMO. Several of these have reached 6750 hours and been extended to 12000 hours after they had Allstar individually approved 12000-hour life extension service bulletin carried out in Poland. Allstar are working on being able to issue a 12000hour extension to all of them, but we do not know when they will have jumped through the regulatory hurdles to achieve this.

SZD 51 Junior is 12000 hours. Several life extensions at 6000 hours to 12000 hours have been done in the UK recently.
SZD 54 Perkoz is 3000 hours. Like the Puchacz it is designed for 12000 hours, but only if Allstar issue the intermediate inspections which they can no longer do on the Puchacz.
Lak 17 and 19 variants are 6000 hours with intermediate inspections.

Hoffman Dimona H36 is 9000 hours. The original Hoffman built version can be extended from 6000 to 9000 hours by the Diamond factory only
Super Dimona Variants. and the later variants have an ultimate life of 12000 hours with 3000-hour inspections.

All the wooden Slingsby (apart from T61 which is 39000 cycles), Scheibe and Schleicher gliders have no fatigue life specified.

All composite Schemp Hirth, Grob, DG/LS, Jonkers and Schleicher (apart from K21 at 18000 hours) sailplanes and powered sailplanes are all 12000 hours with 3000 or 6000. A number of Schemp Hirth gliders have their first inspection interval at 6000 hours rather than the standard 3000 hour inspection/overhauls

26. BGA maintenance authorisation renewal and Part-66L licence applications Mandatory

From 1st December 2020, a BGA inspector can only sign the CRS on a EASA sailplane if they have a Part 66 L1 and/or L2 license. At time of writing we have received 180 licence applications. All applications for a Part-66L license must be at the CAA (via the BGA) before 1st December. Please complete and submit the BGA application form sooner rather than later (some of you I know are awaiting inspector rating changes). All BGA maintenance authorisations are being renewed as part of the licence application process. Existing BGA maintenance authorisations have been extended to the end of the year (or until receipt of your renewed BGA maintenance authorisation). Sadly, no new BGA inspector applications can be accepted now as there is insufficient time to

complete the process ahead of the Part-66 requirement coming into force. Guidance on qualification for a Part-66L licence for new entrants will be published later this year.

27. BGA changing from a CAMO to CAO in November **Advisory**

As part of the EASA PART M Light regulation (implementation started on 24th March 2020) the BGA must change from being a Continuous Aviation Maintenance Organisation (CAMO) which comprises of a Subpart F (MF 0007 the nuts and bolts part of maintenance) and Subpart G (MG 0279 the quality part that does ARCs and audits) to a Combined Airworthiness Organisation (CAO).

When the BGA becomes a Combined Airworthiness Organisation (CAO), the previous Part F and G will have the same reference number and include the old F and G roles independently of each other as before (hence it's called a Combined Airworthiness Organisation). Because of the reference number change, all our CRS for EASA (worksheets, logbook entries and ARCs) will be updated. There is likely to be further change again in January with Brexit when all reference to EASA is likely to be dropped. But because we will be working to the same EASA rules our procedures will not change (the CAA say for 2 years). Please note that all previously saved forms will be incorrect. Please get used to downloading the latest version of any form.

There will be a new EASA section to the BGA exposition plus some AMP documents that explain the procedure changes that CAO brings compared to being a CAMO.

28. Grob 109B used and new spare parts **Advisory**

Some of you might be aware that all the military Vigilant motor gliders (Grob 109B) were sold to a flying charity called Aerobility (see link) https://www.g109able.org/ They also acquired a lot of spare parts that have been hard to previously get hold of (like complete overhauled engines and new spark plugs!). Southern Sailplanes are now cataloguing and certifying these parts for Aerobility. This includes many exhaust parts as well as most other parts see link. https://www.southernsailplanes.com/grob

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, Amendment 2020/01 24th March 2020
State of Design Airworthiness Directives: review date 30/09/20

For reference:

FAA Summary of Airworthiness Directives: Small Aircraft, Biweekly 2020-14, 9/14/2020 - 9/27/2020
EASA Airworthiness Directives: review date 30/09/2020
EASA Airworthiness Directives: bi-weekly issue 19
CAA CAP 476 Mandatory Aircraft Modifications and Inspections Summary: issue 287

Maintenance Programme:
CAA CAP 411/LAMS/A/1999: Issue 2, amendment 0 (for none EASA motor gliders/tugs only)
BGA GMP: Issue 1, amendment 2 (for non EASA gliders only)
BGA SDMP 267 (for EASA sailplanes and powered sailplanes only) updated 12/06/2020 Part M Light AMC

Gordon MacDonald
Chief Technical Officer