TECHNICAL NEWS SHEET

TNS issue 2-2021 17th September 2021

CAA Airworthiness Directives (ADs) None since last TNS

EASA Airworthiness Directives (ADs)

1 ASW15 wing root ribs EASA AD 2021-0187 Mandatory

EASA_AD_2021-0187 The proposed AD became a full AD. A few owners have reported that their ribs were cracked when inspected. Even though the AD does not call for it, have a good look at the tailplane root ribs, because they are similar construction. Cracked ribs might well cost more to replace than the sailplane is worth.

2 Nico press Swages and tooling LBA 82-216 (originally issued in 1982) Mandatory

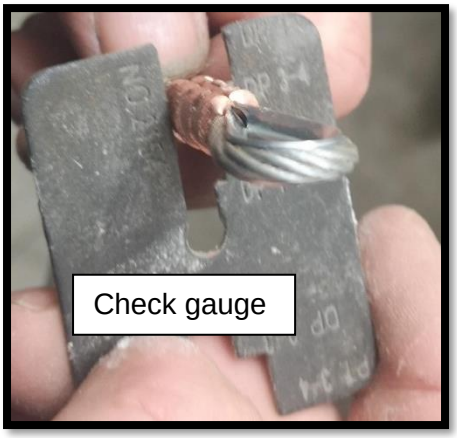
Pressklemmen_LTA_82-216_E.pdf (alexander-schleicher.de)

This is a legacy AD, that on the face it is very simple to follow. Modern gliders are unusual in the aviation world, because it is often only possible to make the cables up in the glider. This makes properly proof loading them in situ impossible. Replacing worn cables is a very primary task with little room for error. So, the process used, must be perfect. Failures in the process do not always mean an instant cable failure.

All inspectors need access to Nicopress tools. Too often the human factors of not having access to tools and cables, have led to cables (especially release knobs) not being changed when they should have been.

Remember use only galvanised cables (unless the aircraft manual says otherwise) as stainless ones tend to fatigue much quicker (less than 50 hours in rudder cable S bends to actual failure) and only use Nicopress tools with Nicopress sleeves. Tolurit sleeves look identical on the outside but eventually fail!

Nearly 40 years after this AD was issued, we are still occasionally finding incorrectly crimped cables. If you see a cable with only 2 squeezes, then it must be corrected. Do not forget you also need the gauge (see photo below) to check it is correctly squeezed to the correct thickness. Light Aircraft Spares LAS) Part Search LAS Aerospace Ltd or Aircraft Spruce are Search Results | Aircraft Spruce are good sources for these tools, cables and sleeves.



These crimps were all flying and should never have passed the AD

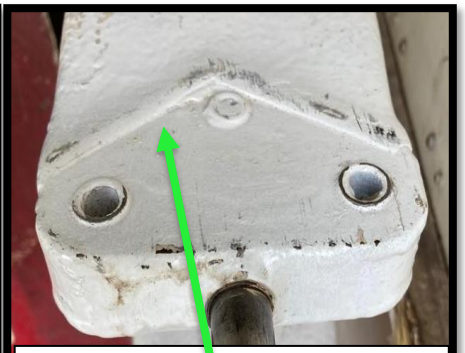
3 All Libelle variants, Hornet and 401 Kestrel spar fittings LBA AD 74-323/2 Mandatory

TN201-31.pdf (streifly.de)

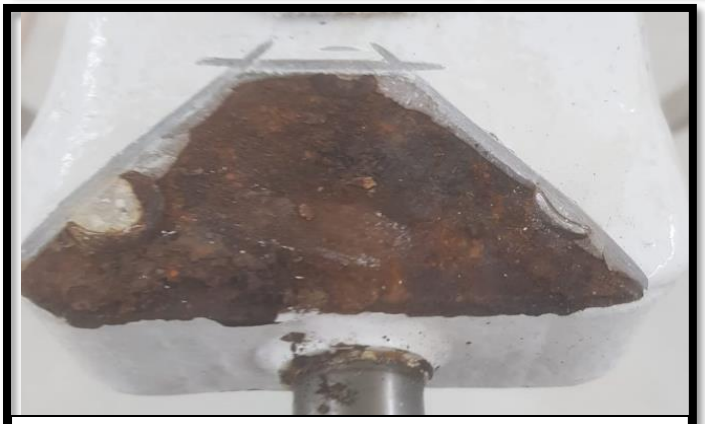
Annual check of Spar fitting corrosion and GRP wrap delamination. We have found that this old AD from 1996 has not always been repeated annually and is not well understood. The end of the spar requires annual inspections for the GRP spar wrap separating from the metal fitting underneath it. But when separation is found (usually due to corrosion of the metal), we are finding that the correct repair scheme has not always been followed. Contact Streifly for support. Glasfaser Flugzeugservice (streifly.de)

Obvious separation of spar wrap from metal fitting

But the other side of the spar wraps has previously been cut away to treat corrosion! The wrap should have been replaced



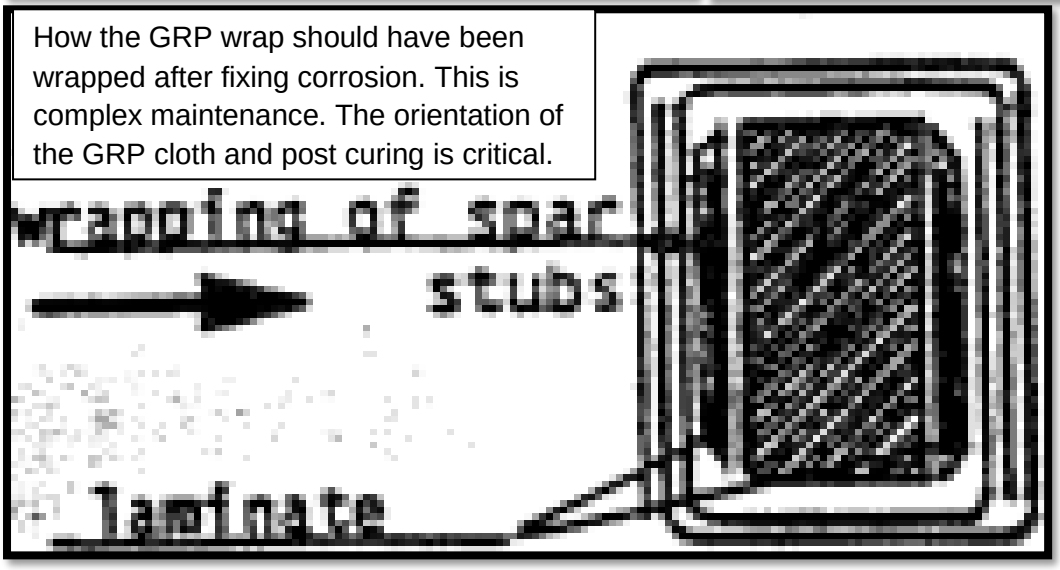
Another wing that has had the spar wrap cut away to treat corrosion, and not replaced.



This amount of corrosion requires the removal of the metal fitting and very likely replacement.

Now removed, the fitting might need to be replaced. Contact Streifly about the rivets.

How the GRP wrap should have been wrapped after fixing corrosion. This is complex maintenance. The orientation of the GRP cloth and post curing is critical.



EASA Proposed Airworthiness Directives (PAD)

4 Ka 6, K 7, K 8, K13, K16 and K18 **EASA PAD 21-100** **Optional/recommended**

EASA_PAD_21-100_1

Schleicher has issued a Technical Note (TN) that includes *recommendations* regarding operational use of wooden gliders. In response, EASA has suggested a *Proposed* Airworthiness Directive (PAD). The PAD currently focusses on an elevator root rib glue joint inspection, which originates from a previous (1972) AD.

The BGA identified a requirement for all glue joints to be inspected 16 years ago and has a mandatory BGA glue inspection program (currently issue 6). In its TN, Schleicher suggest that the BGA glue inspection is carried out to these sailplanes (but does not mandate it). All the Schleicher wooden sailplanes maintained within the BGA airworthiness system are already subjected to the BGA glue inspection programme.

The BGA has subject matter expertise in this area of airworthiness and has been in consultation on the issue for several years with EASA and Schleicher. The BGA intends (note: it is not our decision) that the final version of the EASA Proposed AD will include the entire BGA glue inspection regime. If that occurs, all the non-BGA Schleicher wooden sailplanes will have the same level of inspection and integrity as the current BGA variants and therefore recommendations regarding operational use would be unnecessary.

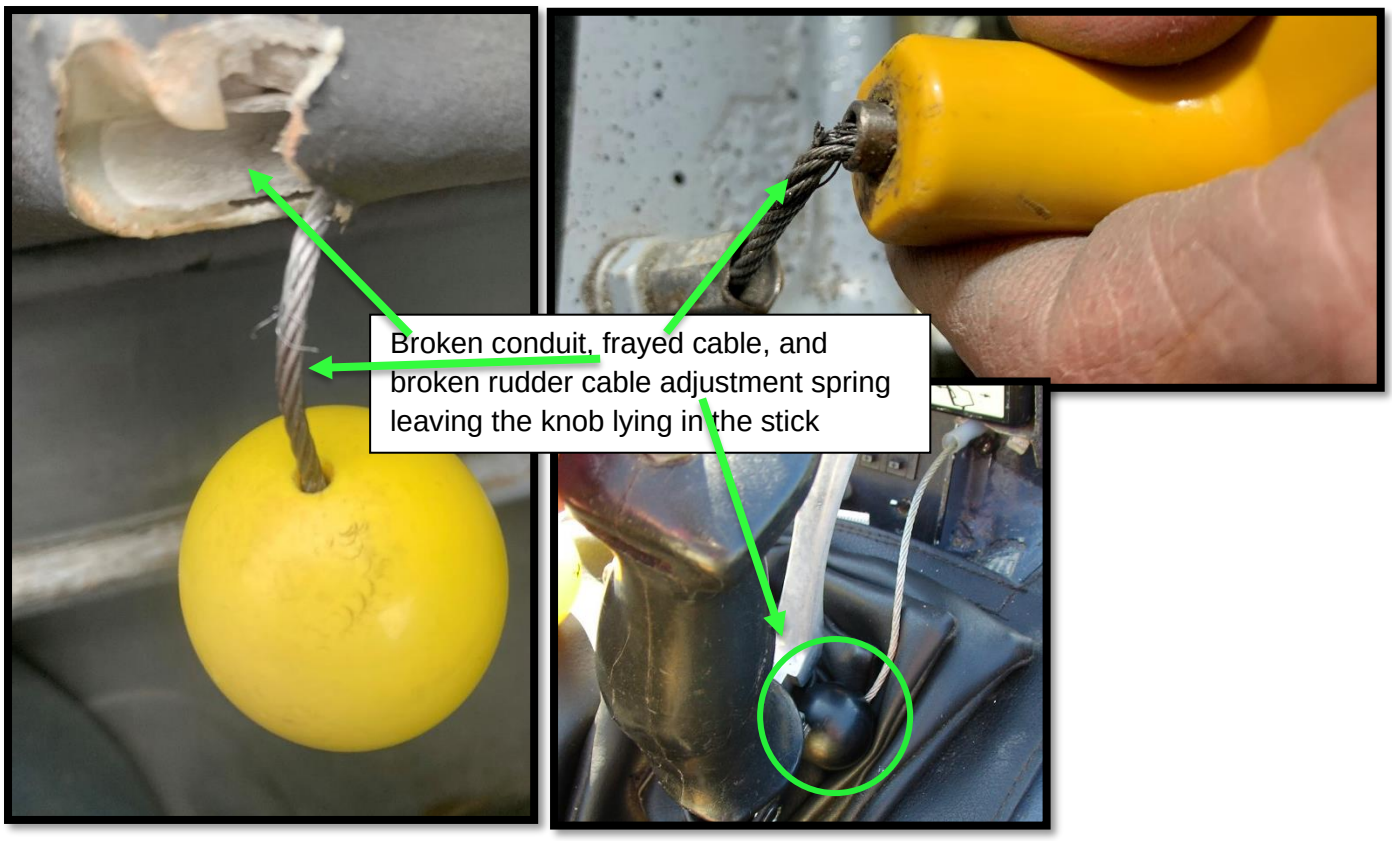
CAA Safety Notices None since last TNS

Reported issues

5 ASK21 includes lots of types, including decompressors and pedal adjustment return springs & knobs **Advisory**

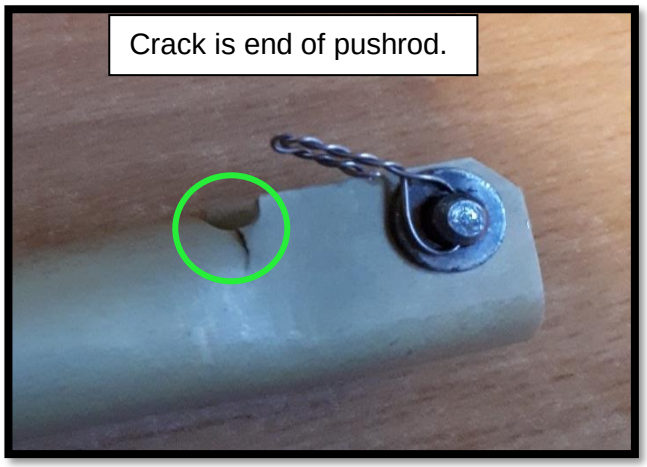
All gliders have release knobs, pedal adjustment systems and some have engine decompressors. In a well utilised glider that does maybe thousands of launches a year, they must be in perfect condition when it leaves the workshop after annual inspection.

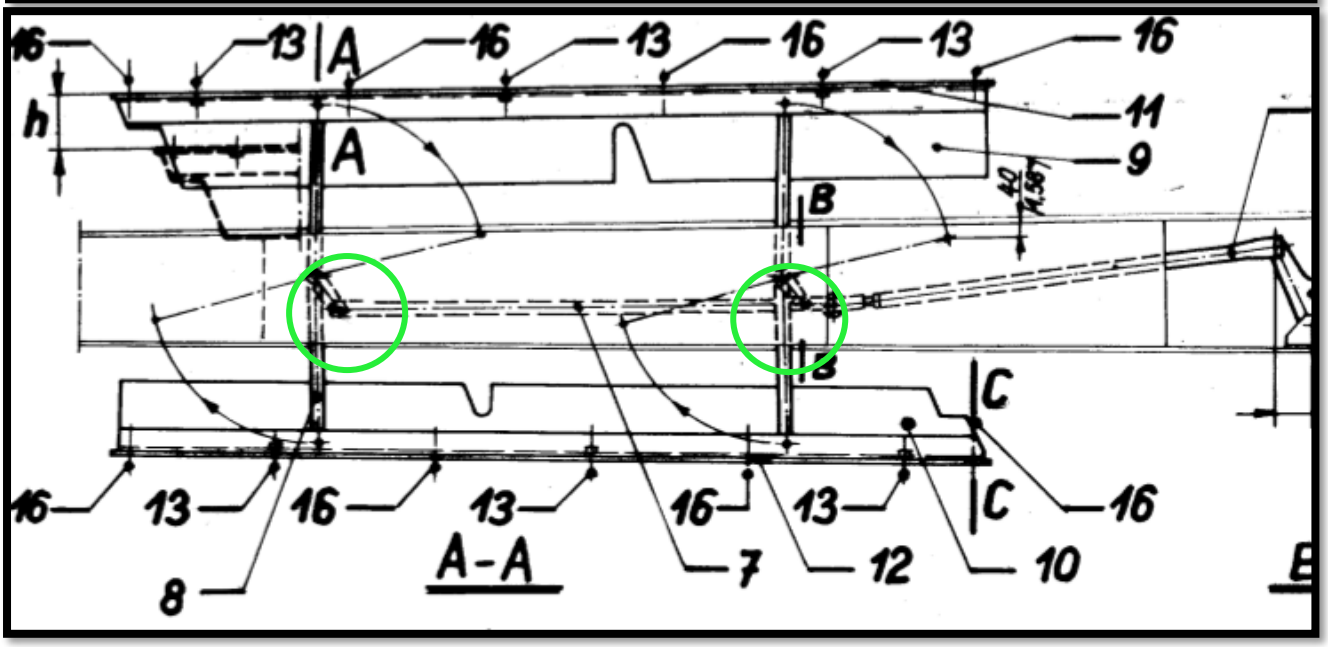
If not, they rapidly deteriorate (see below). Frayed cables (many of them draw blood from the users), nylon guide ripped, and a pedal return spring broken are correct reasons to make these glider U/S. Pilots performing a DI should be taught this is not acceptable. For high utilization club gliders, an occasional thorough DI by a BGA inspector should find these problems and get them fixed in a timely manner.



6 **Puchacz** Crack in Puchacz Airbrake Arm Push rod. **Advisory**

This is not an easy spot. There is not much space in the air brake box (note, some later Puchacz's have a different end fitting). Inspect thoroughly at next maintenance and report to the BGA if any problems found.





7 **Puchacz** Life extension progress **Advisory**

Bernd Hagar (owner of Allstar) has provided the below update and given permission for us to pass it on.

The status of The program for life extension for Puchacz up to 12.000 hours is as follows:
In Nov. 2020 EASA accepted the application for the Life Extension of the TC holder Allstar PZL Glider Sp. z o.o., Bielsko-Biala under Task No. 0060076043.EASA appointed ULC Polish CAA as Certification Officer.

Allstar engineers worked out a Certification Program, which has been presented in the meantime to ULC. Currently intense discussions of technical details are still going on. Furthermore, Puchacz's long history under JAR and Ostiv regulations and according documentation and manuals must be brought into conformity with current EASA regulation.

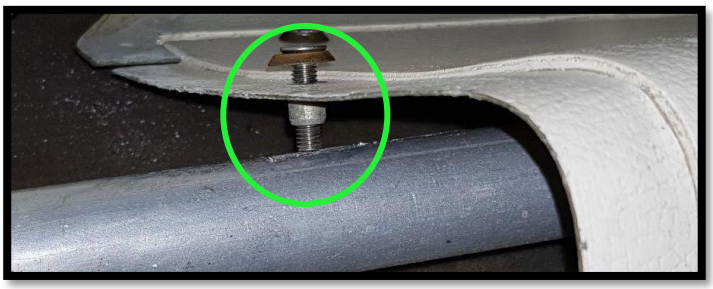
8 Duo XLT and other types with is propellor engine combination **Advisory**

The manual says check this daily. With good reason - the hubs still crack on a very regular basis. The pilots must know what to look for. This one had 44 hours. Failure to spot this on the DI has previously resulted in blade separation with a lot of associated damage (and having to land with restricted controlled because the blade was embedded in the fuselage.

Damage done when a previous crack was not spotted early enough

9 Wrong size screw in wrong hole causes control restriction and damages pushrod **Advisory**

A lot of gliders have very specific size screws for specific holes. Alas, the sailplane manufacturers often neglect to tell us this in their manuals. So, if after taking the cockpit screws out if there are some screws of different length, there is most likely a good reason for it! You must put the correct screw in the correct hole.



10 Duo XL and possible Arcus with manual U/C **Advisory**

https://der78rjp0cfsg.cloudfront.net/uploads/files/bibliotheek/KNVVL-CVZ-OR-I-2020-005-English.pdf?mtime=20200723215002&focal=none

An interesting report on Duo XL (Arcus is believed to be similar) U/C failure. Apart from the suggested welded metal improvements, the gas strut is a factor as well, as this drives the U/C directly rather than through the retract mechanism.

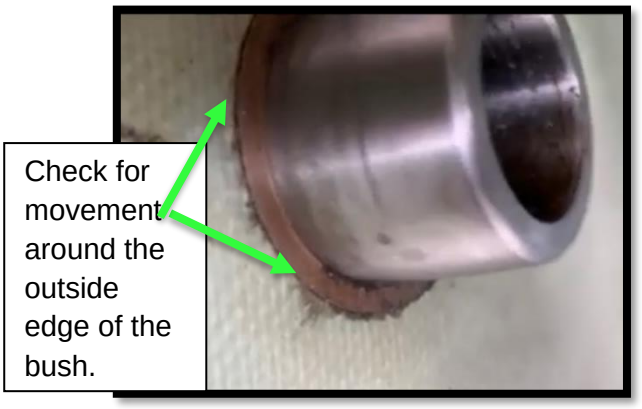
If the gas strut has failed (quite common), the increased load on the retract mechanism will hasten its failure. Check the gas strut regularly and change it the moment you notice U/C retraction/extension loads change.

11 How to check spar bushes are secure in the wings on composite gliders **Advisory**

https://youtu.be/1wlkaZYHQHs

Look at this video and make sure all spar bushes are attached when doing inspections for heavy landings, annuals, and ground loops.

Only use approved repair schemes if having to replace them.

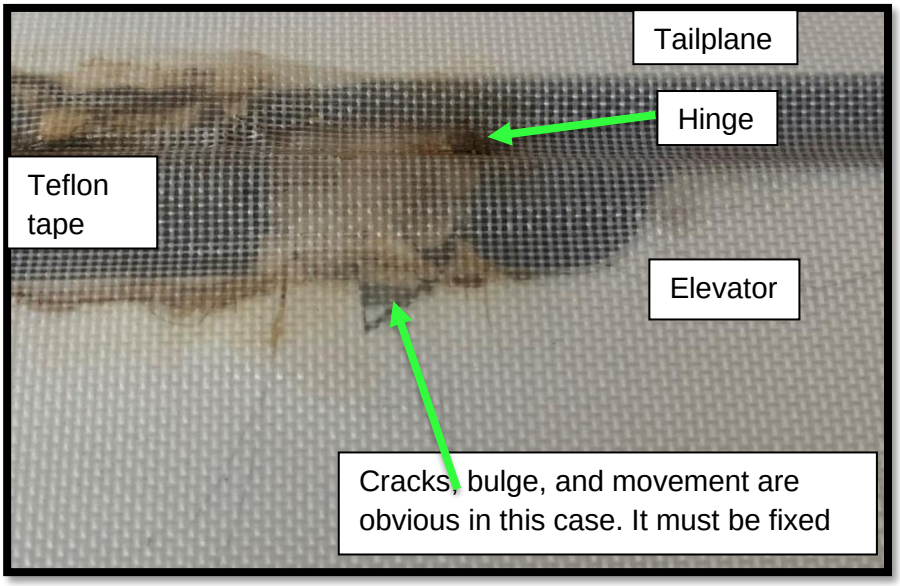


12 Astir/Twin Astir hinges and importance of inspecting them **Advisory**

The original Astirs and Twin Astirs are now well over 40 years. Unfortunately, the corrosion protection of the steel hinges sandwiched in the GRP in aileron, rudder and elevator was minimal. As a result, most of them have corrosion. The hinge becomes unbonded from the inner surface of the control surface, then it is only held in place by the top skin. When you apply a up/down force on the hinge the excess play and movement becomes obvious. Too many inspectors are not finding this defect. Do not be afraid to remove mylar to check it if there is any doubt.

The picture is a Twin Astir hinge that was covered in Telfon tape that was bleached clear by UV.

The only way to fix this is to cut away the top skin, remove the hinge, treat the hinge corrosion, or replace the hinge, prepare the GRP (most likely it has a layer of rust with 40 years of oil on it!), jig and bond the hinge into place and then splice new GRP skin, paint, and lastly check for mass balance limit compliance (do this before you start, I would suggest!)



13 Fitting the correct tyres. Most gliders **Advisory**

This is not a new problem. We have recently had worn away GRP tailwheel boxes and stuck undercarriages because the correct size tyre was fitted, but the tyre was the wrong profile. All manufactures of tyres have slight variations in size and construction. When inflated they can expand differently. Most gliders only have one make and specific tyre that fit them perfectly. But unhelpfully this fact is not usually mentioned in the flight/maintenance manuals

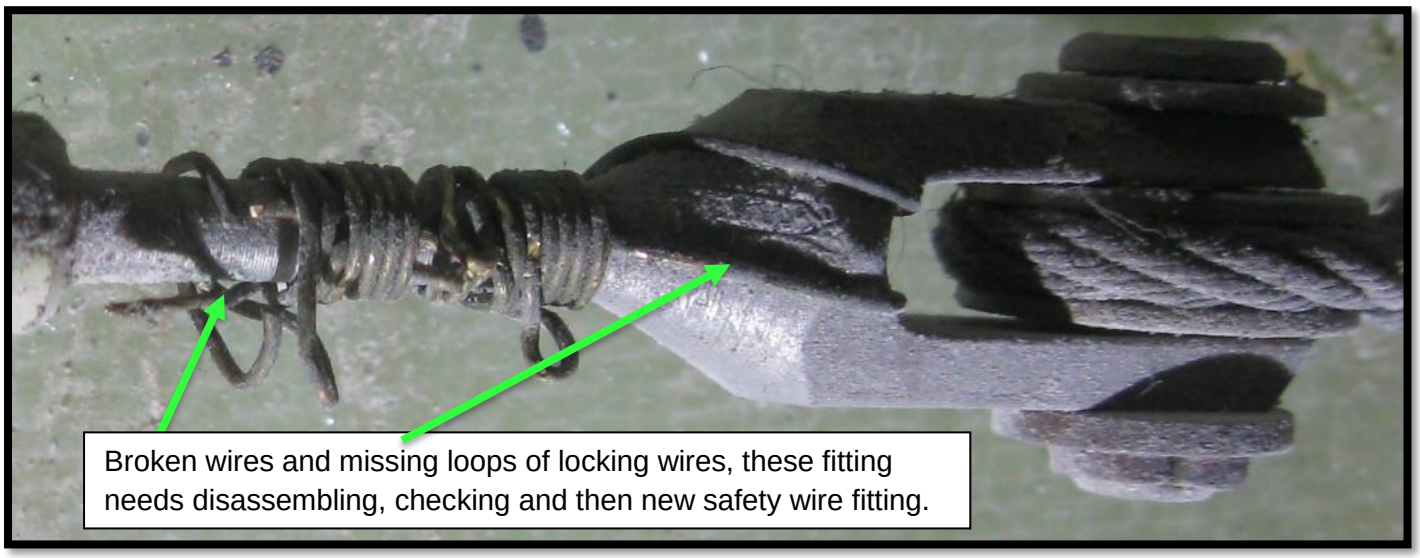
Unlike a car and most powered aircraft, Sailplanes wheel boxes often have minimal clearance of the tyre and are intolerant of different manufactures and profiles of tyres.

If in doubt as to what tyre you need (manufacture, size, profile number of plies ect), contact the Type Certificate holder for the exact tyre you need. See link to learn more about tyres. Tyre Sizes Explained | Watts Aviation Aircraft Tyres

14 **MDM1Fox** Tunbuckle locking on Polish sailplanes, reported by Dietmar Pol **Advisory**

Some Polish gliders used a different type of locking wire of turnbuckles compared to the standard locking wire used in other gliders. In this case there is a suspicion that the locking wires were contaminated with hydraulic fluid because the reservoir sits above them.

They then became brittle and started breaking. If you have this cable system, inspect them to make sure they have not become brittle and broken. Please inform the BGA if you find a problem.



BGA updates to forms and procedures

15 A few of you have noticed the BGA has made minor tweaks to all our BGA Part 21 paperwork that has a Certificate to Release of Service (CRS) on it.

Due to regulation changes**,** for Part 21 aircraft (formally EASA) the BGA is no longer a CAMO (Continuous Aviation Maintenance Organization) and is now a CAO (Combine Aviation Organisation) with a new CAA approval number of **CAA CAO.UK. 0025.**

This affects all the BGA worksheets and paperwork (the ARC templates were changed seamlessly). All paperwork for Part 21 aircraft must now use the new paperwork and CRS. CRS Example below.

Part 21 aircraft (formally known as EASA Aircraft)
BGA Inspector or Part 66 Engineers Certificate of Release to Service ML.A.801(e) CAA Approval No. UK.CAO.0025
#☐ Certifies that the work specified, except as otherwise specified, was carried out in accordance with Part-ML, and in respect to that work, the aircraft is considered ready for release to service

16 A reminder that ARCs must have a Maintenance work order from the aircraft maintenance manager.

17 A reminder that if you have not issued an ARC or completed an ARC course in the last 12 month, then your ARC currency lapses. If you issue an ARC, it will be non-compliant and will be rejected. This is a hard EASA rule that the BGA cannot change. You need to complete an ARC under supervision (get permission from CTO to authorise the supervising ARC person) or complete an ARC course (usually only run in the Winter)

18 Inspector refresher/Arc/Human Factor courses.

All these courses are now separate and will be run on zoom. We are now generally limited to 12 people per course. The BGA will send out dates shortly.

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 4, Amendment 2021/01 date 25 June 2021
State of Design Airworthiness Directives: review date 16/009/21
CAA Airworthiness Directives reviewed 16/09/21

For reference:

FAA Summary of Airworthiness Directives: Small Aircraft, Biweekly 2021-19, 08/30/2021 - 09/12/2021
EASA Airworthiness Directives: review date 16/09/2021
EASA Airworthiness Directives: bi-weekly issue 18 2021-08-23 2021-09-05
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 Part21 motor gliders/tugs only)
BGA GMP: Issue 1, amendment 2 (for non-Part 21 gliders only)
BGA SDMP 267 (for EASA sailplanes and powered sailplanes only) updated 30/07/2021 Part M Light AMC

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