



Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Developments in General Aviation

The perspective of the European sailplane manufacturers

by

Werner Scholz, Spokesman of the
European Sailplane Manufacturers



Maintenance & Production Conference - Cologne 09.Sep.2015



Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



The person

Who is doing this presentation?

Werner Scholz

- active glider pilot & instructor (from age 15 on)
- aerospace engineer (University of Stuttgart)
- working for a sailplane manufacturer 1997 – 2003 (last 2 years as head of design organisation)
- since then member of an independent design office, supporting several certification projects and organisation approval processes
- speaker for the European sailplane manufacturers since 2004 with regular visits to EASA
- active in the German Aero Club, OSTIV and Europe Air Sports





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Introduction

„The European sailplane manufacturers“

- two associations:
 - European Glider Manufacturers and Suppliers association, Czech Republic, Slovenia, Lithuania
 - Verband deutscher Segelflugzeughersteller, Germany
- approx. 20 manufacturers of sailplanes in Europe
- representing nearly 90 % of world-wide production
- more than 20.000 sailplanes produced
- typical small companies (10 – 120 employees)
- often very long tradition (up to nearly 90 years)





Manufacturers & Occurrences

How are we already involved? (1)

- We know "our market" (= the approx. 70 000 operators & the Sport organisations) very well since a long time
- Occurrences / accidents lead to a loss of pilots
→ this will erode our market, therefore we care a lot!!!
- As TC holders any safety problem due to airworthiness issues become known immediately...
... for initial AW this is really seldom the case
... for continuing AW the issues are mostly minor
- As POA / DOA and sometimes MOA holders we already are obliged to report such occurrences





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Manufacturers & Occurrences

How are we already involved? (2)

- We are also “part of the community”
... most accountable persons at manufacturers / maintenance organisations are glider pilots
- This gliding community is a rather close-knit group
... nobody can fly / operate alone
... practically all clubs and many MO are run on a club/federation basis with non-paid volunteers
... the community is rather open-minded & friendly
... open exchange about flight optimization and weather
→ other glider pilots are comrades and often friends!
- A typical manufacturer often has a customer base and partner company network grown over a long time
... communication is easy and well working internally





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



International organisations

How is information spread across borders?

- Gliding is mostly organised in the member organisations of Europe Air Sports (= all EU air sporting federations)
- Additional cooperation and exchange of data within the European Gliding Union (= all gliding associations)
- Further work done in the OSTIV (organisation scientifique et technique internationale du vol a voile) in the sailplane development panel and the safety & training panel (OSTIV is part of the FAI gliding sporting organisation)





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Safety status today

What is the situation in gliding today? (1)

- Gliding very strong in Germany
(> 40% of sailplanes, > 35 % of glider pilots in Europe)
- Internal European Gliding Union data shows that types of operation and accident rates and causes don't vary much between member states
- Germany has a dedicated accident investigation system (BFU data base) which covers all German registered sailplanes and German glider pilots

➔ Germany safety & accident data is good representation of gliding in Europe in general



Maintenance & Production Conference - Cologne 09.Sep.2015



Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Safety status today

What is the situation in gliding today? (2)

- approx. 30.000 pilots & 12.000 sailplanes in Germany
- Annually approx. 100 accidents / 10 fatalities...
... typically no damage to third parties on the ground
- Statistically only minor variations, mostly due to the
"gliding season weather" (i.e. the amount of flying)
(data 2004 to 2013, www.bfu-web.de)
- BFU has a list with all accidents and reports for accidents
of special interest





Safety status today

What is the situation in gliding today? (3)

- The main causes in fatal accidents are
 - ... loss of control during take-off or landing
 - ... ground contact during outlandings
 - ... ground contact or loss of control in the mountains
 - ... mid-air collisions during thermalling
- Accidents due to technical (airworthiness) reasons are extreme rare
 - ➔ design / production / maintenance
 - ...all these three fields could have much less supervision!
- Safety situation in gliding is well known since years





Safety status today

What is the situation in gliding today? (3)

- The main causes in fatal accidents are
 - ... loss of control during take-off or landing
 - ... ground contact during climb or landing
 - ... ground contact with obstacles or terrain
 - ... misjudgment of altitude
- Accidents with technical (airworthiness) reasons are extremely rare
 - design / production / maintenance
 - ...all these three fields could have much less supervision!
- Safety situation in gliding is well known since years

How to reduce this supervision?





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Improved maintenance rules Part-M Task Force

- The safety situation in gliding is not much different to other fields within the General Aviation communities
- EASA asked for feedback to improve maintenance rules in fall 2011, workshop on 27.Okt.2011
→ at the workshop fast improvement was promised
- a Part-M Task Force was formed after the workshop with members from authorities / industry / air sport & maintenance representatives
- since then this Task Force has met 12 times





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Improved maintenance rules

Part-M Task Force – Phase 1

- The task force first concentrated on “easy to implement” changes within Part-M (called “Phase 1”)
 - ➔ NPA 2012-17 published Oct.2012
 - ➔ CRD & Opinion 10-2013 published Oct.2013
 - ➔ Amendment of Part-M as Reg. 2015/1088 in Jul.2015
- simplified AMP (aircraft maintenance programmes)
- AMP declaration by the owner instead of approval
- optional issuance of ARC by maintenance organisation
- most simplifications limited to ELA1 aircraft operated non-commercially





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Improved maintenance rules

Part-M Task Force – Phase 2

- The task force then looked into further simplifications within Part-M (called “Phase 2”)
 - ➔ NPA 2015-08 published Jul.2015 (still open for comments)
 - ➔ CRD / Opinion / Implementation within 2 years??
- creation of a new Part-ML (“Part-M light”)
- simplifications now limited to ELA2 aircraft





Improved maintenance rules

Part-M Task Force – expected benefits

The expected positive results of these rule changes are:

- less effort to create a valid AMP → good for owner
- less effort for the possibility to issue ARCs
→ good for maintenance organisations (145 & M/F)
- (hopefully) easier-to-understand rules
→ good for all parties (owner / organisations / NAAs)





Improved maintenance rules

Part-M Task Force – expected issues

The expected not-so-positive results of these rule changes are:

- more options and possibilities = more complicated rule
→ issue for everyone
- ARCs now not a sole privilege of CAMOs
→ issue for all CAMOs
- AMP-declaration opens flexible TBO application
→ issue for (some) NAAs
→ perhaps also an issue for some manufacturers





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Improved maintenance rules

Part-M Task Force – possible further actions

The task force sees already further ways to improve:

- much improved communication of existing rules by exceeding “classic rules & AMC”
 - ➔ EASA & NAA need to inform the communities better!!
- more radical simplification of rules
 - ➔ only possible if Basic Regulation can be adapted!!





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Maintenance personnel for ELA aircraft B2L & L licences

- dedicated certifying staff licences for ELA aircraft have been proposed by EASA:
 - ➔ Opinion 04/2009 from Dec.2009
 - ... not accepted by member states
 - ➔ Opinion 05/2015 from Jun.2015
 - ... Implementation within 1-2 years?
- simplified path to get the licence
- no obligatory training syllabus
- “ratings” for different construction types and propulsion systems





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Maintenance personnel for ELA aircraft B2L & L licences – possible obstacles

- some NAAs / member states have indicated after the according NPA that certifying staff should be more regulated than proposed in Opinion
- the still valid national licences do often not fit to the existing Part-M rules
- some NAAs oppose proposed rules as they loose direct oversight of certifying staff personnel outside their country





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



CS-STAN standard changes & repairs

- industry / air sport communities have asked for a European counterpart of AC 43.13-1B since 2004
- additionally typical small repairs and modifications needed simpler approval process
- EASA has now published CS-STAN and according changes to Part-M and Part-21 have been introduced
- the described standard changes & repairs may now be installed and “approved” by a release to service in the field by according certifying staff
→ just starting, experience & feedback will come





Organisations approval rules still too complicated and expensive (1)

- manufacturers of small aircraft still need simplified rules for
 - obtaining a production organisation approval
 - obtaining the design organisation approval
 - keeping these approvals
- main issues are
 - too complex rules
 - implementation by NAAs
(which often do not fully apply / understand these rules)
 - too much oversight without safety benefit
 - oversight focused on paperwork, not the real work
 - need for re-doing of according manuals / papers...





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Organisations approval rules still too complicated and expensive (2)

- maintenance organisations seem to have the same issues
- often the different application of the same rules in different member states or even different corners within one state is frustrating
- rules are often tailored for application in large organisations, which need many detailed procedures and processes (whereas small organisations rely on direct communication)
- the result is a still ongoing reduction of small organisations





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Possible way forward

How to improve for PO/DO/MO/CAMO?

- Allow use of more declarative organisation manuals instead of requiring extensive description of procedures which are in reality never used this way
- Give incentives to the responsible managers to ask for support by NAA instead of using NAA as an oversight and control function
- Give NAAs incentives to work with organisations by supporting them and take away the load to supervise and “micromanage” all organisations





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



Possible way forward

How to improve for PO/DO/MO/CAMO?

- use existing data and reporting possibilities and do not require new and unneeded new tools where no benefit is to be expected
- Avoid introduction of penalties in fields of aviation where no money is made by flying
- Use the motivation of the organisation to do their job good and of the operators to have safe aircraft





Verband Deutscher
Segelflugzeughersteller e.V.

European Glider Manufacturers
and Suppliers association



GA Roadmap

How to enhance safety in GA?

- EASA and EU commission have already indicated that general aviation needs better rules...
... the GA Roadmap is today forming
- Do not try to improve by more rules but by offering more flexibility and support to all parties involved !!!



GA Roadmap:
towards simpler, lighter,
better rules for General Aviation





**Verband Deutscher
Segelflugzeughersteller e.V.**

**European Glider Manufacturers
and Suppliers association**



**Thank you -
any questions?**



Maintenance & Production Conference - Cologne 09.Sep.2015