



## COMMENT RESPONSE DOCUMENT

EASA PAD No. 17-108

[Published on 04 August 2017 and officially closed for comments on 01 September 2017]

**Commenter 1: Helibras – Alan Aciole – 07/08/2017**

### Comment # 1

The PAD 17-108 suggests these seat restraint systems are known to be installed on models cited in the PAD, but not limited to, but we have others aircraft that the PN are identical in the beginning.

I find it interesting, even if the extension of AD to other models is not applicable, at least the visual inspection of the seat restraint systems to ensure non-applicability.

e.g.

model not affected for PAD 17-108:

Part Name	Part Number	Life Limit	Remarks
<b>Pilot / Copilot Seats (25-11-00)</b>			
Seat Belts	1-10-XXXXXX 1-09-XXXXXX	12 years	[1]

PN similar:

### Applicability:

Schroth Safety Products (hereafter referred to as “Schroth” in this AD) seat restraint systems Part Number (P/N) 4-01-( ), P/N 4-02-( ), P/N 4-03-( ), P/N 4-04-( ), P/N 1-09-043201BCR, P/N 1-09-483D01 and P/N 510100-01 REVA, all dash numbers, all serial numbers, if equipped with a buckle type as listed in Appendix 1 of this AD.

### EASA response:

**Comment not agreed: recent standard for AD writing at EASA does not require inspection of the part to determine whether it is affected.**



*The operator can determine whether a part is affected by means of visual inspection, or by reviewing the maintenance records, provided the NAA (responsible for AD enforcement) agrees on the selected method. Being not an AD requirement, this action does not need to be recorded as compliance to an AD.*

*To be noted that the AD is applicable to the seat restraint system, as identified in the applicability section of the AD. The list of aircraft having the affected parts installed is only provided for convenience, and may be not exhaustive.*

*If a review of maintenance records can not reliably exclude that an affected restraint system is installed, other methods, e.g. a visual inspection of the restraint system actually installed, must be used to determine if further action is needed, as required by the AD.*

*No changes have been made to the Final AD in response to this comment*

**Commenter 2: Max Aviation – Fabio Arelli – 09/08/2017**

#### **Comment # 2**

Reading the text of the AD, it is not perfectly understandable in the field of the required actions and compliance times.

1. It is not clear, if the AD is applicable only to aircraft approved for aerobatic flight that installs the affected buckle or to all aircrafts.
2. On page 2 of the PAD:

"Replacement:

(2) After replacing each affected part (see Note 1 of this AD) on an aircraft with a not affected part, in accordance with applicable aircraft maintenance instructions, the placard and AFM amendment, as required by paragraph (1) of this AD, can be removed from that aircraft."

Why is it necessary replace each affected part on an aircraft "with a not affected part"? What does it mean? If the part is not affected, why must I replace it?

#### **EASA response:**

**Comment noted. The AD is applicable to seat restraint system identified in the "applicability" of the AD.**

**For aircraft certified in the aerobatic category, if equipped with an affected part, the AD requires amendment of the AFM.**

**The AD does not require replacing an affected part with a not affected one. Operators may replace affected part with not affected ones and, after that replacement, the AFM amendment can be removed.**

**The AD prohibits (re)installation of affected parts on aeroplanes, certified in the aerobatic category, that are not equipped, or are no longer equipped, with an affected part.**



*No changes have been made to the Final AD in response to this comment*

**Commenter 3: DG-Flugzeugbau GmbH – Jelmer Wassenaar – 11/08/2017**

**Comment # 3**

We have reviewed the PAD 17-108, regarding Schroth safety belts and aerobatics.

In their SB 40.073-25-01, Schroth limits the problem only to aerobatics using aircraft of airworthiness category Aerobatic (A).

In the PAD there is made no such nuance. Furthermore, the cockpit placard even prohibits intentional spinning.

The unsafe condition found by Schroth was caused by highly pre-tensed safety belts, combined with changing loads on the belt buckle. These changing loads were caused by alternately flying positive g and negative g maneuvers.

This kind of load profile on the safety belt buckle is typical to arise during an aerobatic program flown in an aircraft in the airworthiness category Aerobatic (A), which might include negative g maneuvers. The aerobatic figures for the Utility Category are limited to positive g maneuvers (at minimum 0 g in a stall turn), including spins, according to CS22.3. Hence it's highly unlikely that such a (+/-) changing load profile will occur with category U airplanes, which will lead to the unintentional opening of the Schroth safety harness buckle in flight.

Since we are TC holder of products that are either in Utility (U) or Aerobatic (A), this would make a huge difference for the amount of customers that are involved.

Taking the above in consideration, we would like the EASA to rephrase the AD and include the limitation for aircraft in the airworthiness category A only, just as Schroth does in their abovementioned SB.

**EASA response:**

**Comment agreed. The final AD has been amended accordingly**

**Commenter 4: European Sailplane Manufacturers – Werner Scholz – 31/08/2017**

**Comment # 4**



On behalf of the European Sailplane Manufacturers I would like to offer the following comment on the PAD 17-108 regarding the use of certain Schroth safety belts in sailplanes when performing aerobatics.

I was absent in summer holidays for some time and therefore only recently could forward regarding questions from sailplane manufacturers to the Schroth company. Accordingly I was not yet able to get any feedback from Schroth and because of this my comment is just a direct translation of the comments / questions I have sent to Schroth as well.

As discussed by telephone [with a Schroth employee], the sailplane manufacturers seeks clarification whether all types of aerobatics shall not longer be allowed for regarding Schroth safety belts or whether only figures with negative load factors should be forbidden and whether spinning shall be included or not.

Background and discussion:

In the safety information [e.g. document <SIL\_SSP-007\_Acrobatic\_German\_2017-01-20.pdf> taken from the Schroth factory homepage] it is explained that changing loads upon the latches might lead to movement of the retaining pin(s) away from the locked position or even opening of the latch. The described up and down movement of the latches would be associated by us (the sailplane manufacturers) with aerobatic flight with changing positive and negative load factors, i.e. the occupant is partly "hanging in the straps".

Imposing the proposed limitations for such cases seems to be appropriate to us and we agree here with the content of the PAD.

But on the other side it is also the case, that during normal flight operations (no aerobatics but e.g. cross-country flights) also changing load factors occur, which are ALWAYS POSITIVE. Between seating into the cockpit, buckling up, straight and circling flight and in-flight turbulences the pilot experiences load factors in the range of approx. +1 to 0.5 or +1 to +3 g. To our understanding the PAD does not aim at such types of operations and also we understand that no problems have been reported for such flights or load cases.

It has now to be understood that sailplane training (training to become a sailplane pilot, not aerobatic training) includes demonstration and training of spins. Due to the fact that spinning is considered to be also an aerobatic manoeuvre, the information of Schroth and the PAD could now be interpreted in a way, that for such spins also certain Schroth safety belts must not be used. Nevertheless, such exercises also result only into positive load factors between approx. +0.5 and +3 g. [Therefore a much higher number of safety belts would need replacement, including a large percentage of the two-seater training sailplanes operated by flying clubs.]

Therefore we ask for clarification that this case (demonstration and training of spins) is not to be included into the applicability of the PAD - or to clarify, whether this is also a critical case.

Even more, there is another question going even further, whether simple aerobatics with positive figures only (e.g. Looping, Lazy Eight, Hammerhead turn, steep turns) could then be also exempted. Here the typical load factor range is approx. +0 to +5 g. We ask you for clarification here as well.

We are aware that the EASA PAD asks for comments until 1st September, therefore we herewith signal also to EASA that we are still awaiting response from Schroth (because of the late date of contacting Schroth due to the summer holidays).



**Additional comment sent on 04 September 2017:**

I got now also additional feedback from the Schroth company by telephone contact end of last week.

The Schroth employees confirmed my view that flying with changing g-loads will not lead to the problems described (including opening of the latches) when only positive g-loads are experienced by the occupant.

Furthermore, they also shared my opinion that performing spins or spin training will not lead to the problems.

Therefore, I herewith ask you to modify the PAD / AD in a way that only aerobatics where negative g-loads are expected should lead to a mandatory replacement of said Schroth safety belts.

***EASA response:***

***See EASA answer to comment #3***

