Title
SERVICE BULLETIN 40.073-25-01

Project
Acrobatic Flying – Category A

Subject
Equipment / Furnishings – Restraint systems with SCHROTH rotary buckles types SL 10.xx, SL 11.xx; SL 12.xx, SL 14.xx SL 15.xx and SL 40.xx

Part Numbers
4-01-( ), 4-02-( ), 4-03-( ), 4-04-( ), 1-09-043201BCR, 1-09-483D01 and 510100-01 REVA

A. ACCEPTANCE PAGE

Release Basic Issue

	Name	Date	Signature
compiled	Klaus Polachowski	07.07.2017	i.V.
released	Stefan Meier-Arndt	07.07.2017	
approved	Martin Nadol	07.07.2017	

B. LIST OF REVISIONS

Issue	Date	Effect on page(s)	Reason(s) for Revision
00	July 07, 2017	all	first issue
compiled Polachowski		released Meier-Arndt	

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C. REFERENCES

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1 PLANNING INFORMATION

1.1 Effectivity

SCHROTH harness restraint systems, having P/Ns (all Rev. levels):

4-01-( )

4-02-( )

4-03-( )

4-04-( )

1-09-043201BCR

1-09-483D01

510100-01 REVA

If equipped with SCHROTH rotary buckle types SL 10.xx, or SL 11.xx, or SL 12.xx, or SL 14.xx, or SL 15.xx or SL 40.xx, as listed in table 1-1.

All SCHROTH harness restraint systems, with a date of manufacture or date of modification of 07/17 (week/year) or later, equipped with SCHROTH rotary buckles not listed in table 1-1, hence are not affected by this Service Bulletin.

These restraints are known to be installed on, but not limited to, the following aircraft:

Grob	109B, 115, 115A, 115B with SB1078-133
	115C, 115D (SCHROTH Option)
	115E, 115EG, 115TA
	120A, 120AC, 120AF, 120AI, 120TP
DG	DG-300 Elan Acro
	DG-300 Club ELAN Acro
	DG-500 ELAN Trainer
	DG-500 ELAN Orion
	DG-1000S (17,2 or 18m without winglets)
	DG-1000T (17,2 or 18m without winglets)
de Havilland	Tiger Moth

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Scottish Aviation	Bulldog
Schleicher	ASK 21
Swift	MDM-1 Fox
Pilatus	Pilatus PC II B4
	PC-11
Piper	PA18
Focke Wulf	
Robin	Robin R2163
	Fournier RF5
Silence Aircraft	Silence Twister

1.2 Concurrent Requirements

None

1.3 Reason

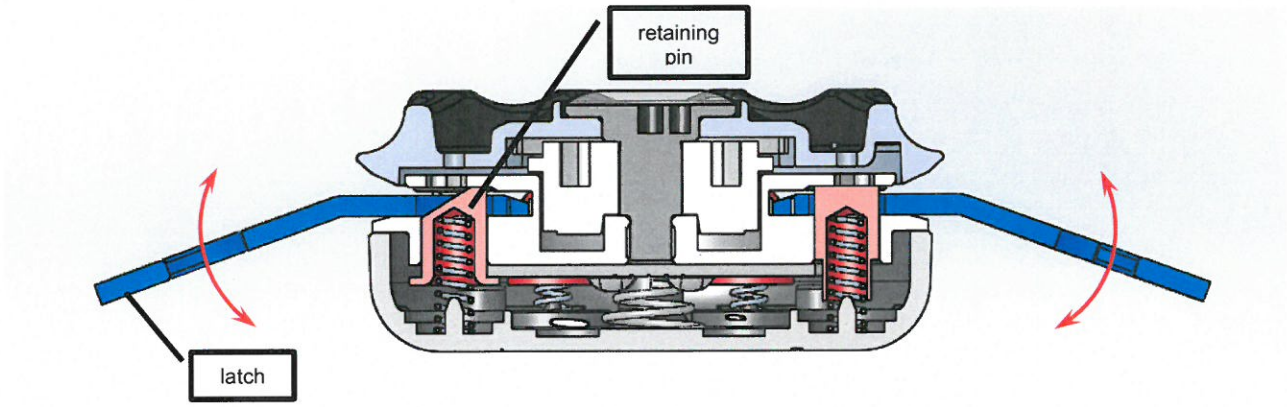
This Service Bulletin has been issued to advise category A acrobatic aircraft operators of potential issues with some SCHROTH harness restraint systems if used for acrobatic flying. It has been noted that in some cases it is possible that an individual latch of the restraint system could be unfastened from the buckle without prior activation of the release mechanism.

Investigation has shown that this effect is caused by certain patterns of load changes that typically occur during acrobatic flying in combination with very tightly attached belts. Such operating conditions may result in unusually high abrasive wear of the retaining pins and/or the latches which, in turn, creates the conditions for an inadvertent release of an individual latch.

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Due to the typical load changes during acrobatic flying the latches may be induced to move as indicated by the red arrows in Picture 1.

This movement may gradually push down the retaining pins which are responsible for latching the individual straps of the restraint system. Due to the continuous load that may be applied to the straps during acrobatic flying, the spring force may not be sufficient to push the retaining pin back into the correct locking position. In some cases the retaining pin could be moved so far out that a strap may become unfastened.



Picture 1: buckle assembly

1.4 Description

For use in category A acrobatic airplanes (both gliders and motorised aircraft) SCHROTH Safety Products GmbH limits the permissible buckle variants to approved buckle types with special configurations for acrobatic flying.

Any restraint systems with buckle types other than those with permissible configurations must not be used for any regular or occasional acrobatic flying.

Any restraint systems with buckle types approved for acrobatic flying are subject to a maximum lifetime of 5 years from the date of manufacture if regularly or occasionally used for acrobatic flying. Such restraint systems must be replaced after 5 years regardless of whether the use for acrobatic flying continues or not.

Any restraint systems, intended to be used for acrobatic flying but not equipped with an approved buckle for acrobatic flying, has to be returned to SCHROTH safety Products GmbH for buckle replacement. The P/N of these restraint systems will get an upgraded revision level. Replacement of the restraint system must be done by qualified aircraft ground personnel or by inspector of the respective aviation authority. Any restraint rework must be carried out by the restraint manufacturer only.

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1.5 Compliance

This Service Bulletin has been classified Mandatory.
It is expected that an Airworthiness Directive (AD) published by the European Aviation Safety Agency (EASA) will be issued to confirm this classification. Reference should be made to the AD for confirmation of the mandated accomplishment timescale.

1.6 Approval

JTSO-C114 and TSO- C114

The technical content of this Service Bulletin has been approved by the APDO of SCHROTH Safety Products GmbH (Approval number EASA.AP210).

1.7 Manpower

~ 5 min. per restraint

1.8 Material - Cost and Availability

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1.9 Tooling

No special tooling necessary.

1.10 Weight and Balance

Not Applicable

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1.11 Electrical Load Data

Not Applicable

1.12 References

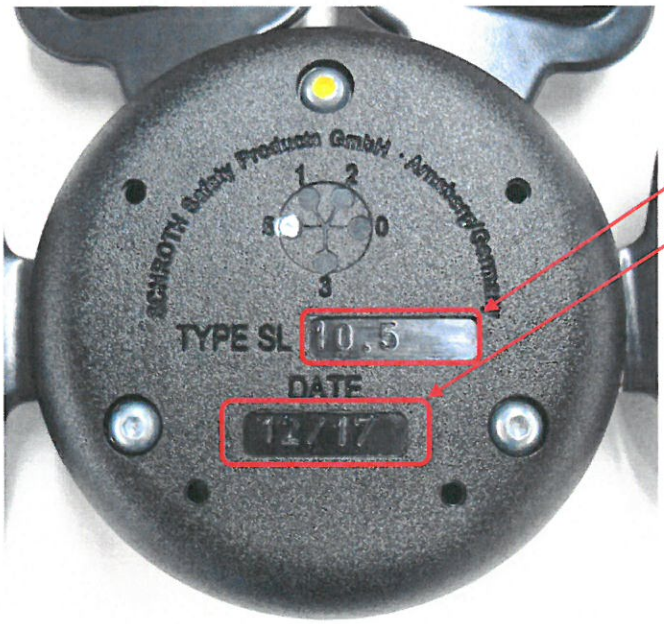
None

1.13 Other Publications Affected

None

2 ACCOMPLISHMENT INSTRUCTIONS

Buckle type and date of manufacture identification



Buckle Type in this example is SL 10.5

The date of manufacture in this example is 12/17 (week 12 in 2017)

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Table 1-1 – Affected Buckle Types	
Buckle Type	**Applicability**
SL 10.0	Buckle must not be used for acrobatic flying.
SL 10.05	Buckle must not be used for acrobatic flying.
SL 10.06	Buckle must not be used for acrobatic flying.
SL 10.0A	Buckle must not be used for acrobatic flying.
SL 10.0AV	Buckle must not be used for acrobatic flying.
SL 10.0V	Buckle must not be used for acrobatic flying.
SL 10.0Y	Buckle must not be used for acrobatic flying.
SL 10.0Z	Buckle must not be used for acrobatic flying.
SL 10.3	Buckle must not be used for acrobatic flying.
SL 10.3A	Buckle must not be used for acrobatic flying.
SL 10.3Y	Buckle must not be used for acrobatic flying.
SL 10.5	Buckle must not be used for acrobatic flying.
SL 10.55	Buckle must not be used for acrobatic flying.
SL 10.56	Buckle must not be used for acrobatic flying.
SL 10.5A	Buckle must not be used for acrobatic flying.
SL 10.5Y	Buckle must not be used for acrobatic flying.
SL 10.5Z	Buckle must not be used for acrobatic flying.
SL 10.8	Buckle must not be used for acrobatic flying.
SL 10.8B	Buckle must not be used for acrobatic flying.
SL 10.8Y	Buckle must not be used for acrobatic flying.
SL 10.9	Buckle must not be used for acrobatic flying.
SL 11.0	Buckle must not be used for acrobatic flying.
SL 11.05	Buckle must not be used for acrobatic flying.
SL 11.0A	Buckle must not be used for acrobatic flying.
SL 11.0Y	Buckle must not be used for acrobatic flying.
SL 11.3	Buckle must not be used for acrobatic flying.
SL 11.5	Buckle must not be used for acrobatic flying.
SL 11.5Y	Buckle must not be used for acrobatic flying.
SL 12.0	Buckle must not be used for acrobatic flying.
SL 12.0A	Buckle must not be used for acrobatic flying.
SL 12.0U	Buckle must not be used for acrobatic flying.
SL 12.0UK	Buckle must not be used for acrobatic flying.
SL 12.0Y	Buckle must not be used for acrobatic flying.
SL 12.3	Buckle must not be used for acrobatic flying.
SL 12.3A	Buckle must not be used for acrobatic flying.
SL 12.3Y	Buckle must not be used for acrobatic flying.
SL 12.5	Buckle must not be used for acrobatic flying.
SL 12.5A	Buckle must not be used for acrobatic flying.
SL 12.5U	Buckle must not be used for acrobatic flying.
SL 12.5Y	Buckle must not be used for acrobatic flying.
SL 12.9	Buckle must not be used for acrobatic flying.
SL 12.9J	Buckle must not be used for acrobatic flying.
SL 14.0	Buckle must not be used for acrobatic flying.
SL 14.0A	Buckle must not be used for acrobatic flying.
SL 14.0Y	Buckle must not be used for acrobatic flying.

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Table 1-1 – Affected Buckle Types	
Buckle Type	**Applicability**
SL 14.3	Buckle must not be used for acrobatic flying.
SL 14.5	Buckle must not be used for acrobatic flying.
SL 14.5A	Buckle must not be used for acrobatic flying.
SL 14.5Y	Buckle must not be used for acrobatic flying.
SL 15.3A	Buckle must not be used for acrobatic flying.
SL 15.6	Buckle must not be used for acrobatic flying.
SL 15.67	Buckle must not be used for acrobatic flying.
SL 15.6A	Buckle must not be used for acrobatic flying.
SL 15.75	Buckle must not be used for acrobatic flying.
SL 15.7A	Buckle must not be used for acrobatic flying.
SL 40.0	Buckle must not be used for acrobatic flying
SL 40.0V	Buckle must not be used for acrobatic flying
SL 40.3V	Buckle must not be used for acrobatic flying
SL 40.3X	Buckle must not be used for acrobatic flying.
SL 40.5	Buckle must not be used for acrobatic flying.
SL 40.5X	Buckle must not be used for acrobatic flying.

Table 1-1: affected buckle types

Table 1-2 – Not Affected Buckle Types	
Buckle Type	**Applicability**
SL 10.02	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.025	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.02V	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.0R	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.0RZ	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.32	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.32Y	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.52	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 10.5R	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.02	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.02A	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.02U	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.32	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.52	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.52U	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 12.5R	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 14.52	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 15.62	Buckle can be used for acrobatic with a lifetime of max. 5 years
SL 15.62Y	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 17.6R	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 40.32	Buckle can be used for acrobatic with a lifetime of max. 5 years.
SL 40.32X	Buckle can be used for acrobatic with a lifetime of max. 5 years.

Table 1-2: not affected buckle types

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4 Material Information

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