

Subject: Trim ballast for spin flights (spin ballast)

Applicability: ASK 21, FAA TCDS G 47 EU
All **U.S. registered ASK 21**, which are operated with the FAA-approved manuals:

- A) If yet no attachment for spin ballast at the tail has been installed, action A has to be accomplished.
- B) If Technical Note 4 has already been carried out on the glider, action B has to be accomplished.
- C) If Technical Note 4a has already been carried out on the glider, action C has to be accomplished.

Urgency:

- A) Optional, on owner's request
- B) Before the next flight with spin ballast, but not later than June 7, 2014
- C) Before the next flight with spin ballast, but not later than June 7, 2014

Reason:

- A) The sailplane ASK 21 only spins with in flight C.G. of $r = 400$ mm and more. This TN describes the action to be accomplished in order to do spin training, two-seated, when the spin ballast is fitted.

The ASK 21 can then be used for spin training in order to counteract the fact that uncontrollable flight attitudes (wing dropping, incipient and full spins etc.) constitute a large part of the major accidents.

- B) The Technical Note 4, which was only approved in Switzerland, gives only few information for the correct determination of the necessary spin ballast, and provides no protection against single seated flights with forgotten spin ballast attached.
- C) Technical Note 4a provides only essential information. The following addition is supposed to better prepare pilots for using spin ballast. Especially with pilot weights of less than 70kg on the front seat, some pilots had problems to enter a stationary spin. In few cases it was tried to compensate this with deviating from the spin ballast table. The new spin ballast table changes the mass and balance scheme for this case. In one case it was observed that incorrectly sealed control surface gaps might have delayed recovery.

Action:

- A) Installation
The spin ballast kit must be installed according to drawing L-339.10-S.32 Tr 2 (the same as for TN4). In addition to the details given in the drawing the following resin systems are also permissible: MGS L285 / H285 / H286 / H287 and L335 / H335 / H338 / H340 (curing time 15h at 60°C).

The following manual pages must be exchanged against / or inserted as new ones. The exchange / insertion has to be logged in the Amendments record of the manuals.

Update of the Flight Manual

Pages	Revision Status	Remark
3, 4, 7, 14, 15, 16, 21, 34, 36, 48	TN4bUS / 12.Dec.12	exchange
34a, 47a	TN4bUS / 12.Dec.12	insert
47b	TN4bUS / 12.Dec.12	request from manufacturer (see below)
Appendix 1 to the Flight Manual	TN4bUS / 12.Dec.12	insert 5 pages
Appendix 2 to the Flight Manual	TN4bUS / 12.Dec.12	insert 9 pages

Update of the Instructions for Continued Airworthiness

Pages	Revision Status	Remark
36, 38, 39, 43, 49, 49, 50, 51, 52, 53, 59	TN4bUS / 12.Dec.12	exchange

Cockpit placard

Within the sight of the pilot the following placard must be affixed:

“Attention – Check spin ballast! Only use spin ballast for flights with two pilots!”

Must be either red letters on white ground or white letters on red ground.

One bolt M8 must be fitted into the instrument panel (from the back side) and secured. It must be located such that the securing nut and washer of the spin ballast - when the spin ballast is removed - can be fixed onto this bolt at the front of the instrument panel and thereby cover the text of the above placard.



- B) Pages 12a, 12b, und 12c are to be removed from the Flight Manual. The cockpit placard („1. Trudelballast am Rumpfheck abgebaut? ..“) is to be removed.

The following manual pages must be exchanged against / or inserted as new ones. The exchange / insertion has to be logged in the Log of Revision of the manuals.

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- C) The following manual pages must be exchanged against / or inserted as new ones. The exchange / insertion has to be logged in the Amendments record of the manuals.

Update of the Flight Manual

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Appendix 1 to the Flight Manual	TN4bUS / 12.Dec.12	insert 5 pages
Appendix 2 to the Flight Manual	TN4bUS / 12.Dec.12	insert 9 pages

Pages 7, 14, 15, 16, 36, 48 are identical to the corresponding pages with revision status “TN4a Nov06”, but are exchanged, since they are supplied anyway. Page 48 may be kept, in order to preserve the entries.

Page 21 of TN4a erroneously carries the page number 18.

Update of the Instructions for Continued Airworthiness

Pages	Revision Status	Remark
36, 38, 39, 43, 49, 49, 50, 51, 52, 53, 59	TN4bUS / 12.Dec.12	exchange

Pages 38, 43, 49, 50, 51, 52, 53 are identical to the corresponding pages with revision status “TN4a Nov06”, but are exchanged, since they are supplied anyway. Page 38 may be kept, in order to preserve the entries.

Weight (mass) and Balance:

- A) A new weighing is required. The Weight and Balance sheets in the Manuals and the data placard in the cockpit have to be updated.
According to the Manual, a spin ballast table has to be requested.
- B) According to the Manual, a spin ballast table has to be requested.
- C) According to the Manual, a spin ballast table has to be requested. Provided the existent spin ballast table according to TN 4a is still valid, it can further be used, as long as the upmost three rows (141lbs / 146lbs / 150lbs respectively 64kg / 66kg / 68kg pilot mass incl. parachute in front seat) are deleted.

Periodic Actions: Spin Ballast Table:

The spin ballast table has to be requested from the manufacturer. With the request copies of the current weight and balance form and the equipment list, signed by an appropriate inspector, have to be sent.

After every weighing any spin ballast-table must be removed (see Manual), and a new one has to be requested. Removing the spin ballast-table does not compromise the air-

worthiness of the ASK 21. But without valid spin ballast-table, the glider may not be used with spin ballast at the tail.

Material and Drawings:

See Action. For A) refer to drawing L-339.10-S.32 Tr 2 (like TN4), as well a hexagon head screw M8x25 DIN 933-8.8 with transverse hole, and for the attachment of this screw on the instrument panel a flat, self-locking nut.

Accomplishment: The manual pages can be downloaded from the internet pages of Alexander Schleicher (www.alexander-schleicher.de), among the Technical Notes.

All actions are to be released to service by certifying staff according EC 2042/2003 Part M / Part 66¹, and has to be attested in the inspection records and in the log-book. The change to the manual is considered being eligible for release by the Pilot-owner pursuant to M.A.801(b)3 and must be entered in the Amendments record.

In countries outside the scope of EC 2042/2003 the corresponding national rules shall apply.


This Technical Note was set up according to the Alternative Procedures to DOA EASA.AP138.

This Technical Note bases on changes, which were approved by EASA under the approvals EASA 2004-12058 and EASA 10043937.

Poppenhausen, 31.10.13

Alexander Schleicher

GmbH & Co.

i.A. 

(M. Greiner)

¹ As long as no provisions for certifying staff for sailplanes and powered sailplanes were laid down, relevant legislation of the member states is applicable (§66.A.100).