

Subject: Inspection and interior preservation of the wing spar.

Serial number applicability: All gliders ASW 17.

Compliance: Action as per point 1.1 through 1.3 prior to July 31, 1989. All further action before December 31, 1989, at the latest.

Reason: Following penetration of water into the spar interior it is possible that under certain conditions a wood destroying mould fungus develops in the spar inside. This mould fungus may affect and destroy the balsawood spar webs and the plywood blocks of the spar to such an extent that the supporting function of the spar webs is no longer sufficient. This may lead eventually to the premature failure of the wing.

Action:

- 1.1 The wing spar must be visually inspected for penetrated moisture, mould fungi and/or swelling up !
Mould fungi attack shows as discoloration of the wood into blue, brown or grey hues or as white mold fungi in lumpy shape or in cobweb-shaped, but irregular threads.
- 1.2 For this purpose drill holes of \varnothing 28 mm (see Fig.1) must be made, using a key hole saw (Fig.2). Through these inspection holes the spar inside must be inspected, using an endoscope or a suitable mirror with suitable lighting mechanism (e.g. pocket-lamp bulbs soldered on two stiff, approx. 1 m long wires), and checked for moisture, discoloration and wood-destroying mould fungi; (move the source of light along the spar inside).
The drill cores which you get with the use of the key-hole saw and which must be correspondingly marked for the purpose of assigning them to the drill holes, must be sent in for a microscopical examination in view of possible fungal damage to one of the institutes listed under "Notes, point 2.". At the front ends of the spar fork and spar tongue the paint must be removed (see Fig.3) and the wood must be checked with the so-called "fingernail" test.
- 1.3 If it is found that the wood parts of the spar inside are not damaged by moisture and/or fungal infection, the drilled inspection holes must be reinforced by a GRP-circular disk and then closed by means of a rubber stopper (see Fig. 4).
Prior to this, the spar inside must be sprayed out with a solvent-containing preservative in accordance with DIN 68 800, e.g. Aidol Fertigbau 100 made by REMMERS, D-4573 Lönigen, Tel.: 05432-83-0 (see Fig. 5). When using this product "Aidol" you will need about 100 g. It

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has to be regarded that the edges of the drill holes are preserved again (see Fig. 4).

The bore hole remaining within the GRP-circular disk is intended as gate for later inspections and the holes in the rubber stoppers are required for ventilation.

With the accomplishment of the above action the glider is airworthy again for the time being and flight operations can be continued pending the results of the microscopical examination (refer to Points 3.1 and 3.2).

2.1 If a swelling up is clearly visible or if there is suspicion that water has penetrated into the spar fork or into the spar stub, the main pin bushing must be removed and the interior between the bushings must be inspected (see Fig. 6).

Normally the main pin bushings are level with the main spar winding or lie slightly back respectively.

2.2 If discoloration or wood-destroying mould fungi attack is found on the balsawood webs and/or plywood blocks, the manufacturer or a licensed aviation repair station must be contacted for repair instructions and repair or replacement of the whole component to re-obtain airworthiness.

3.1 If the microscopical examination of the bore cores (as mentioned in Point 1.2) finds that there is heavy wood-destroying fungal infection of considerable extent, which calls into question the airworthiness of the glider / motorglider, on recommendation of the mycologist and by request of the LBA another systematically controlled visual inspection of the spar must be done by a mycology specialist using an endoscope. Then proceed to Point 2.2.

3.2 If this further endoscopical inspection then shows no damage to the wood parts inside the spar (caused by moisture and/or mould fungi attack), the aircraft is again airworthy without any restrictions.

4. In the Operation Manual the page 32 must be exchanged for page 32 with the reference entry "TN No.12 dated 08.05.1989". The exchange of this page in the Manual must be documented on the page 3 "Amendments to the Manual".

Material & drawings:

The GRP-circular disks, the rubber stopper, the Manual page and the wood preservative are available from the manufacturer and his agencies.

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Notes:

1. The "Action, points 1.1 thru 3.2" must only be carried out by the manufacturer or by a technical aviation service station holding an appropriate license. "Action, point 4." can be carried out by the owner himself. The accomplishment of this mod must be certified by a licensed aviation inspector in the glider's inspection documents and in the log-book.

2. Addresses of the institutes:

Bundesamt für Materialforschung und Prüfung
Biologische Materialprüfung
Unter den Eichen 87
D-1000 Berlin 45
Tel: 030-8104-5100

Bundesforschungsanstalt für Forst- und Holzwirtschaft
Institut für Holzbiologie und Holzschutz
Leuschnerstr. 91
D-2050 Hamburg 80
Tel.: 040-73962-280

Fraunhofer-Institut für Holzforschung
Bienroder Weg 54 E
3300 Braunschweig
Tel.: 0531-3909-336

3. The inspection according to above para "Action, point 3.1" must be done by the mycology specialists at the Fraunhofer Institute at Braunschweig. It is recommended that a competent person with knowledge of the subject (e.g. aviation inspector or repair station manager) is present during the inspection in order to assist the mycology specialist.

4. Aircraft owners in foreign countries are not bound to call in the above mycology specialist stated under "Notes: point 3." The Aviation Authority of the respective country may name a suitable specialist in their country.

5. Because of the difficulties to import AIDOL 100 into several overseas countries (e.g. USA): to help our customers in those countries the use of the US-Product DAP Woodlife Clear Wood Preservative is herewith accepted as equivalent to AIDOL 100. When using this DAP product, you will however need two treatments of

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each 50 g. One application of 50 g has to be made as a first step and then the wing must well dry off. Afterwards the wing must be rotated by 180° and another 50 g have to be applied. Make sure that DAP Woodlife Clear Wood Preservative has really completely dried out before the glider is taken back into operation.

Poppenhausen, May 8, 1989

ALEXANDER SCHLEICHER
GmbH & Co.

i.A. 
L.W. Juntow.

The German original of this Technical Note has been approved by the LBA under the date of May 11, 1989 (signature: SCHMALJOHANN). The translation into English has been done by best knowledge and judgement; in any case of doubt the German original is controlling.

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