

III.13.5 Filling Inspection

As part of the annual inspection a trial filling should be carried out. Check for water escaping from the water bags, and for dripping valves.

III.13.6 Inspection Program to Extend Service Life

General

Fatigue tests on CFRP wings and CFRP wing spars have shown that a service life expectancy of 12000 hours can be reached for these components without problems. However, as this fatigue test program did not examine the entire aircraft made of CFRP and GRP, this service life of 12000 hours can be granted only if the long-term airworthiness of each individual aircraft is demonstrated in a special multi-stage inspection program (over and above the mandatory annual C of A inspections) for the purpose of extending the service life.

Time Limits

When the aircraft has reached a service life of 3000, 6000, and 9000 hours respectively, an inspection must be carried out in accordance with a particular inspection program laid down by Messrs. Schleicher, from whom a copy of this program must be obtained. If the results of this inspection are positive in each case, or if any defects discovered have been correctly repaired, the service life of the aircraft is extended after its 9000 hours inspection by another 3000 hours, i.e. to a total of 12000 hours.

For a possible extension of service life beyond 12000 hours, detailed requirements will be established in due course.

Inspection Program

The appropriate inspection program must be obtained from Messrs.Schleicher. The inspections may be carried out only by the manufacturer, or by an appropriately licensed aircraft repairer.

The results of the inspections must be listed in an inspection report in which each item must be annotated with a comprehensive comment, as laid down.

If the inspection is **not** carried out by the manufacturer, but by a licensed aircraft repairer, a copy of the filled in inspection report **must** be forwarded to Messrs. SCHLEICHER for the purpose of evaluation. Messrs. SCHLEICHER will issue an acknowledgement of receipt and send it back to the aircraft owner. Only then the inspector must certify the increase of the service life in the logbook and in the aircraft inspection records.

The need for annual Certificate of Airworthiness inspections and overhauls is not affected by this rule (for German registered aircraft § 27 (1) LuftGerPO* applies). *LuftGerPO = Aircraft Examination Rules

III.14 SPECIAL SERVICING PROCEDURES

At regular intervals of five years, the sealing rings and circlip seals of the water ballast valves must be replaced.

Rudder control cables and towing hook release cable must be replaced after each **3000 operating hours** respectively!

III.15. PERIODICAL INSPECTIONS

At regular intervals

- if the aircraft is in constant use, we recommend an interval of 100 hours - but in any case no later than during the annual inspection, the following checks must be carried out:

1. The entire aircraft must be examined for paintwork cracks, holes and buckles, which then must be made good.
2. A check for foreign bodies must be carried out in the entire aircraft; to do this the seat pan and cockpit back wall must be removed.
3. Are all fittings in a satisfactory condition ? No play, cracks, scratches nor corrosion appeared?
4. Are all other metal parts free from corrosion?
If necessary repaint; using a primer on synthetic resin basis.
5. There must be no significant play in the fuselage / wing or fuselage / tailplane connections; see also Chapter III.10.

6. The condition of all accessible bearings, fittings, joints and control cables in the control linkages must be checked.

Annual check must be done on rudder cables, S-shape cable guide tubes, towing hook release cable, and on all Bowden cables. Particular attention must be paid to those areas of the control cables which with the normal pedal movements are bent at the ends of the S-shape cable guide tubes, and to the visible towing hook release cable ends.

Watch particularly for hand sweat and corrosion inside the Bowden cable sleeve (regard the FAA Advisory Circular AC 43-13.1A § 198, see LBA-Circular No. 10-02/89-1 dated 21.08.89!).

NOTE: Check the rudder cables inside the area of the steel tube 'S' by moving the pedals back into the rearmost position and then undoing the cables at their front mounting.

NOTE: The closed components like the interior of the wings, fuselage tail cone, fin and stabilizer are usually not very strongly soiled. If in doubt examine them by means of an endoscope.

7. The controls, including the airbrakes, must be subjected to an operational test, and their control movements measured.
8. If any control is not free-moving over its entire range of movement, then the cause is to be established and eliminated.
9. The condition of the main landing gear and tail skid (foam skid with wear plate respectively pneumatic tailwheel) including tire and brake linings must be checked.
10. The pressure openings (Pitot and static pressure ports) on the fuselage are to be checked for blockages and leaks.
11. Condition and function and - if applicable - maximum permissible operation time of all instruments and VHF transceiver are to be checked!
12. An examination of the condition and function of the tow release mechanism must be carried out. The operating cables must be free-moving, and in the locked state of the tow release hook, the operating cable must still have play, i.e. must not be under tension.

13. The emergency canopy jettisoning system must be operated, and examined for corrosion and burrs etc. If necessary, correct faults and in all cases regrease!
14. The water bags and valves are to be checked for watertightness and correct operation (see III.13.4).
15. The wing bending frequency is to be measured and compared with the stated value in the latest inspection report. For this test the fuselage must be rigidly supported on two supports, in order to obtain comparable values; for the position of the supports see Fig. 3.4-1!
16. Check that the equipment and instrumentation are in accordance with the Equipment inventory.
17. After repairs or alterations to the equipment the new empty weight and the C.G. position are to be found by calculation or weighing, and are to be recorded in a summary of weights.
18. Prevention against flutter by checking the sealing of the wing control surface gaps and the blow turbulators.
 - a) Sealing with a plastic-treated fabric tape (TESA-BAND): the plastic coat on the fabric must not be damaged, discolored or even weather-worn. The tape must not tighten with full control surface deflections (negative).
 - b) Sealing with an elastic lip (steel or plastic respectively) :
Check that there is a Teflon sealing tape underneath and that it is not damaged. Even with full control surface deflections (negative) a 100 % airtight fit of the steel (or plastic) lip must be guaranteed.
 - c) The blow turbulators must be checked for proper operation: blow with slight pressure, e.g. with a vacuum cleaner, (do not use compressed air!) into the Pitot tubes and feel at the blow holes that they are free; they can be cleaned with a thin steel wire, \varnothing 0,5 mm (0,02 in).

IV. ACCESSORIES

IV.1. MANUALS

- a) On-board logbook;
- b) Flight Manual ASW 20 C, December 1983 edition;
- c) Maintenance Manual ASW 20 C, December 1983 edition;
- d) Glider's service record map;
- e) Notes on operation and maintenance for the safety towing hooks. "Europa G 72" and "Europa G 73", May 1975 edition.

IV.2. TOOLS

Special Allen key for the assembly of the horizontal tailplane.

DATE: June 2, 1983	AUTHOR: Heide	CORRECTION: TN no.31 of 24.06.87
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Repair Instruction K dated 18.05.84:

Maintenance Instruction L dated 26.01.90

The general "Maintenance Instruction ALL FRP GLIDER MODELS", dated June 19, 1986 describes the removing of play between the sockets (= bushings) and bolts (= pins) of the wing-to-fuselage transition.

The general "Maintenance Instruction PAINT CRACKS" dated June 26, 1989, describes how to inspect, preserve, and repair the paint surface.