



# SERVICE LETTER SL-GROB-001/1

## I. TECHNICAL DETAILS

### 1.1 Aircraft affected:

	Serial Number	
ASTIR CS	1001-1536	
ASTIR CS 77	1601-1844	
ASTIR CS JEANS	2001-2248	
STANDARD ASTIR II	5001-5061 (S)	
CLUB ASTIR II	5002-5061 (C)	
G102 STANDARD ASTIR III	5501-5562 (S)	
G102 CLUB ASTIR III	5501-5562 (C)	
G102 CLUB ASTIR IIIb	5501-5562 (Cb)	
SPEED ASTIR II	4001-4027	
SPEED ASTIR IIb	4028-4107	
TWIN ASTIR	3000-3291	
TWIN ASTIR TRAINER	3088-3291 (T)	
G103 TWIN II	3501-3729	
G103A TWIN II ACRO	3544-34078 (K)	
G103C TWIN III ACRO	34101-34203	
G103C TWIN III	36001-36014	
G103C TWIN III SL	35002-35051	
G109	6001-6159	
G109B	6200-6445	
	6501-6575	

### 1.2 Subject:

ATA-Code: 5 Maintenance Checks

### 1.3 Reason:

Recent experience during scheduled maintenance at GROB (e.g. Annual Inspection, 3000 hrs Inspection) has shown, that aircraft returned to GROB occasionally reveal a considerable state of neglect. The respective Maintenance Manuals provide information regarding general care of composite aircraft.

GROB have received isolated reports of flutter. Inspection and further investigation revealed, that in all affected aircraft flutter could be directly linked to lack of proper maintenance and several typical symptoms and factors resulting thereof. These are described in the following paragraphs.



GROB have received several reports, indicating corrosion of metal parts and disintegration of internal plywood parts, caused by lack of proper care, outdoor storage, insufficient protection from moisture and precipitation.

Please note, that this Service Letter does not replace any existing servicing / maintenance instructions. The intention of this Service Letter is to focus the attention of any owner / operator of GROB aircraft towards proper care and maintenance of composite aircraft.

## **1.4 Information:**

### **1. Storage**

During parking and storage any aircraft should be protected from environmental influences to the maximum extent possible. Avoid precipitation as well as intense exposure to sunlight. Water, moisture, snow and ice must be carefully removed before storage. If previously exposed to intense precipitation, it may become necessary to dismantle the aircraft to drain all water from the interior, in particular however from any control surface. Let the aircraft dry off completely before storage. Bare metal parts should be preserved before entering long-term storage. The glider should only be stored in a well ventilated, cool and dry hangar or trailer. Any condensation of moisture should be avoided.

### **2. Pre-flight Inspection for the first flight of a day**

Before the first flight of a day, the glider must be inspected for any external or internal pollution and contamination. After longer storage periods, inspect the glider for water accumulation, condition of the drain holes (especially in the control surfaces) and FOD. Before each flight, inspect the tight and safe connection of the flight controls. Carefully assess play in any control surface movement. Worn out quick connectors, bushings and hinges induce additional play and may alter flight characteristics. Opposite control surfaces must display the same internal bending strength. Any difference may be an indicator of internal damage, disbonding etc.

### **3. Annual Inspection / 100h Inspection**

Note: National requirements must be adhered to. Also the National Gliding Associations provide comprehensive inspection lists to supplement the manufacturers instructions. At least once a year, the aircraft must be inspected carefully. The wings and the empennage must be removed from the aircraft. Protective tapes are to be removed to allow optimum access. All bearings and movable parts must be inspected for excessive wear; decay and corrosion must be removed, worn out items must be replaced. The flight control system (control rods, levers, bearings, hinges, control surfaces) must be easy to move, no noticeable mechanic play must be apparent. Major contributing factors causing play are worn out bushings and/or hinge bolts on the control surfaces. Note: any mechanical flight control system is also subject to some minor elastic play, so sound judgement is required.

GROB have occasionally inspected aircraft, where control surface hinges were found to be torn off the surrounding structure. This will result in unwanted control surface deflections as well as a general loss of structural reliability.



The fiberglass structure must be inspected for structural integrity. The painted surface must be in a good condition (no bubbles, no paint cracks). Missing or insufficient coating must be reworked or renewed accordingly.

The internal wooden parts must be inspected for signs of decay and de-lamination.

#### **4. Repair**

Any repair must be executed with thorough care, always bearing in mind that excessive build-up of repair material will add weight and - in case of control surfaces - will alter residual moments. After any repair it is paramount to compile individual control surface values, as applicable, including weight and residual moments, as well as an overall aircraft weight & balance report. All values must be within the specified range. In case, these values cannot be reached, all customers are encouraged to contact GROB for further assistance.

#### **5. Conclusion**

The above instructions are not complete, since many contributing factors may vary locally or depending on the preferred type of operation. However, failure to comply with the above instructions may result in an accumulation of factors adversely influencing flight characteristics. As stated initially, above mentioned deficiencies may grossly aggravate flight characteristics, from sluggish or reduced control input response all the way up to flutter.

The intention of this Service Letter is to direct the operators attention towards sensible maintenance in areas that may not be covered explicitly in the respective manuals or that are commonly ignored. In case there is any doubt GROB recommend to contact the manufacturer immediately for assistance.

## **II. OTHERS**

This Service Letter will not affect or replace any existing procedures and/or bulletins.

## **III. REMARKS**

If you have sold your aircraft in the meantime, would you kindly pass this information on to the new owner and forward his address and aircraft S/N to us.

For questions and assistance please contact:

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