

**ALLSTAR PZL GLIDER Sp. z o.o.**  
ul. Cieszyńska 325  
43-300 Bielsko-Biała  
tel: +48 (0)33 8125021, fax: +48 (0)33 8123739  
e-mail: office@szd.com.pl  
Approval : EASA Nr AP 108

**SERVICE BULLETIN**  
**No BE-011/SZD-59/2009 „ACRO”**

**DESIGNATION-TYPE/MODEL:** SZD-59 „ACRO”

**SERIE/NUMBER:** All SZD-59 „ACRO” gliders.

**CONCERNS:** Replacing of a fuselage frame part.

**COMPLIANCE:** If frame tube crack is found – before next flight,  
otherwise - during the closest 500 hrs overhaul.

**ELABORATED BY**  
responsible for Type Design

04.09.2009 r.

  
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Marian Kroczek, MSc. Eng.

**APPROVED BY**  
President of Allstar PZL Glider Sp. z o.o.

04.09.2009 r.

  
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Andrzej Papiorek, MSc. Eng.

**TRANSLATION**  
05.09.2009

  
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Jan Zaleski

### 1. GROUNDS OF THE BULLETIN.

During the exploitation of gliders a fatigue crack of the left front welded joint of the fuselage frame had been detected. The crack is a result of presumed high stress level and intensive exploitation in aerobatics. Real stresses initiates the cracks which can, in extreme case, cover all the diameter of the outer tube (Fig.1.).

### 2. LIST OF THE FACTORY NUMBERS COVERED BY THIS BULLETIN.

The bulletin concerns all SZD-59 "ACRO" gliders with following factory numbers: X-150, B-2157÷B-2179 and 590A04001÷590A09011.

### 3. REPAIR PROCEDURE.

The procedure contains main stages of the repair, indispensable and adequate to be performed by a certified repair workshop.

- 3.1. CG hook's control is to be disconnected.
- 3.2. Main wheel is to be dismantled.
- 3.3. Front landing gear leg is to be dismantled.
- 3.4. The composition from area (a) – Fig.2, detail M – is to be removed.
- 3.5. Straps (3) – made of 1x92110 fabric – are to be cut in the corners (b) of the landing gear box – Fig.2, section E-E.
- 3.6. For make welding easier, landing gear box is to be cut along (c) line – Fig.2.  
Cut off part is to be taken out.
- 3.7. The 4 diagonal tubes of the frame are to be cut at level (d) with angle  $\sim 45^\circ$  – Fig.2.
- 3.8. The rivets (2) – Fig.2, section A-A – are to be drilled from head side with  $\varnothing 4$ mm drill.
- 3.9. The pivots (1) – Fig.2 – are to be removed from the frame. The pivots are settled by H7/k5 fit, therefore adequate force is required to be used. In case of damage, the damaged pivot is to be replaced by a new one from the kit.
- 3.10. The frame part being replaced is to be removed from the fuselage.
- 3.11. A new part of the frame is to be matched. The tubes in welding area are to be aligned by inner sleeves.
- 3.12. Pivots (1) are to be remounted in the frame (by the sleeves of the fuselage ribs).
- 3.13. The 4 diagonal tubes of the frame are to be electrically gas-shielded welded.
- 3.14. Internal surfaces of the tubes are to be preserved with anti-corrosive fluid by vent holes, then vent holes are to be welded.
- 3.15. Outer surfaces of the tubes at welded joints are to be preserved against corrosion by painting.
- 3.16. Holes  $\varnothing 3,9$ mm for rivets (2) – Fig.2 – are to be drilled. Inner surface of the tube is to be preserved by anti-corrosive fluid by rivet holes. Steel rivets  $\varnothing 4$ mm are to be driven into holes.
- 3.17. The cut part of the landing gear box is to be remounted in its previous position and connected with remaining part by straps of 2x92125 fabric, with 30 mm overlaps from the cut line.
- 3.18. Relaminate straps (3) of 1x92110 fabric and fill areas (a) by composition with microbaloon.
- 3.19. Varnish repairs are to be made.
- 3.20. Front landing gear leg, main wheel and CG hook's control are to be mounted.
- 3.21. In the control table (4) – Fig.2. – a letter "R" is to be marked permanently, the control table is to be remounted by 2 AL blind rivets.



#### 4. PARTS REQUIRED FOR COMPLIANCE WITH THE BULLETIN.

Part of the frame (Fig.3., according to sketch 590.12.00/BE-011) with aligning sleeves, one frame pivot and welding wire is being delivered by Allstar PZL Glider.

#### 5. FINAL CONCLUSIONS.

- 5.1. Compliance with the bulletin is to be recorded in adequate place of the documentation of a glider.
- 5.2. For gliders built by Allstar PZL Glider (factory numbers from 590A04001 to 590A09011), parts required for bulletin compliance are delivered free of charge, and the Operator is required to pay only repair costs. For other gliders the Operator is executing the bulletin on his own cost.
- 5.3. For gliders with the current bulletin executed, bulletin BE-010/SZD-59/2009 „ACRO” is cancelled.  
Further inspections of the welded joints are to be performed according to item 16 of the point 3.8. of the Technical Service Manual.
- 5.4. For other gliders, until present bulletin is executed, bulletin BE-010/SZD-59/2009 „ACRO” remains valid, except requirement of the rear tube joints inspections, which is cancelled.
- 5.5. It is possible to cut the frame in other area than specified in item 3.7. If it requires technological holes in the fuselage shell for welding, the holes can not be bigger than 80 mm diameter. The holes are to be repaired as specified in Repair Manual of the Glider SZD-59 “ACRO”, issue I, september 1996.

Front wing fixing point

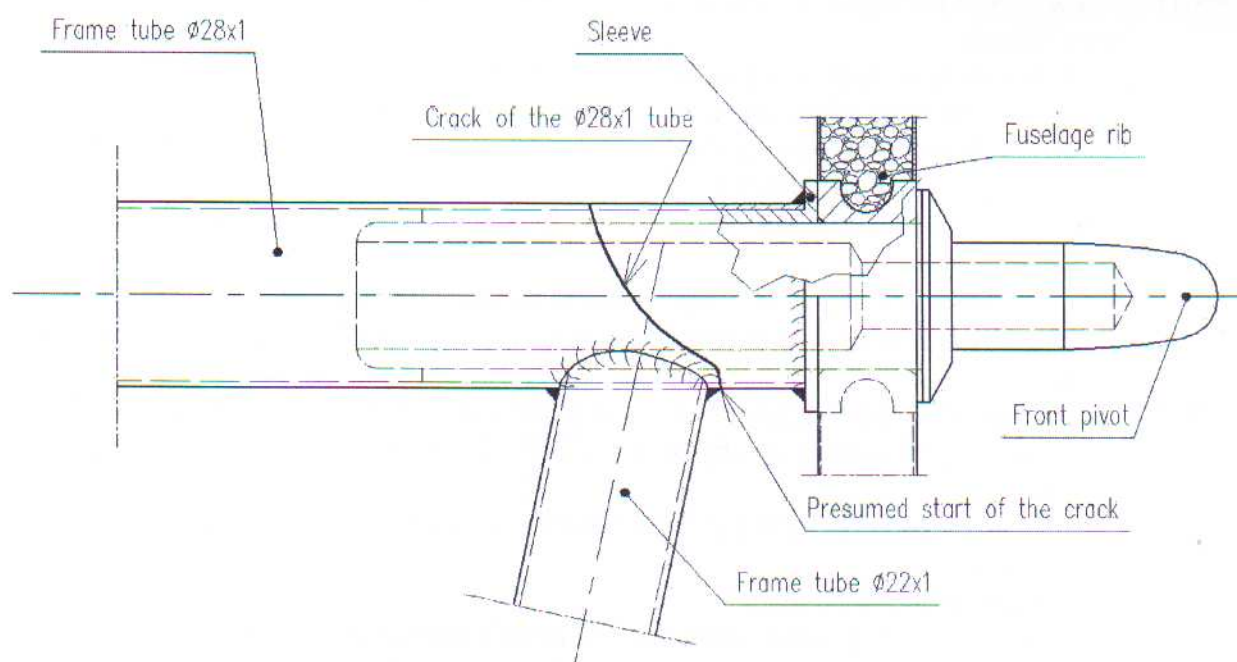


Fig.1.

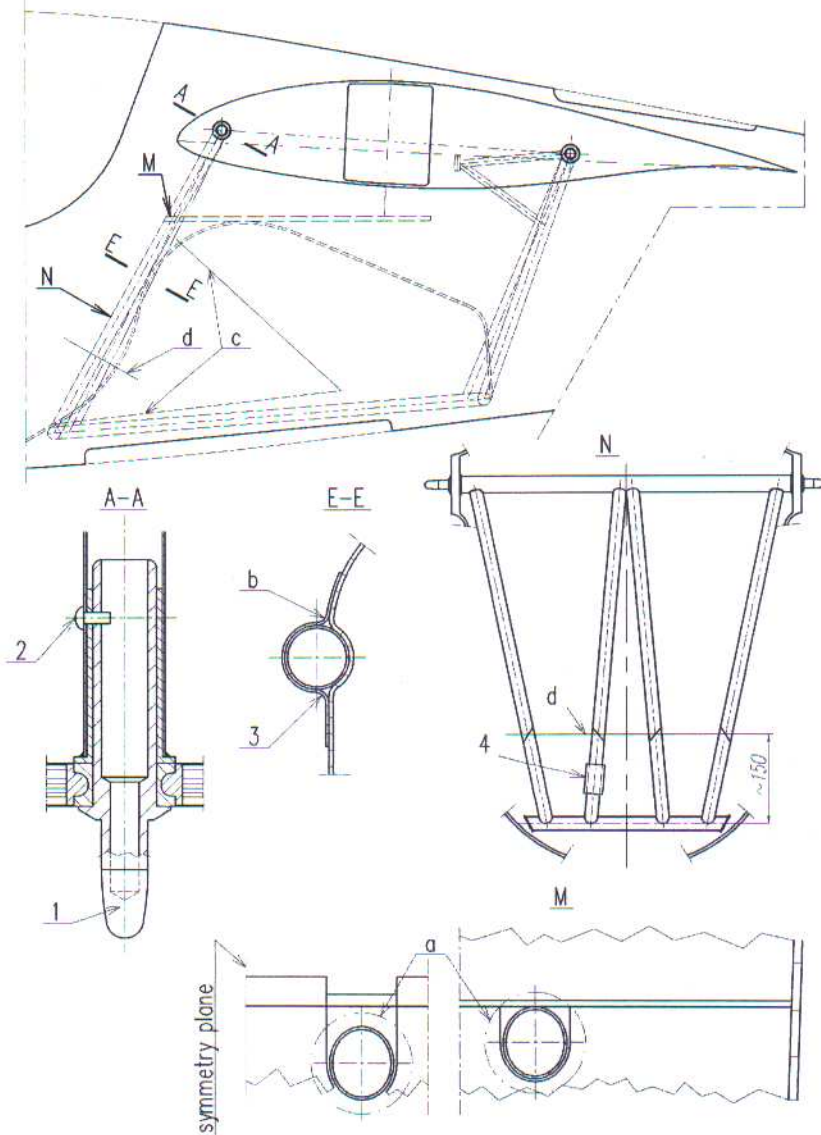


Fig.2.

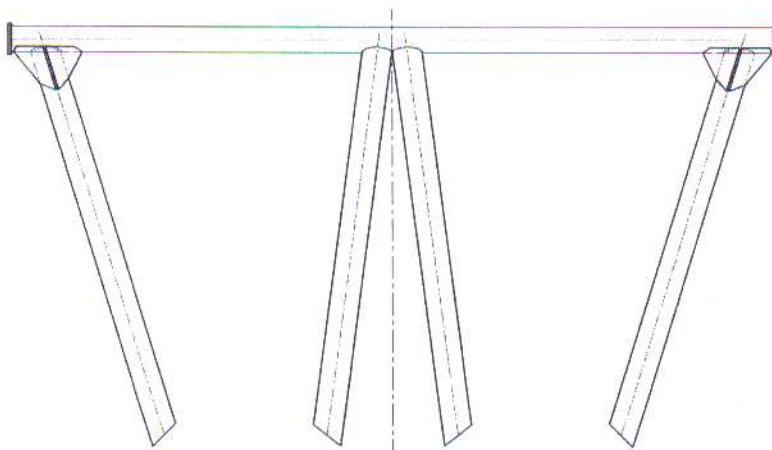


Fig.3.

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