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## **ALERT SERVICE BULLETIN**

<b>IMPORTANCE</b>	Critical
<b>AREA AFFECTED</b>	FLIGHT CONTROLS
<b>SB SERIAL NUMBER</b>	Cheetah/003/12-2009

**SUBJECT:** Elevator control arm and tie brace

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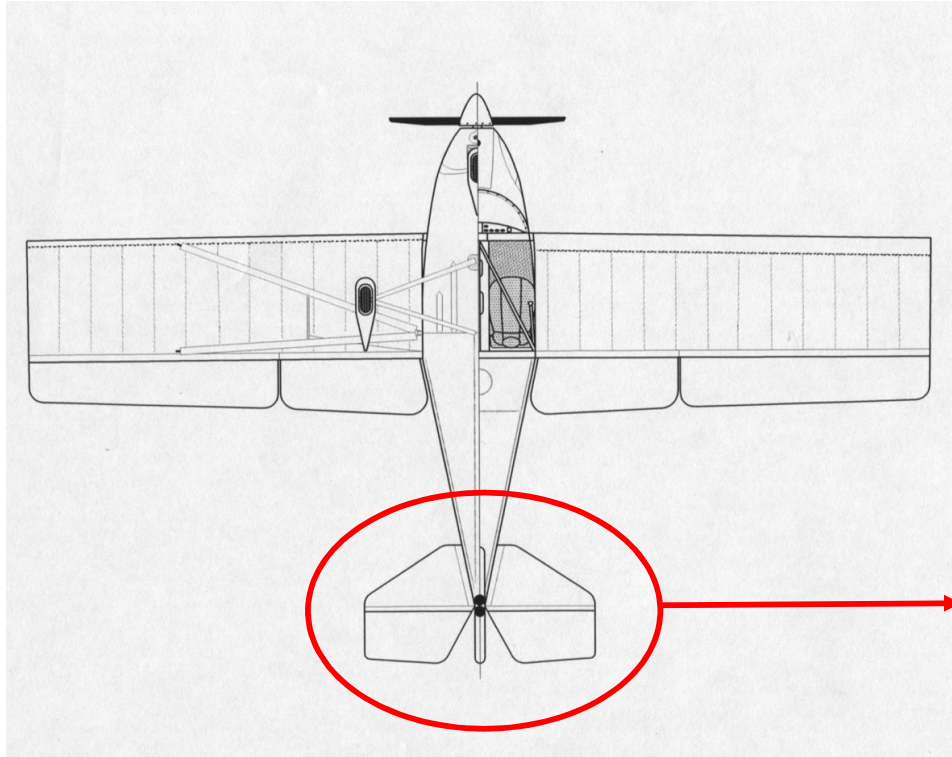
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## 1) Planning Information

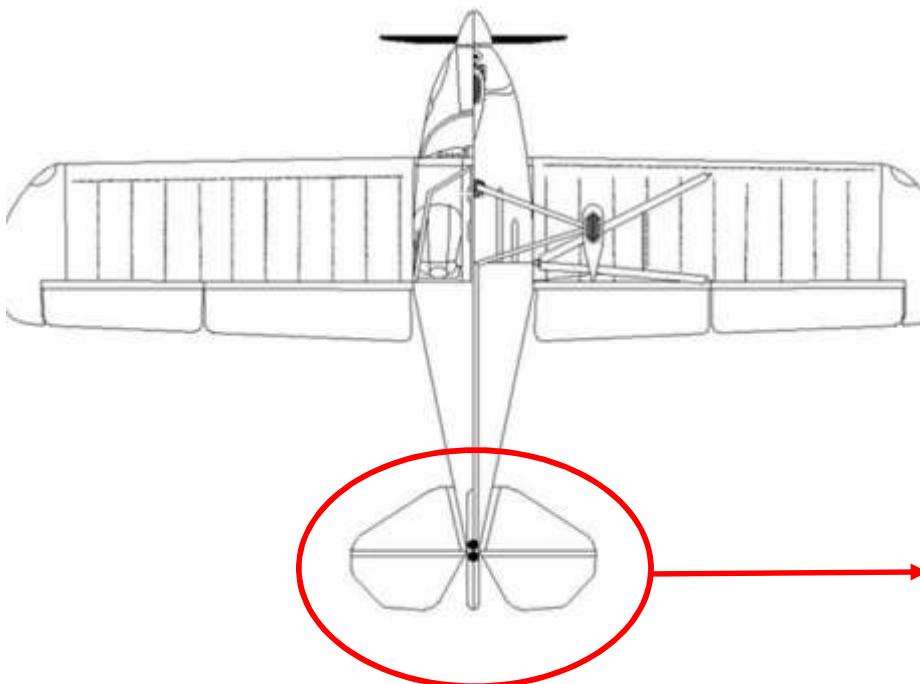
### 1a) Affectivity

Cheetah/XL/XLS aircraft with old style (shape) Elevator (Highly advisable that all aircraft be inspected), as shown in figure below. The old style elevator puts more force on the tie rod flange than the new style.

**If your Cheetah is equipped with this old style of elevator and has accumulated more than 500 flight hours it is grounded read further to find solutions to this Alert SB..**



**OLD STYLE  
(HIGHLY  
AFFECTED BY  
THIS SB)**



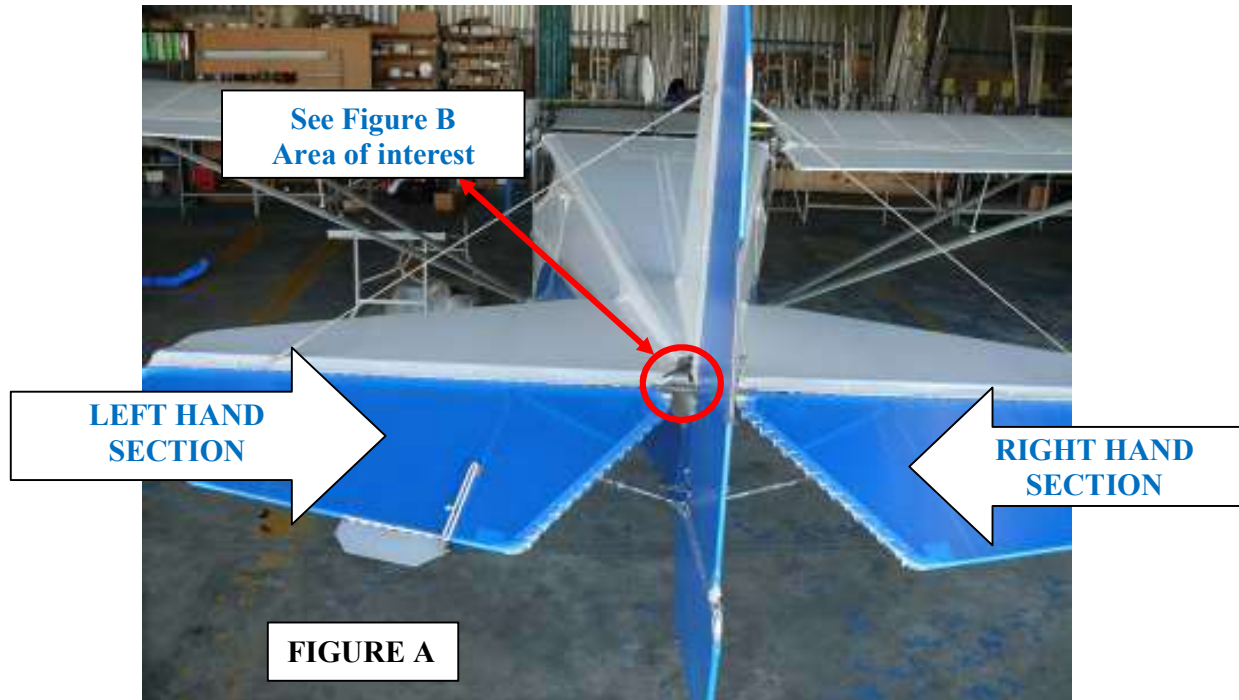
**NEW STYLE  
(NOT AS HIGHLY  
AFFECTED BY THIS SB)**

### **1b) Reason**

Cracked of flanges on LH elevator tie rod. This failure will affect flight characteristics and could lead to serious accident.

### **1c) Description**

On a recent pre-flight inspection on an Cheetah XLS with the old style elevator, We have found that the tie bracket that connects the left hand section of the elevator to the right hand section (Figure A) of the elevator was cracked off.



Due to the amount of flight hours accumulated on this aircraft it was found that this tie point has cracked off because of fatigue.

### **1d) Compliance**

#### **Immediate compliance:**

#### **OLD STYLE Elevator**

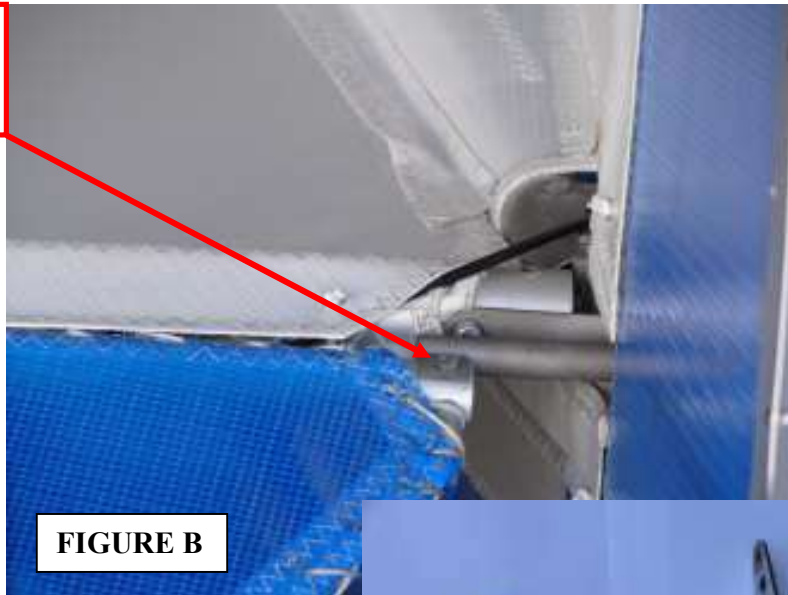
- 1) If your cheetah is equipped with the old style elevator and has accumulated more than 500 flight hours you are not allowed to fly (**Grounded**) until this tie rod has been replaced.
- 2) If your cheetah is equipped with the old style elevator and has accumulated less than 500 flight hours you have to inspect the tie rod flanges for cracks in the areas indicated in the figures A and B every pre-flight. Should there be any evidence of cracks you are NOT allowed to fly further (**Grounded**) until this tie rod has been replaced.

#### **NEW STYLE Elevator**

- 1) If your Cheetah is equipped with the new style elevator and has accumulated more than 700 flight hours you are not allowed to fly further (**Grounded**) until this tie rod has been replaced.
- 2) If your cheetah is equipped with the new style elevator and has accumulated less than 700 flight hours you have to inspect the tie rod flanges for cracks in the areas indicated in the figures A and B every pre-flight. Should there be any evidence of cracks you are NOT allowed to fly further (**Grounded**) until this tie rod has been replaced.

**ALL CHEETAH'S NOT DESCRIBED IN THIS SECTIONS WILL BE HANDLED AS NEW STYLE ELEVATORS**  
**If the aircraft has been used to do aerobatic exercises, the tie rod must be changed immediately.**

This is the area where the tie rod flanges cracked off.

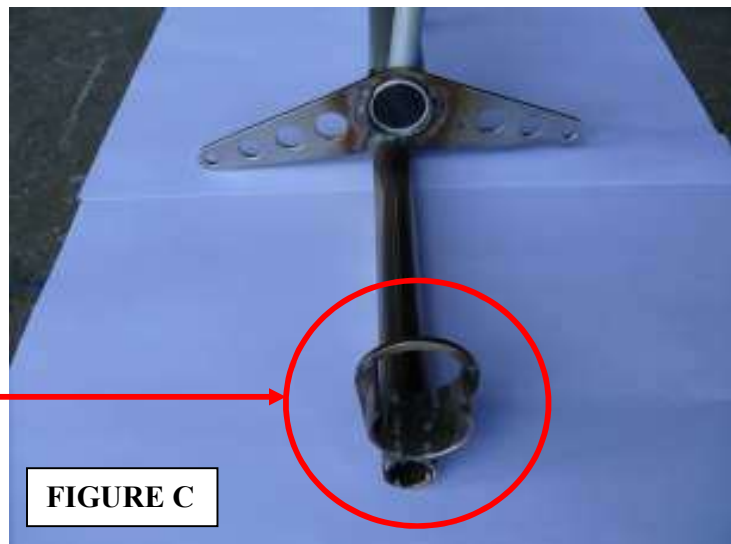


This is the area where the tie rod flanges cracked off.



This tie rod needs to be replaced with a newly designed tie rod as shown in figure C as indicated in paragraph 1d.

New design of attachment that must be replaced as soon as possible.



Not applicable to Owner / operator Rainbow Aircraft will do the replacement.

**1f) Weight and balance**

Weight and balance is not effected

**1g) Publications effected**

- 1) 100 hour / Annual inspection checklist. (for A&P approved personnel use)
- 2) Pre-flight inspection checklist.

**2) Material information**

**2a) Replacement parts**

As per Figure C new remanufactured tie rod.

**2b) Required tooling**

Rainbow Aircraft will be replacing these parts.

**2c) Required special tooling**

Rainbow Aircraft will be replacing these parts

**3) Accomplishment procedures**

**3a) General information**

Please make reservations and plan with Robyn, Ray, or Vladimir for the execution of this Service bulletin

**3b) Work instructions**

None

**3c) Final Inspection**

None.

**4) Feedback**

Rainbow Aircraft would kindly request your feedback. Please acknowledge that you have received this Alert SB as we need to determine that all aircraft has been successfully completed. If you know of any other Cheetah flyers, please inform them of this SB as well. This co-operation will also further improve our customer after sale service.

Information required: Cheetah registration number, aircraft hours, findings on the tie rod flanges. Send to [soutdelange@gmail.com](mailto:soutdelange@gmail.com) Rainbow Quality Assurance.