



Six Chuter Inc.  
**SAFETY DIRECTIVE**  
SB 2007-1

Safety directives are issued to all known operators when a condition is found to exist that may also exist in other aircraft in the fleet and which would cause a deviation from original design or unsafe condition for flight, rendering the aircraft unairworthy. This change, maintenance procedure, inspection procedure, or other procedures deemed appropriate by the manufacturer is mandatory and must be performed and documented in the individual aircraft logs in order for that aircraft to maintain compliance with ASTM standards.

<b>LEVEL</b>	<b>ADVISORY</b>
<b>DATE</b>	Friday, October 05, 2007
<b>SB NUMBER</b>	SB 2007-1
<b>APPLICABLE MODELS &amp; CATEGORIES</b>	SR5 XP <b>Experimental Light Sport Only</b>

**1.0 Planning Information**

**1.1 Aircraft Affected**

1.1.1 1995 SR5XP

**1.2 Concurrent Bulletins**

1.2.1 None

**1.3 Reason**

1.3.1 This advisory bulletin is issued due to a reported failure of a landing gear strut bolt (AN 4-23) while transporting the powered parachute by trailer.

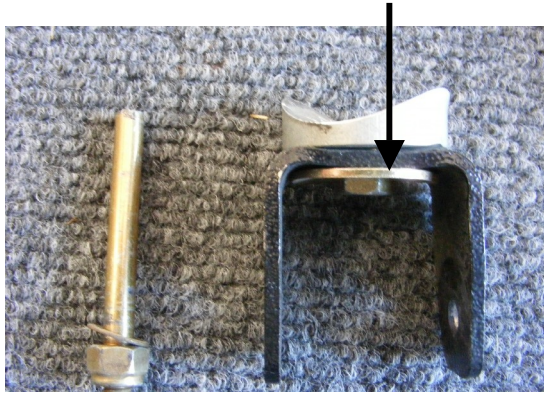
**1.4 Subject**

1.4.1 **Description of failure:** Left landing gear strut bolt (AN 4-23) broke at approximately 3/16 inch from the bolt head at the attachment point on the airframe main tube structure. The failure occurred during the transportation of the aircraft and not during aircraft operations. This aircraft was retrofitted with shock absorbing suspension system marketed by Sixchuter Inc. ***There are no other known or reported incidents***

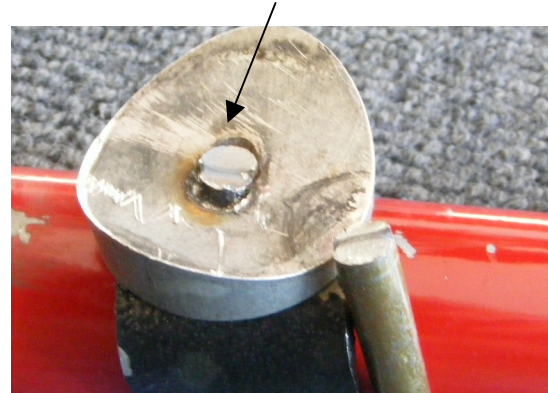


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**Note: Bolt Head**



**Note: Ridge in bolt body**



This bolt is one of many bolts that were placed approximately two years ago during the rebuild of the airframe. During the rebuild, the AN4 bolts were tightened to 100 in. lbs. of torque.

### **Root Cause-Analysis**

The failure of this bolt has several possible sources that include:

- 1) Inferior Materials – Low quality AN bolt. **Note this bolt was not purchased from the factory; rather it was purchased by the builder from an unknown source.**
- 2) Excessive stress introduced through transportation methods. **Excessive side loads are possible on this component depending on how the aircraft is secured to the trailer.**
- 3) Excessive stress introduced through normal operations.
- 4) A combination of all of the above.

Note: Aging materials are not a consideration at this time due to the replacement of the bolt in July 2005.

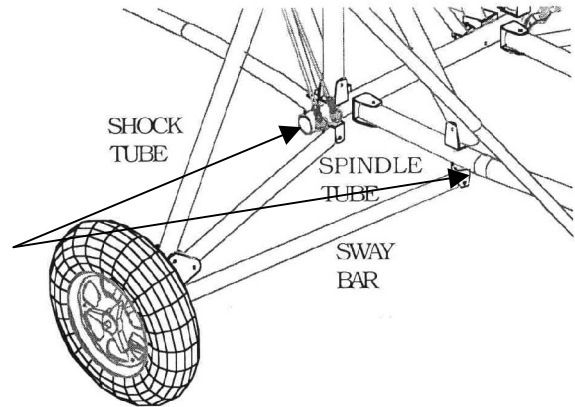
### **1.5 Compliance**

- 1.5.1 Owners of Six Chuter Powered Parachutes with this model or type of landing gear strut installation should make this item a mandatory part of the daily pre-flight inspection. Any signs of stress or any movement in the assembly at the point of attachment should be reason to ground the aircraft until further inspection is conducted.
- 1.5.2 Owners of Six Chuter Powered Parachutes with this model or type of landing gear strut installation should make this item a mandatory part of the annual inspection of condition. This bolt and assembly should be removed to exam not on the bolt, but the saddle and the Frameraill for signs of stress.
- 1.5.3 If the owner discovers signs of stress Six Chuter recommends replacing the bolt with An AN 5 of similar length. Replacing the AN4 bolts with AN5 bolts would yield an estimated 160% increase in Breaking and Yield Strength. The larger diameter bolts also must be equally matched with the attaching brackets and tubing.

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- 1.5.4 Owners of Six Chuter Powered Parachutes who secure their aircraft and transport in trailers should consider methods that avoid this assembly taking on the side loads that may be experienced from road travel and trailering the aircraft. Six Chuter has no specific recommendations on securing aircraft in trailers.

As the landing gear is a critical component of the aircraft, the strength and dependability of these components is essential. The outboard Spindle and Shock Tube assemblies are substantially re-enforced with multiple attachment points. The outboard Sway Bar and inboard Spindle and Sway Bar tubes are attached with a single AN4 bolt (see illustration).



**1.6 Approval**

- 1.6.1 The technical content of this document has been approved by Six Chuter Inc. Safety Staff
- 1.6.2 Owners of an FAA approved Experimental Light Sport Aircraft are authorized to make major repairs or modifications to their own aircraft.
- 1.6.3 Owners of an FAA approved Experimental Light Sport Aircraft may not conducted their own annual condition of inspection report unless they hold an FAA Repairman's Certificate with Inspection rating for that particular aircraft.
- 1.6.4 A & P Mechanics or holders of FAA Repairman Certificate with Maintenance Rating or factory-approved technicians are authorized to make this repair and modification, if necessary.

**1.7 Manpower**

- 1.7.1 An annual inspection for a single bolt should not exceed 15 minutes. Replacement of this assembly is estimated not to exceed 30 minutes.

**1.8 Weight and Balance**

- 1.8.1 Not applicable

**1.9 Electrical Load**

- 1.9.1 Not applicable

**1.10 Software**

- 1.10.1 Not applicable

**1.11 References**

- 1.11.1 None

**1.12 Other Publications Affected**

- 1.12.1 None

**1.13 Interchangeability of Parts**

- 1.13.1 AN4-23 Bolt can be replaced with AN5-23