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## SERVICE BULLETIN

<b>IMPORTANCE</b>	Very High
<b>AREA AFFECTED</b>	Electrical
<b>SB SERIAL NUMBER</b>	Cheetah/002/09-2009

SUBJECT: 912s power supply cables gauge to small.

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## 1) Planning Information

### 1a) Affectivity

Cheetah XLS aircraft fitted with the Rotax 912s Engine

### 1b) Reason

Rotax 912s starter draws more Amperes than anticipated.

### 1c) Description

Recently we received feedback from a client that his 912s motor failed to start in the mornings, this led to the conclusion that the choke system is malfunctioning. After a few starting attempts the battery was exhausted and had to be changed. After the battery has been changed the 912s would start. On further inspection to the possibility of loose connections we found that the power supply cables from the battery to the starter is very hot, thus not of sufficient thickness (gauge) to compensate for the higher compression ratio of the Rotax 912s Engine.

### 1d) Compliance

Immediate compliance: On the 1<sup>st</sup> start of the day, where the 912s takes longer than 5 seconds to start, **abort the start**. Wait 1 minute and attempt to start the 912s again keeping the starter engaged for not more than 5 seconds, if the 912s did not fire yet, **abort the start**. The Pilot / Owner should open the top engine cowling and touch the electrical power supply cables to feel for temperature. **CAUTION: the cables could inflict burn injuries.** If the electrical cables are hot. Replace immediately. Refer replacement parts.

Long term compliance: If the electrical supply cables are not hot, replace with part identified by Rainbow aircraft within 5 flight hours.

### 1e) Man power

1 person will be able to accomplish this task.

### 1f) Weight and balance

Weight and balance is not effected

## **1g) Publications effected**

100 hour / Annual inspection checklist. (for A&P approved personnel use)

## **2) Material information**

### **2a) Replacement parts**

### **2b) Required tooling**

Rainbow Aircraft only recommends the following tooling to be used as these are the tooling used by us to facilitate the repair.

### **2c) Required special tooling**

Electrical lug Crimping tool (Aviation Standard)

## **3) Accomplishment procedures**

### **3a) General information**

The battery must be disconnected first before any work is carried out.

### **3b) Work instructions**

1. Gain access to the cockpit
2. To facilitate ease of inspection, remove the centre console.
3. Untie the hinge bolt and remove

Caution: The control stick is under cable tension, some force might be required to remove this bolt.

4. Inspect for erosion (wear) in the circumference of the bolt shank.  
The erosion (wear) will be in the form of grooves forming on both ends of the shank.  
If the bolt shank is smooth with no defects or wear it can be re fitted.  
If there are any defects the bolt must be replaced. (See replacement parts)

**WARNING: DO NOT RE USE NYLOCK NUTS.** The self lock nut must be replaced every time.

5. With new Nylock in place torque to 10 Newton meter or 7.5 Pound feet

### **3c) Final Inspection**

1. Make sure that all cables are still routed correctly.
2. Make sure that there is a minimum of two threads protruding on the end of the Nylock nut
3. Make sure that there are not more than 5 threads protruding from the end of the nut, as the bolt will be too long and might snag on the covers and hinder the full and free movement of the control.
4. Return the interior trim and equipment to normal
5. Do a full control checkout. Check full and free movement several times to assure that the control stick and control surfaces function correctly before next flight

## **4) Feedback**

Rainbow Aircraft would greatly appreciate your feedback to further improve our customer after sale service.

Information required: Cheetah registration number, aircraft hours, findings on the bolt and the repair you chose to take. Send to [soutdelange@gmail.com](mailto:soutdelange@gmail.com) Rainbow Quality Assurance.