



**SERVICE BULLETIN NUMBER 122**

**ISSUE 1**

<b>TITLE</b>	Quik wing keel roll bearing bolt hole cracking and other damage.
<b>CLASSIFICATION</b>	The CAA have classified this bulletin as <b>mandatory</b> .
<b>COMPLIANCE</b>	For aircraft with more than 150 hours total time, action must be taken within the next 5 hours. Action must be before further flight following any heavy landing.
<b>APPLICABILITY</b>	All Quik Wings up to and including serial no 8184.

## **INTRODUCTION**

A few Quik wings have been found to suffer from local fatigue cracks in the wing keel at the roll bracket bearing hole (RBBH) where the M6 bolt locates the bearing to the keel. Typically those with cracks have either been training aircraft or subject to a higher than normal number of take offs and landings.

## **ACTION**

Owners of aircraft with more than 150 hours flight time are required to check their wing keel RBBH for cracking within the next 5 hours or arrange for modification of the keel to M139 standard.

After a heavy landing the keel area must be checked before further flight whatever the modification state.

If no damage is found, the original design keel can continue in service up to a maximum of 500 hrs or 4 years whichever is earlier, provided the check is repeated every 50 hours. After the maximum life, all keels must be modified to M139 standard.

## **CHECK**

In order to check the wing keel RBBH, the wing needs to be removed from the trike, and the 6mm Cap Head Bolt (item 18, fig1) removed from the Roll Bracket Bearing (item 13, fig1). Remove the nose cone and nose batten. Fold the wing down flat and de-tension it ( see operator's manual). Remove the two keel to noseplate bolts and the self tapping screw nose batten locator. This will enable the keel plastic protector tube to be slid forwards ( the Leading Edge bolts may have to be slackened to aid removal). Remove the plastic protector tube and cut off 25mm from the rear end.

Slide the roll bearing forwards to expose the RBBH area and inspect using a torch and magnifying glass for elongation, fretting or cracks.



When re-fitting, use new nyloc nuts. Use firm finger pressure on a standard allen key when tightening the roll bearing bolt. Observe the shape of the bearing; do not over-tighten to the extent it becomes oval. Check free movement of the roll bracket. If the nylon threads strip, contact the factory.

For subsequent checks, with the shortened keel protector tube the roll bearing can be slid far enough forward to inspect the entire hole area in situ once the 6mm bolt has been removed.

If small cracks, elongation or fretting are detected, with the total damage zone confined to a diameter less than 9mm, the keel can be recovered by incorporating modification M139. Please contact the factory to arrange for the wing/keel to be returned for modification. If more damage is found then the wing keel will need to be replaced with a genuine new factory part. Keel replacement can only be carried out by either factory personnel or experienced wing service centres.

P&M modification M139 has been introduced to reinforce the RBBH area with a 3/8" (9.525mm) interference fit bush tube and additional inner keel sleeve. A damaged area up to 9mm diameter is therefore removed completely. **The keel modification can only be carried out by the Factory.** After fitment the keel must be inspected as part of the existing Quik maintenance manual schedule.

## DOCUMENTATION

If the check is satisfactory an entry must be made in the airframe logbook to say "wing keel hang point hole checked for cracking found to be satisfactory, to be checked every 50 hours up to a maximum total life of 500 hours or 4 years, whichever is earlier". If a modified keel is fitted, then "P&M modification M139 (reinforced wing keel) fitted". Check and replacement entries must be signed by both the owner and an independent BMAA inspector.

**ISSUED BY: Chief Engineer    W.G.Brooks**

A handwritten signature in black ink, appearing to read 'W.G. Brooks', is written over a light grey background.

**DATE 10/07/06**

**Contact 01672 861350 or 01706 655134**

**email [technical@pegasusaviation.co.uk](mailto:technical@pegasusaviation.co.uk) or [flying@pmaviation.co.uk](mailto:flying@pmaviation.co.uk)**

Unit B, Crawford St, Rochdale, Lancs OL165NU

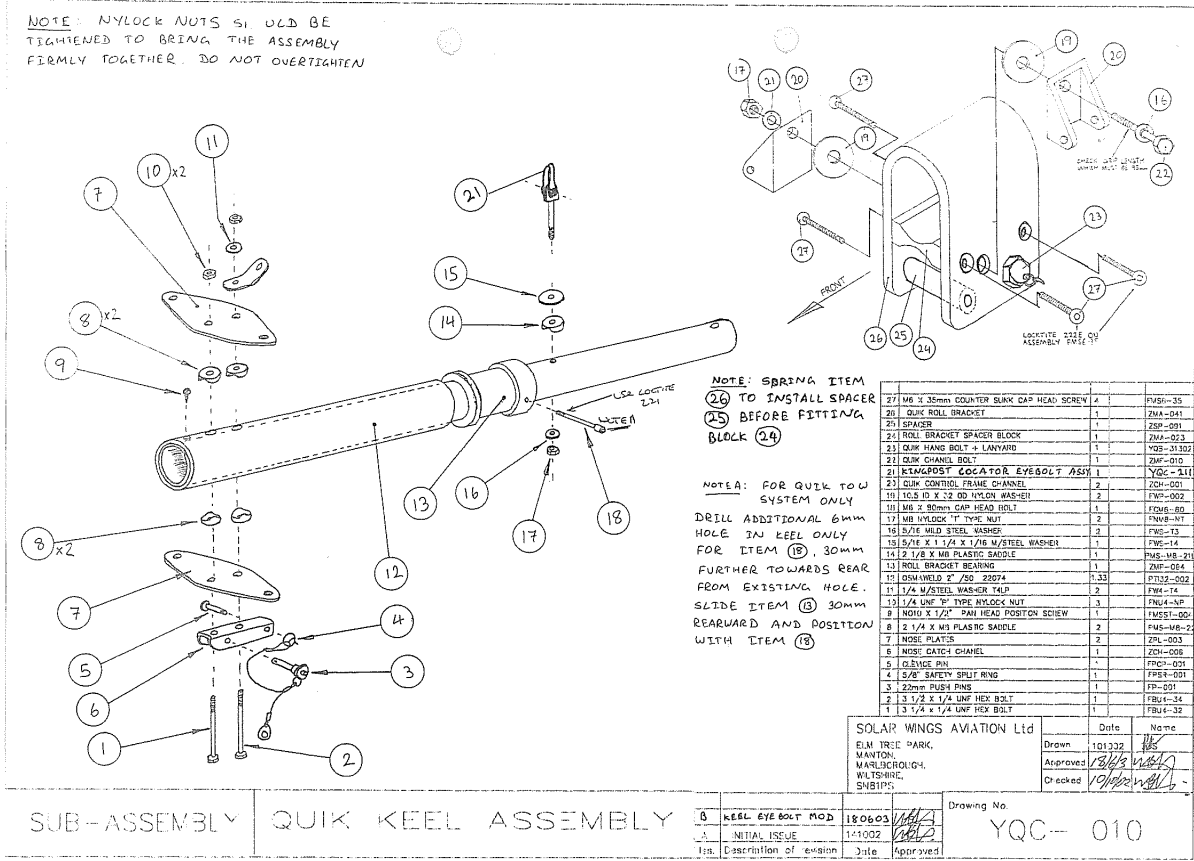
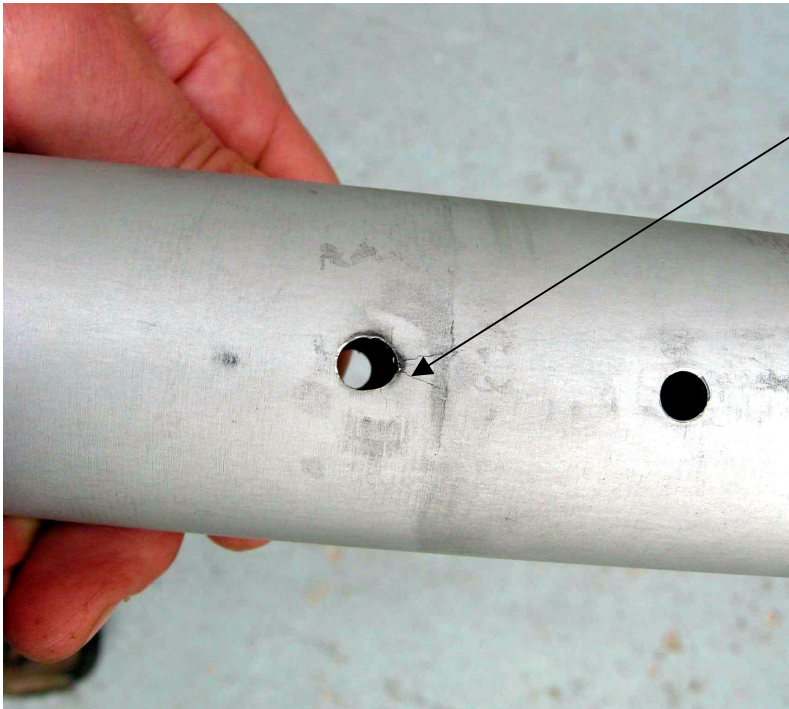


Figure 1 Quik Keel Assembly, the hole is where part 18 passes through the keel tube.



Figure 2 Photo Of Wing showing roll bracket bearing slid fully forwards.

Check for cracking



Crack Starts Here Towards Rear  
Of Keel.

*Figure 3*  
Photo Showing Elongation and  
Cracks