PEGASUS AVIATION

SERVICE BULLETIN NUMBER 0096	ISSUE 1	PAGE 1 OF 2

TITLE HANG GLIDER LEVELLER BLOCK AND KEEL SAIL SCREW.

CLASSIFICATION COMPULSORY

COMPLIANCE INSPECTION BEFORE FLIGHT

APPLICABILITY BLOCK - SCANDAL XK. SAIL SCREW - ALL SOLAR WINGS HANG GLIDERS.

INTRODUCTION

LEVELLER BLOCK - Inspection of two Solar Wings Scandal XK hang gliders revealed that the nylon block designed to take the load from the leveller rib into the keel tube had rotated 90 degrees, allowing the leveller to drop to one side of the keel. This can happen to both leveller blocks, but is critical on the rear leveller block which transmits negative loading into the keel. Inspection of the leveller area is part of the normal preflight check.

The consequences of having the rear leveller block down the side of the keel are that:
1) The mid span washout rod setting will be considerably affected which will reduce the pitch stability, so that the glider may not recover from a dive if the sail becomes unloaded.
2) A turn bias may appear with possible restriction of roll handling.
3) Negative loads are not transmitted into the keel correctly so that the structure may be damaged.

SAIL SCREW - All Solar Wings gliders have a sail screw which attaches the sail centre trailing edge to the underside of the keel.

In flight the sail screw area is not heavily loaded. However, If a landing is made with a vigorous flare where the keel hits the ground, an upward bend is applied to the keel, which puts the sail screw area into tension. The sail screw hole provides a stress concentration at which the keel may fail, distort or crack. If damaged in this way, the keel could fail in flight at a low load.

ACTION

LEVELLER BLOCK - The blocks must be inspected to be resting in place with the vee resting on the keel. The correct clearances of the vee centre to the keel top with the straps tight are rear 11mm and front 7mm. Tighter than this restricts roll handling.
As soon as practicable leveller blocks to drawing ZMP090 issue B or C must be installed, which incorporate alignment features to prevent rotation. If fitted with roll pins, these must face forwards.
If the glider has been used with the rear leveller block at 90 degrees, then a detailed inspection of the structure is necessary for keel dents, twists in the cross boom plates and damage to cross boom root and tip connections.

SAIL SCREW - The area around the keel sail screw must be closely inspected before further flight for signs of cracking or distortion. Damage must be rectified by replacement.
The keel screw area must be re-inspected after any high load has been suspected applied to the rear of the keel.
If desired, a pair of 6mm holes may be drilled in the underside of the keel, close together, **BEHIND** the rear cable connection so that in the event of a heavy upward load on the rear of the keel, it will fail there first.

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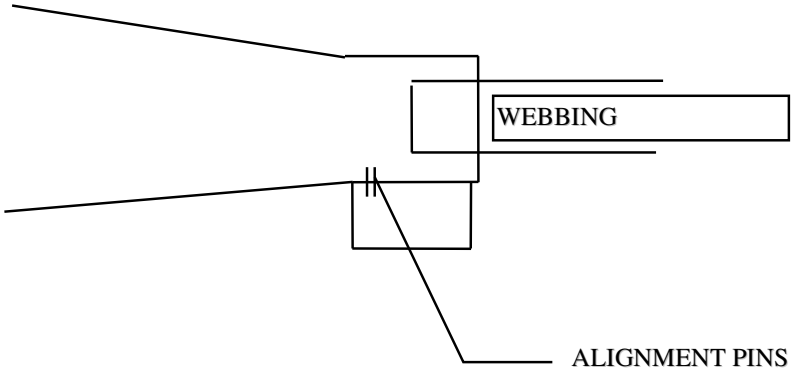
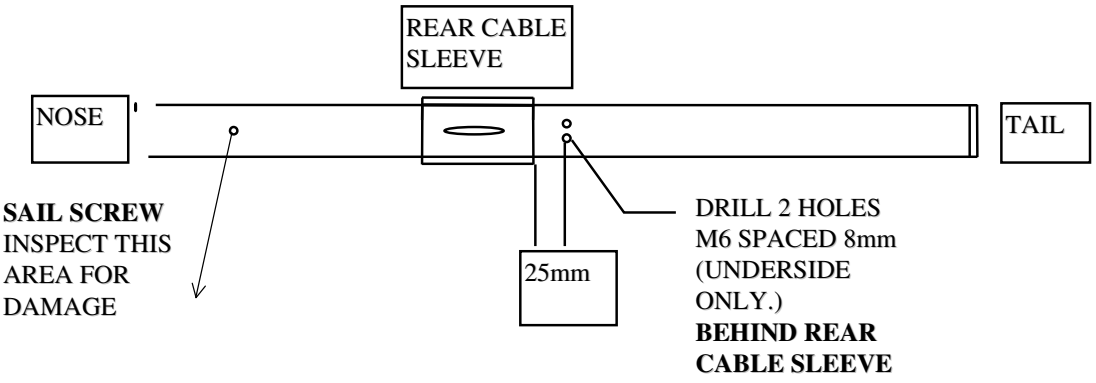
LEVELLER BLOCK DETAIL



UNDERSIDE VIEW OF KEEL TUBE



Contact your nearest Agent or the Factory direct for replacement leveller block or other genuine parts.

ISSUED BY **W.G. Brooks** **DATE 12/8/98**

Chief Engineer		Date
Production Director		Date

Sales Director		Date
Managing Director		Date

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