

SERVICE Information

Title: Hinge Batten Fitting Security

Identification	SB-019
Status	Active
Issue	1
Issue Date	01-09-2015
Applicability	All Airborne Windsports Wings
Compliance	100 Hourly line maintenance
Reference Material	Airborne Engineering Report 15/025/DS

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Summary of Changes:
First issue

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Introduction

It has come to Airbornes attention of cases where the hinged batten fitting may come unloaded during flight. The unloading of one or more hinged batten fittings will have a adverse effect on control of the aircraft.

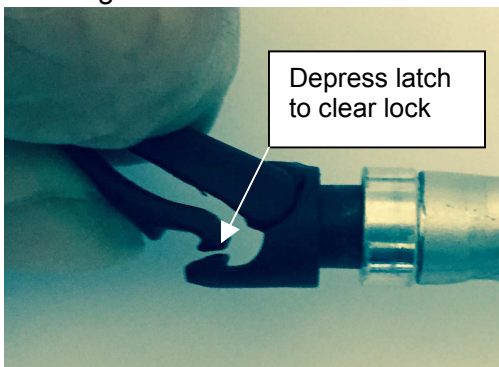
Factors Causing Unloading

There are several factors that can cause the hinged batten fittings to unload.

1. Damage to the latch from incorrect unloading of the fitting.
2. Over tension of the batten within the pocket.
3. Operation outside the placarded limitation of the aircraft.

1. Damage to the Latch

It is important that the locking latch is depressed adequately to clear the capture clasp when unloading.



Testing of fittings that have been unloaded without depressing the locking latch adequately have seen a reduction in latch security.

If the clip is opened by force without properly depressing the latch it can result in a 25% reduction in latch strength. The reduction in strength can be greater and continual improper unloading will see further degradation in strength of the locking mechanism.

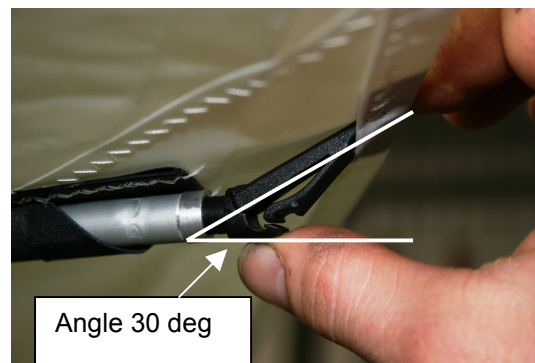
Sand and grit on the latch area will also reduce the latch strength. Ensure area is clean.

2. Over Tension

Airborne Flight manuals show how to correctly tension your battens.

Over tensioning of battens will cause degradation of handling as well as overloading the latch. In particular, a mylar sail tends to shrink as it ages so checking of the batten tension periodically is required.

The correct tension is applied to the batten when loading with minimal pressure applied an angle of 30° is achieved (See diagram).



3. Placard Limits

As with any component, failure can occur if the aircraft is operated outside of the placarded limitations. A failure of one latch at high load will increase load on the adjacent latches which may cause multiple latches to release.

Ensure that you adhere to the Vne and Va limitation when in turbulence.

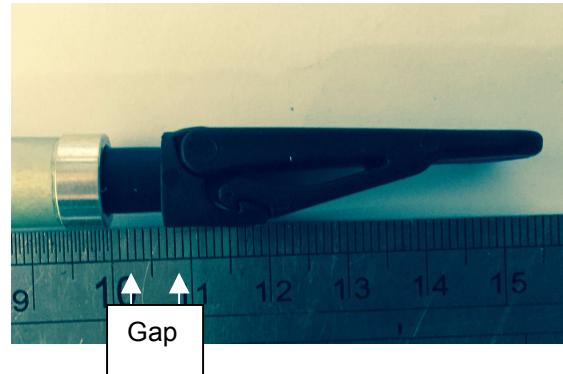
Action

There are 3 options as part of the next 100 hourly line maintenance. You should immediately fulfil one of the options if you suspect that the fittings may have been mis-handled

1. New Fittings

Replace all fittings with new fittings from Airborne.

If you change fittings it is easiest to measure the gap between the existing fittings and the end of the batten. When the hinge fitting is replaced ensure the gap is the same. This will ensure tension is the same so wing tuning will not be required.



2. Load Test Fittings



The latch fittings are batch tested prior to production to ensure conformity to the design requirements. To check your hinge batten fitting. The wing should be de-tensioned and the battens should be removed from the sail. Secure batten to a bench.

A load of 6.5 kg should be applied to the end of the batten as shown to ensure adequate latch security. A load cell or 6.5 litres of water can be used. A variety of sporting weights totalling 6.5kg is also an option.

Any fittings that fail during this test will require replacement.

3. Alternative Latch Security



If you are unable to test your latches for security a cable tie can be tensioned around the latch when the latch is closed.

This is quite a simple procedure and can be done without disassembling the wing.

A commercially available cable tie with width of 4.8mm and thickness of 1.4mm is the best option for additional security.

Our testing has found that even an old fitting with obvious damage will hold the required test load.

Note the **position** and **orientation** of the cable tie.



End of Service Bulletin.