



SAFETY ADVISORY

Issued by Angus Pinkerton - Chairman of the Flying & Safety Committee 18 December 2013.

All Hang Glider Pilots must READ, DIGEST AND TAKE ACTION on the contents of this Notice and keep it for future reference.

If you hold a copy of the BHPA Technical Manual this notice must be inserted into it and retained until it is withdrawn or superseded on instructions from the Chairman FSC.

HANG GLIDER NECK INJURY IN FAILED LANDING

In a recent accident the hang glider pilot, as a result of a base-bar collision during landing, swung through the control frame. His harness allowed him to move forward to the extent that his head was in front of the high aspect-ratio glider's nose plate, which his weight and momentum pulled down violently on to the back of his head / neck region. The pilot suffered serious injury.

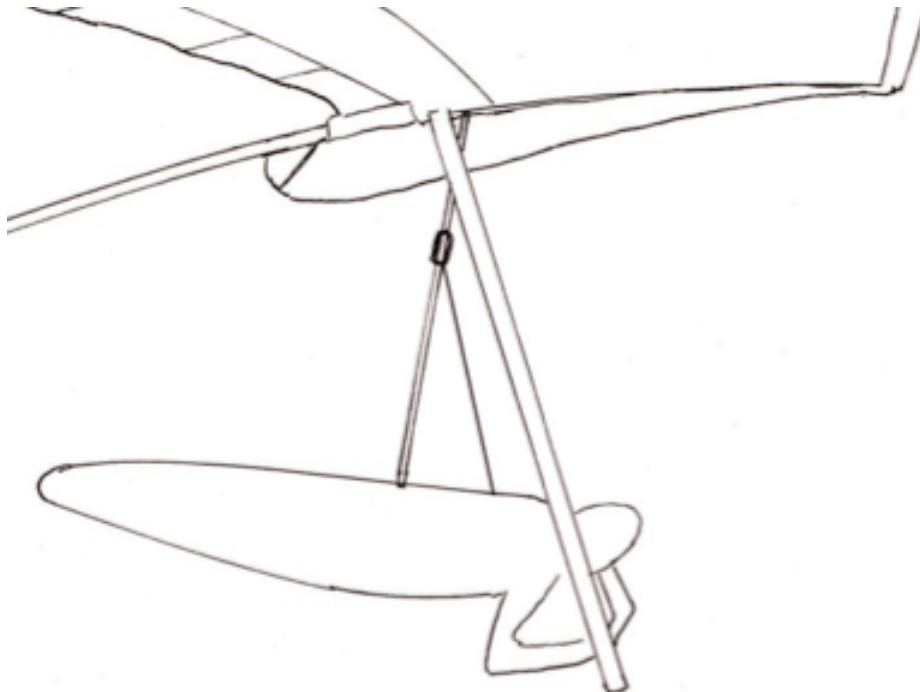


Figure 1



Figure 2

Analysis:

High-aspect ratio hang gliders have been around for ten years or so, and FSC trials have revealed that with most harness types, a tall pilot can get his head in front of the nose of a high aspect-ratio glider. It appears to be the case that the specific unusual feature in this accident (and two others now identified) is that the pilot was holding the base bar (rather than the uprights) during his landing approach.

It is believed that the best current method of minimising this danger is to ensure that landing approaches are flown on the uprights. If the landing fails, then:

- a. If the pilot is on the uprights, his forward progress is delayed (and energy dissipated) by the bending and breaking of the uprights. Also breaking of the uprights removes the danger of the nose being pulled onto the pilot's neck. Whilst if the pilot is on the base bar, there is no impediment to his forward progress and reduced likelihood of the uprights breaking.
- b. If the pilot is on the uprights, his action on the uprights, after the base bar hits, results in the nose slamming down, before his head gets there. Whilst if the pilot is on the base bar, the key factor in the nose coming down is the hang strap pulling it down behind him, onto his head/neck/back.
- c. If the pilot is on the uprights, his head is well up. To get under the nose his head would have to follow an 'S' trajectory. Whilst if the pilot is on the base bar, his head is already well forward, and to get under the nose it simply needs to carry on forwards.

Although not a factor in the accident identified above, it is also known that base bar wheels usually reduce the glider's deceleration in landing incidents, and would thus reduce the likelihood of the unrestrained pilot being thrown forward in front of the nose.

Action:

Hang Glider pilots should make landing approaches with their hands on the uprights and shoulders raised.