Statement by DHV to the use of folding lines.

Paragliders with backwards attached A-line connecting points and rigid parts in the nose are more stabile in turbulent conditions than older designs. That means, these constructions are collapsing later, with a smaller angle of attack.

Basically can be presumed, that a collapse will be more dynamic, the smaller the angle of attack is in the moment of the collapse.

The smaller the angle of attack is, the quicker the collapsed side will undercut". The collapsed side will not deflate immediately and build up more drag. Deep" collapses are mostly the result. This generates generally a more aggressive reaction and is more demanding for the pilot.

It must be considered as very likely, that paragliders which shows a high collapse resistance due to a very stabile front-part of the wing, will react more aggressive in case of a real life collapse as older designs. In the meantime a number of frontal and asymmetric-collapse-accident reports supports these assumption.

The question is, in which direction we should go?

- Paragliders with a high resistance against collapses but more dynamic and demanding reactions in case of a collapse
- Paragliders with less stability against collapses, but with less dynamic and demanding reaction in case of a collapse.

Viewed under inclusion of the accident analysis and in the interest of the future of paragliding sport, the following analyse is the result

- All experts complains the fact, that a lot of paragliding pilots are regular flying in to strong conditions, which do not meet their skills. A further enhanced, subjective feeling of safety, due to more stabile paraglider canopies, would increase the problem.
- It is unquestioned, that deep" collapses steep kink angle, high drag appears in practice and that they lead to particular aggressive behaviour. With the use of collapse lines in the certification tests, a softer collapse behaviour can be reached, and this would show test results far away from the practice.
- Accident analysies shows clearly, that a majority of paraglider pilots do not react properly in case of an extreme situation, like collapses. Even this problem would increase with ultrastabile paragliders, which have the potential to react more aggressive as older designs.
- A majority of paragliding pilots do not need more performance, more speed and more stability. They need paragliders with the softest possible behaviour in extreme situations!

Concerning to the use of collapse lines for certification tests, that means
Paraglider, which can certified only with collapse lines because conventional tested, these designs would react to dynamicly, are most likely to be counterproductive for the safety and the future of the sport. In any case, this is valid for paraglider models, which are constructed for normal pilots". Even the problem, that it is not possible to perform collapses in SIV without a high risk for the pilot, is a clear point of the negative-list.
Due to these reasons, the safety department of DHV suggests, <u>not to use</u> collapse lines for the certification of paragliders class A, B and C. For class D, the collapse lines could have a limited access.

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