

## Loop Cutter Location Recommendation

Airtec has been testing rigs for more than 15 years. Each and every rig which is sold CYPRES ready was checked in our house for reserve openings by loop cutting. Over the years the task to open a container by loop cutting got more and more difficult. Especially in the last years, lots of rigs were redesigned to meet the requirements of freefly or speedskydiving. All efforts have been put into the containers to prevent them to open prematurely and to protect bridles, risers and toggles, etc.

It became harder to find technical ways to cover all these demands. On one side the reserve containers should stay close under all circumstances in freefall – on the other side an immediate opening without any hesitation is desired. These two criteria are difficult to meet. Several containers which have been in our house for testing needed modifications to assure reliable openings after a CYPRES activation. The pilotchute force was raised in general, but the error margin for riggers became smaller and smaller.

On containers with internal pilotchutes, the favourite cutter location is in most cases on flap nr. 1, the kicker plate below the pilotchute. It is favourite because it does not bulk at all and even a poor packjob would not make the mounted AAD “visible”. The downside of this cutter location is that the rigging work has a lot of influence on the length of the cut loop end above the cutter. Loose rigging increases the loop length above the cutter in any case. If the cutter is mounted above the pilotchute (in a rig with internal pilotchute) the cut loop length above the cutter will always be the same, independent from rigging influences. We put a lot of efforts in container testing to ensure reliable pilot chute launches after CYPRES activations.

We try to simulate the real world as good as possible and also make trials in sub-optimal conditions. Only when the results are safe under “real world” aspects, the installation is approved.

As the packing of very small reserve containers is getting more and more sophisticated, we see a cutter position above the pilotchute as being a very easy and inexpensive way to significantly increase safety. Many factors which neither the container manufacturer nor the AAD manufacturer have any influence over, can be eliminated. We appreciate the action Mirage is taking with this PSB because it eliminates possible side effects from a lot of field rigging errors which no manufacturer can prevent. We encourage other manufacturers of containers with internal pilotchutes to evaluate this cutter location and take similar action as is appropriate.

Our testing work and cooperation with rig manufacturers concerning CYPRES installations will continue in the future as in the past 15 years.