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Supplemental Packing Instructions

Date: September 1997

Application: All Mojo canopies

History: During the late 1980's it became clear that parachutes packed slider down/removed opened more cleanly and surged less if a nose - first opening was encouraged. This was generally achieved during packing by exposing the nose and rolling the tail of the canopy. To this end a number of additional configurations were also tried ranging from masking tape on the rear lines to using a special slider on the C, D and control lines only. Over time the predominant method of achieving nose-first openings became micro – reefing, or simply, placing more folds in the rear of the canopy than the front in an effort to promote nose first openings.
As more and more jumps were made and recorded on video, increasing incidents of "line-over" malfunctions that cleared themselves began to occur. Consistently, associated with these incidents were two factors: The canopy was deployed slider down / removed and there was usually damage to the trailing edge of the canopy and sometimes the end cell. The damage consisted of scuffs and / or burns on the upper and / or lower surfaces radiating outward from the control line attachment points parallel to the trailing edge or inline with the stress risers during deployment. The presence and severity of the damage seemed directly proportional to the length of the free-fall delay. Other BASE manufacturers corroborated all of these findings.
After studying extensive video footage and attempting to recreate the problem it was discovered that the "line-overs " were not line - overs at all in the classic sense. They were in fact tail entanglements or tail inversions - the result of the canopy's trailing edge inflating through it's self and then clearing as internal pressure or external drag increased. The upper control lines were causing the damage as they slid off.
Generally these malfunctions cleared themselves unnoticed or could be remedied by clearing the toggles. Undoubtedly they were occasionally mistaken for bonafide line-overs and remedied with the line release modification.
In early 1994, Consolidated Rigging began experimenting with methods for inhibiting these tail inversions. Working under the assumption that a rapid disreefing of the trailing edge was allowing it to flip and inflate inverted, we started experimenting with various methods of reefing the trailing edge during deployment. Ultimately we settled on an alternate method of line stowage simply named the differential stow. We encouraged the use of the differential stow by selected customers in an attempt to track it's performance. After almost 4 years since it was first used, we are now confident in recommending it's use for slider down / removed jumps. It has proven to reduce the incident of tail inversions. It cannot be stated that it is a cure for the tail inversion or the line – over but we do believe it is a step in the correct direction.

Overview: The differential stow (DS) is simply a method of stowing the suspension lines in the primary locking stow associated with the tail pocket. It increases reefing of the entire rear section of the canopy. It requires no special rigging, tools or accessories. It is NOT intended for use with a slider.

Method:
1. Pack as normal but do not stow any suspension lines.
2. Open the tail pocket and retrieve the primary stow rubber band (Consolidated Rigging recommends a standard skydiving rubber band typically used on Dacron lines). Starting at the risers, grasp all of the lines associated with the rear risers including control lines (C, D and control) and carefully trace them up to the canopy.
3. Take a 1.5" to 2.0" bite of these lines and make a double stow with the rubber band. This stow should hold the lines tightly. The DS will have little effect if the rubber band is too loose. Place the stowed bite of lines under the tail pocket in the space provided. **See figure A.**

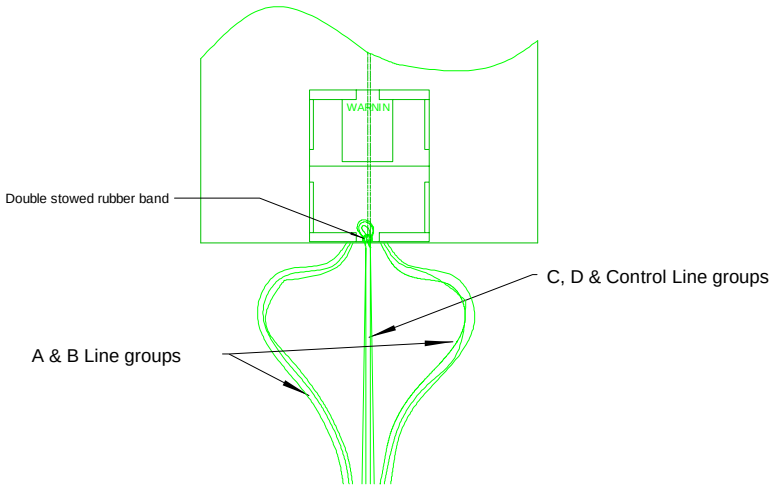

Figure A

4. You will now have approximately 5” of slack in the A and B-Line groups as pictured above. Begin stowing of all suspension lines into the tail pocket as normal. Milk the slack toward the container. Keeping this slack to the outside of your stows will easily absorb it within the first 3 to 4 stows. It is important to have all slack controlled by the time you have completed line stowage. Close the tail pocket

5. Place the parachute into the container and close as normal.

The entire rear portion of your deploying canopy will now be forced to clear the rubber band stow before inflating. The additional reefing of the canopy’s aft section compared to the front will promote nose first openings and discourage tail inversions.

NOTE: The differential stow method is not intended for use with a slider. It is for slider down or removed jumps only.

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