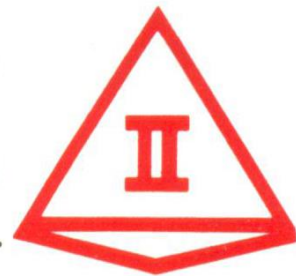




DELTA II

PARAWING



These are notes for packing an Irvin Delta2 Parawing.

The method is based on that shown by an experienced Parawing jumper but differs from that shown in any of the original manuals.

The notes are intended as a reminder for someone who is familiar with this parachute system.

It is assumed that the canopy is properly attached and the line continuity already verified.

NBThe Red Devils canopy pictured here has had all the original coloured lines replaced with new white line. The identifying colours referred to in these notes are now only on each line as the stitching at each end of the line and a coloured section applied with marker pen somewhere approximately level with the OSI.

Andrew Hilton December 2010



Lay the canopy on its side – OSI wrap side down on the ground. In the above picture the Tail of the canopy is at the front of the picture – unlike a ram air, the shortest lines are at the tail / back of the canopy and the longest at the nose/front of the canopy.

Confirm lines are clear of tangles and twists via a line check. A basic line check would be to take the 3 red lines from the tail of the canopy and verify each of these passes to the connector links without passing through or round any other lines.

Turn the rig upside down and secure to allow tensioning of lines during packing

Check internally that the upper and lower steering lines are clear of the canopy inner panels, keel line and each other.

Check the tubular nylon rip line is correctly and cleanly routed through the guide rings between the keel suspension lines of the canopy.

Neatly pleat out each layer and lobe of the canopy before starting to fold. When pleating the second segment before the nose, be sure to pleat both ends of the lower steering panels which connect to the top surface here.



Starting at the tail, flake each segment of canopy by grasping the top lobe and pulling the fabric tight to tension the 3 lines per segment (left, right and keel lines) and to keep the two sides of the canopy even at each point.







Keeping tension on the lines, start to stack the fabric and lines on top of each other. The rear of the canopy and the red lines stay on the ground, with the next group, the yellow lines and the associated fabric, being stacked on top.

This is very similar to a “flat”/“factory”/”stack” pack method used with ram air canopies.

Follow this through for the rest of the canopy.

Green lines along with the yellow **steering** lines are next on top of the yellow **suspension** lines. When stacking and flaking the second segment before the nose, be sure to flake the internal steering panels which connect to the top surface below the second segment.



Finally stack the 3 blue nose lines and fabric; the very front 4th blue nose line can be left for now.



Flake out the edges of the canopy at each outside line attachment point, to create the dog tooth effect in this picture.



The upper OSI can now be closed. Wrap it around the canopy level with its attachment point and mate the velcro.

Next the lower OSI (aka wrap) is going to be installed.
The correct fitting of this in relation to the lines is critical for the canopy to open.

Due to the critical nature of the OSI, check each line group is clear of the line group that is above and below it.
That is, check it will be correctly layered, following the sequence in which the canopy fabric segments are stacked.





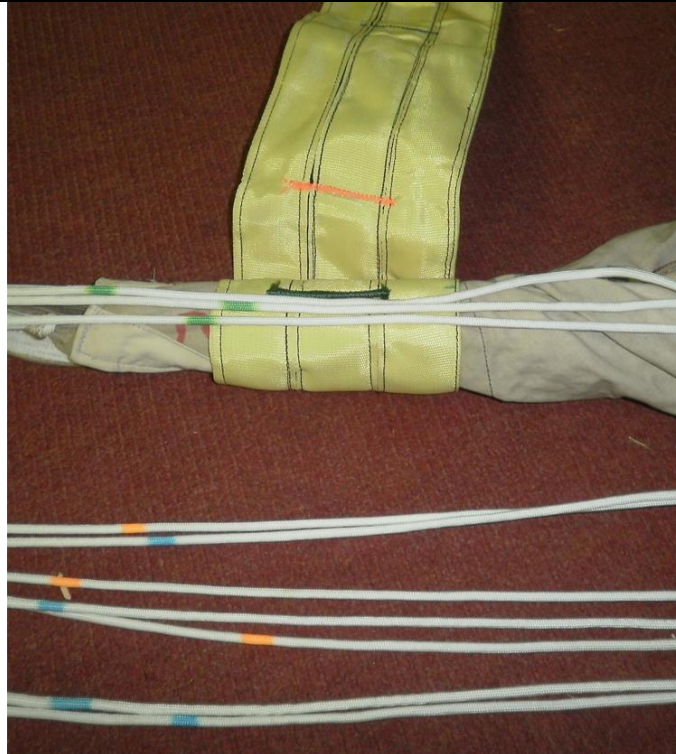
Also, locate the rip-line and velcro tab and ensure the green line that it runs down is clear and unhindered.

Relocate the lines back to the centre of the canopy stack after the line layering check.



The first roll of the wrap will be around 3 groups of lines - the red suspension lines, yellow suspension lines and yellow steering lines all at once.

Make a covering layer using the cotton triangular panels with the canopy logo on, to protect any canopy fabric from the lines, then tightly roll the OSI wrap once around this package of white cotton panels and red and yellow lines.



Next, as per the coloured tab on the wrap, place the green lines on the wrap and make another turn of the OSI wrap.

Next, as per the coloured tab on the wrap, place the 3 orange lines in the wrap and make another turn of the OSI wrap.



Next, as per the coloured tab on the wrap, place 3 blue lines in the wrap and make another turn of the OSI wrap. The final blue line attached to the very front of the canopy is left out of this turn of the OSI wrap.



The final blue line can be inserted inside the next OSI – or even left out of the OSI. This is optional and depends on the opening speed desired.

NB 1. I have experienced fast openings even with the nose line in the OSI.

2. Note that differing lengths of OSI wraps do exist between Deltawing2's.



Dig out the tubular nylon rip line and ensure the tubular nylon and green line that it runs down are clear.



Finally mate the velcro on the rip line onto the two pieces of velcro on the OSI wrap.



NB The velcro on the rip line MUST be installed as in the picture or the rip line will not peel the OSI velcro open on deployment but will remain shut and result in a streaming malfunction. The complete rip line and its metal ring will be on the canopy side of the OSI wrap, the velcro will open by being pulled up from the rig end of the OSI wrap.

See end of these notes for an alternative method of locking an OSI – requires rigger adjustment for any currently fitted with an OSI ripline.



Having completed the wrap, tidy the lines and canopy once more.



Fold the flaked out edges of the canopy in to cover the line channel in the middle.



Fold the nose around the sides of the canopy.



Ensure the OSI wrap and velcro is still intact and correctly closed.



S-fold the canopy into the bag. Ensure the Upper OSI remains intact during the bagging process.





The OSI will be at the mouth of the bag, ensure this is still intact and correctly closed at the end of the bagging process.



Stow the lines. On the original single flap mouth lock bag, double bungees on the mouth lock elastics are recommended to ensure the canopy remains in the bag until the lines are fully paid out. If the bag has 2 mouth lock flaps, then a single bungee for each elastic would be sufficient.



Close the line cover and stretch out the pilot chute bridle removing any remaining twists.



Before inserting the bag into the container, both must be turned over. The bag will be upside down with the lines on the bottom; the container, which was upside down to start with, will now be the right way up.

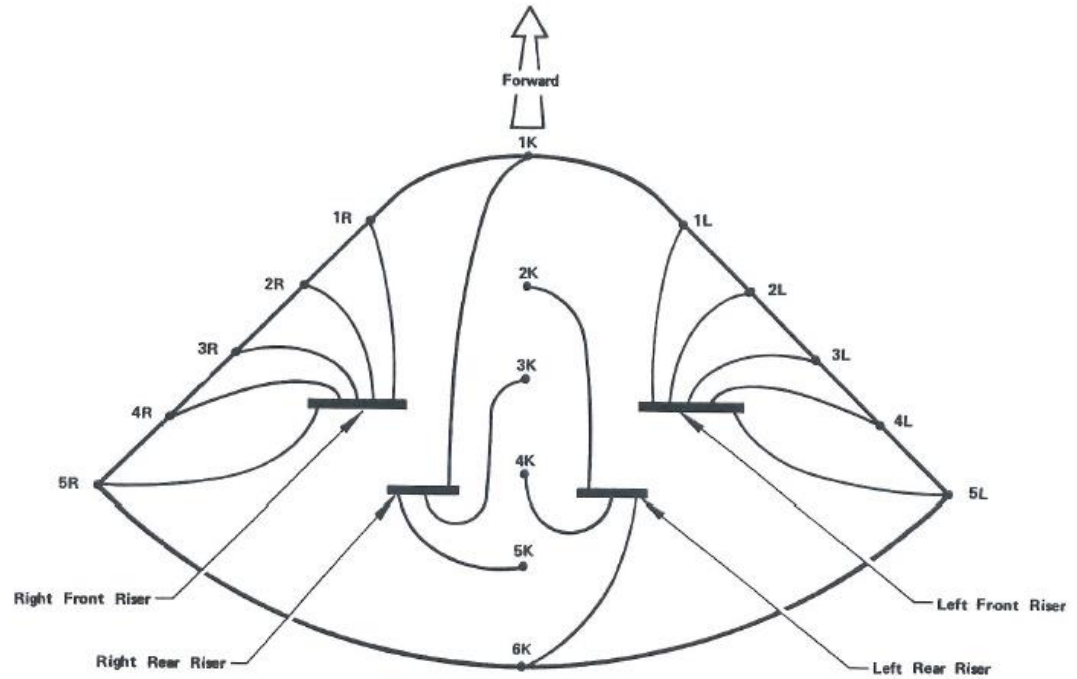
Close the container in the normal fashion.

Inflated canopy line sequence diagram –

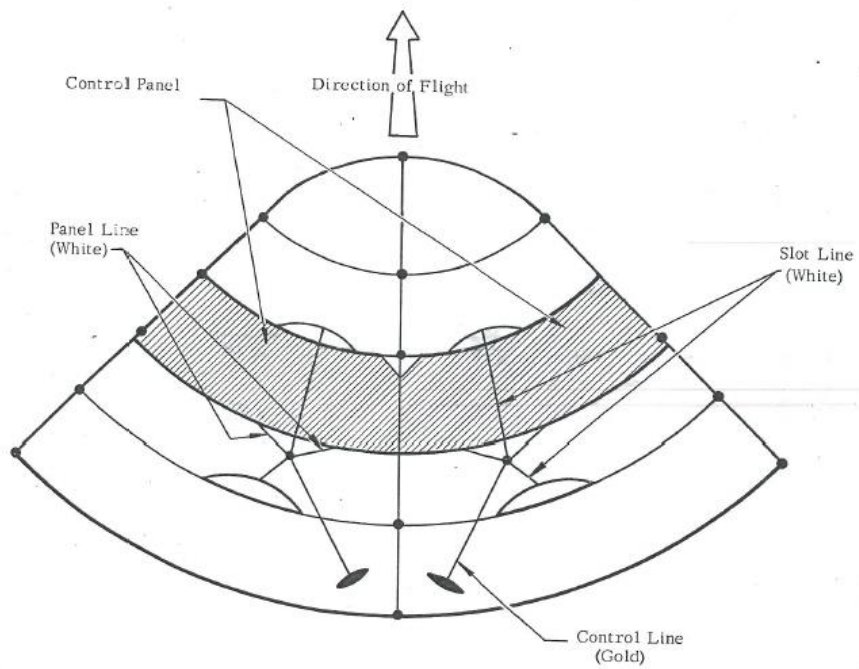
All Left hand side lines go to the left front riser

All Right hand side lines go to the right front riser

All Keel lines including the nose go to the rear risers



SUSPENSION LINE ROUTING DIAGRAM VIEWED FROM BENEATH CANOPY



VIEW LOOKING UP AT WING IN FLIGHT

Glossary

OSI - Opening Shock Inhibitor

Rip Line – for locking the OSI shut

Keel – Central line of canopy where the centre lines attach.



Some Delta 2 parawings had their OSI ripline simplified as per the above picture. The ripline was not employed. A piece of velcro was installed on the K1 blue line attached to the nose and used to lock the OSI. Note that the velcro has to be installed 'upside down' to ensure that the velcro is peeled off lengthwise during deployment or the OSI will remain locked.

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M. JENKINS

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