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## **Riggers' Subcommittee**

**Thursday 27 July 2017 at 1600**

**at BPA HQ, 5 Wharf Way, Glen Parva, Leicester LE2 9TF**

**Present:** Paul Applegate (AR) - Riggers' Subcommittee Chair  
Richard Wheatley (PRv)  
Dylan Morris-Roberts (PRnv)  
Pete Sizer (RE)  
Gary Stevens (PRnv)  
Rich Boardman (AR)  
Dave Major (AR)  
Noel Purcell (AR)  
Mat Knight (PRv)

**Key:**

RE = Rigger Examiner

AR = Advanced Rigger

PR(v) = Parachute Rigger (voting)

PR(nv) = Parachute Rigger (non-voting)

**Apologies:** Karen Saunders

**In Attendance:** Tony Butler - Chief Operating Officer  
Jeff Montgomery - Chair STC/STO  
John Hitchen - Vice Chair STC  
Trudy Kemp - Assistant to COO/STO

**Observers:** Martin Cole, Iain Anderson (*from item 8 vi*), Mike Rust (*From item 9*)

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### **ITEM**

**1. DECLARATIONS OF INTEREST**

The Chair invited declarations of interest relating to items on the agenda for this meeting. None were stated.

**2. MINUTES AND MATTERS ARISING FROM THE RIGGERS' SUBCOMMITTEE MEETING OF THE 1 JUNE 2017**

**Page 1, Item 2 – Tandem Mods Website & Supporting Documentation.** Following the last meeting, Martin Shuttleworth (Sec Gen) had contacted Paul Stockwell, as he wished to understand the issues that Paul had encountered with the BPA website, as the BPA website did not have a document upload facility except for site administrators.

The Chair also agreed to contact Paul Stockwell for an update on this project.

**Page 1, Item 2 – Mars 2 AAD.** The Chair agreed to contact Karen Saunders to find out if there had been any further issues relating to the Mars 2 AAD.

**Page 2, Item 2.**

The Committee had agreed to consider a number of areas in an effort to try and encourage more participation from Packers & Riggers.

Karen Saunders had compiled a list of banned equipment and items from previously issued BPA Safety notices, which she has passed to various Advanced Riggers and Rigger Examiners. She has also cross-referenced this with the APF website. The list had been tabled to those present for information.

Following consideration, the Committee thanked Karen for producing the list and it was agreed by those present that it be included in the Riggers' Technical Manual.

The Committee believed that the APF website was a valuable source of technical data and safety information, and it was felt that a link from the BPA website could perhaps be considered.

The STO reported that the Index of BPA Notices & Manufacturers Bulletins was available on the BPA website. He stated that as far as we are aware it is up to date and asked that if anyone came across any new information to contact HQ.

**Page 2, Item 2 – Equipment Related Incident Report Resume (i).** The Chair stated that he would contact the Rigger concerned regarding an incident reported at the April meeting.

**Page 2, Item 2 – Equipment Related Incident Report Resume (iii).** An incident had been reported regarding an SWS Fire container which had been found with signs of oxidation on the black metal work. The manufacturer had been made aware of this incident and the container had been returned to them for comment.

The Committee were advised that the manufacturers have stated that the container system had a distinct musty smell, characteristic of situations when the system was wet and not allowed to dry. The buckles had been removed from the container and returned to the hardware manufacturers for further inspection.

The owner of the equipment who was present this afternoon reported that the equipment had been stored in a suitably dry environment.

Mat Knight reported that he had come across a number of rigs by various manufacturers with matt black coated metal-work, which had started to corrode. He stated that this was a situation that the manufacturers were aware of.

The Committee advised owners of equipment with black or coloured hardware to be aware of this potential problem.

**Page 2, Item 2 – Requirements for Advanced Packer Courses – Suggested Tools List for AP Course Candidates.** This item was on the main agenda.

**Page 2, Item 2 – Confidential Report.** The Advanced Packer concerned had been in contact with an independent Rigger Examiner. A date for them to be re-evaluated had yet to be arranged.

**Page 6, Item 9 (ii). DSA Recommendations to the BPA – Guidelines for Assessing AP Currency.** This item was on the main Agenda.

There being no further matters arising, it was proposed by Rick Boardman and seconded by Pete Sizer that the Minutes of the Riggers Subcommittee Meeting of 1 June 2017 be accepted as a true record.

**Carried Unanimously**

**3. MATTERS ARISING FROM THE STC MEETING OF THE 1 JUNE 2017**

There were no matters arising from the previous meeting.

**4. STUDENT HARNESS & CONTAINER SYSTEM – INITIAL CLEARANCE**

The Chair reported that this item had been withdrawn from the Agenda.

**5. SUGGESTED TOOLS LIST FOR AP COURSE CANDIDATES**

Karen Saunders had produced a suggested list of tools for potential Advanced Packer Course candidates, a copy of which had been circulated with the Agenda.

Following discussion, the Committee agreed that the list be incorporated into the Advanced Packers Guide. It was felt that a guidance note to accompany the list would also be beneficial for candidates, which Pete Sizer agreed to produce.

**6. DRAFT GUIDELINES FOR RENEWING AP RATINGS**

At the previous meeting the Committee had been made aware of the Defiance Safety Authority (DSA) Recommendations to the BPA following the fatal accident at Skydive Bad Lippspringe in September 2015, and to the subsequent Working Group set up by the BPA to consider these recommendations.

To that end, the Working Group had asked the Riggers' Subcommittee to look at producing a set of requirements/guidelines to assist CIs/ARs when assessing AP currency at annual renewal.

Pete Sizer had produced a draft set of requirements/guidelines for consideration, a copy of which had been circulated with the Agenda.

The Committee considered the proposed document. A number of Riggers present expressed concern with regard to a CI's ability to determine an AP's currency particularly if they themselves did not hold a Rigger's rating.

It was felt by those present that CIs are ultimately responsible for the equipment at their PTO and they should be able to delegate the responsibility of assessing AP currency to a suitability qualified person at their PTO.

The Committee then considered whether the AP assessment should include a minimum number of pack jobs that the AP should have completed within the previous year.

Pete Sizer stated that he was endeavouring to make the assessment manageable and believed that by stipulating the number of pack jobs would make the assessment much more complicated to conduct.

Pete stated that he believed there was a huge difference between those APs who maintain their AP rating just to look after their own kit and those packing huge numbers. For these packers, he believed that the assessor should be looking for a variety of pack jobs as well as assessing currency.

The COO stated that the intention was that the document be given a BPA Form number and will be appended to the Working Group report into the DSA recommendations to the BPA, which will be presented to STC in the future.

Following further consideration, it was proposed by Pete Sizer and seconded by Dave Major that the above Requirements and Guidelines for Renewing Advanced Packer Ratings be accepted.

**Carried Unanimously**

**Note:** Form 302 – Requirements and Guidelines for Renewing Advanced Packer Ratings would be uploaded to the BPA Forms page of the BPA website: <http://www.bpa.org.uk/bpa-forms/>

**7. EQUIPMENT RELATED INCIDENT REPORT RESUME**

HQ had received several Incident / Malfunction / or Deployment problems reported since the last Riggers Subcommittee meeting:

- i) On the 31 May 2017, a jumper with 295 descents had his left control line break on deployment. The canopy had approximately 200 descents from new. The jumper elected to land his main canopy on rear risers. The main was a Sabre 2 190, with an Optimum 170 reserve, a Vigil AAD and an Avalon Sport container.

The Avalon Container is a Bulgarian manufactured container.

<http://www.avalonskydive.com>

On research by HQ a Safety Bulletin was found which was issued in September last year and it concerns high pull forces on the Spectra reserve handles. Although this is not directly related to the incident, but more for Committee's information.

[http://www.avalonskydive.com/site/public/images/certificates/Spectra\\_handle.pdf](http://www.avalonskydive.com/site/public/images/certificates/Spectra_handle.pdf)

- ii) On the 4 June 2017, a Tandem Instructor sustained a hard opening on deployment. The Tandem landed safely on the PLA. On inspection of the equipment after the descent, there was significant damage to the top skin of the main canopy including a large tear and a broken cascade line.

The container was a Sigma. The main canopy was a Sigma 2 370 D.O.M: July / 2015 with a reserve was a Vector 2 reserve. The main canopy had 436 descents on it.

The PTO seem to have an issue with the bungees they are using. They are the UPT Sport Bungees bought from UPT. They are being used in the correct manner - (double stowed). After analysing many other openings from recent descents, they are finding quite a lot of out of sequence deployments potentially leading to line-dump problems.

The PTO is currently working with UPT on both a short term as well as a long-term fix. It would appear that the rubber bands are not to the usual quality.

The PTO have changed the drogue kill line calibration from 4" to between 1 and 1.5". What this achieves is less snatch force on bag lift once the primary handle has been pulled and the drogue collapses, placing less stress on the bungies, therefore reducing out of sequence deployments such as line dump. The PTO are also ensuring that the packing assistants replace any damaged bungies, set the brakes and untwist the brake lines. This has improved the efficiency and the quality of the pack jobs.

- iii) On the 16 June 2017, a Tandem Instructor carried out a normal exit from the aircraft followed by deployment of the drogue. The drogue failed to inflate. The instructor waited 10 secs and pulled the primary release handle. The main canopy deployed correctly without further incident. After inspection on the ground, the bridle, kill line and drogue were found to be in good order. This was likely to have been a packing error and all the packers were reminded of their responsibilities.

- iv) On the 18 June 2017, the same Tandem Instructor carried out a normal exit from the aircraft followed by a drogue deployment. The drogue failed to inflate and in this instance the instructor thought the bridle had snapped and initiated the deployment of the reserve and the pair landed safely on the PLA.

After analysing the footage of the jump, it was found that in this instance the bridle wrapped around the drogue pilot chute causing the drogue not to inflate. The drogue was inspected on the ground and was found to have been cocked correctly.

- v) On the 13 July 2017, a Tandem Instructor carried out a Tandem descent, where shortly after deployment of the main canopy the right steering toggle separated from the steering line. The Tandem Instructor opted to steer the canopy with the rear risers and secondary brake lines resulting in a successful landing. The canopy was a Sigma 370, which had just recently undergone a re-line. The toggle came off on the 20<sup>th</sup> jump after re-line. The report indicates that it could possibly be due to the bar tack not being tied down properly at the point of manufacture.

The PTO later confirmed that on further inspection of the canopy steering lines, the left steering toggle also freed itself, after having been pulled on the ground. All other canopies were inspected prior to any further jumps and all their instructors and packers were reminded to check the integrity of the bar tacks as part of every repack.

This particular line set was manufactured in the UK. The PTO had informed the manufacturer and made them aware of the incident. Subsequently, the STO had also spoken to the manufacturer and assurance was made that the procedure for manufacturing line sets had been reviewed and more stringent quality control has been adopted. The manufacturer has also contacted other buyers who purchased line sets from them and informed them of the problem.

- vi) On the 16 July 2017, a female jumper who was undertaking her first static line descent experienced a static line hang up a few seconds after exit.

The student was the second static line student to exit on this pass. Upon exit she was seen to roll to her left, turning 180 degrees in the slipstream towards the rear of the plane. The initial deployment sequence, lifting of the static line bag and line deployment was normal. No entanglement with the jumper was observed. The student later also confirmed she was not entangled in any way.

As the lines reached the last stows in the deployment sequence stopped and the student was in tow with the aircraft. The instructor declared a 'Hang Up' to the pilot and then retrieved the aircraft knife from next to the door. The student at this point had recognised a Hang Up and placed her hands on her head. The instructor could clearly see the static line wrapped around the deployment bag. He elected to cut the static line as soon as possible to reduce the risk of the student deploying their reserve whilst attached to the aircraft.

As soon as the instructor cut the static line, the main continued its normal deployment. The whole process from exit to full canopy took less than 10 seconds. The student completed a routine canopy descent and landed normally on the PLA with typical radio guidance for a first-time jumper.

The equipment was a Javelin container, the main was a Manta 290 and a Tempo 250 reserve fitted with a Vigil 2 AAD.

The reason for the hang-up is not known, but it may have been caused by overtight line stowage causing the bag to tip onto its end and rotate, which could be a factor. A light student resulting in less line tension and the student turning in the slipstream could also be factors.

The CI of the PTO concerned was present this afternoon and was able to provide further details. He stated that he had considered various scenarios of how the incident could have happened and had tried to replicate the incident on the ground.

The Committee discussed this incident, and considered various scenarios, but again, there seemed to be no clear-cut answers.

- vii) On the 20 July 2017, a Tandem Instructor on board a flight for the purpose of parachuting, noticed that the AAD of the Tandem instructor sat in front of him in the aircraft was not switched on.

The Tandem Instructor whose AAD was switched off and his student remained onboard and they both landed with the aircraft.

This was the Tandem Instructor's and that Tandem system's first lift of the day. The Tandem instructor has assured his CI that the AAD was switched on by himself prior to getting on board the aircraft.

The Tandem Instructor received a flight line check by the same Tandem Instructor, who later noticed that the AAD was switched off inside the aircraft. At the time of the flight line check, the instructor who checked the AAD assured his CI that the AAD was switched on.

The PTO have sent the AAD back to the manufacturer for analysis and once they receive the report they will notify HQ of their findings.

The AAD was a Gold Tandem Cyprus 2 (T), Ser No C3068, DOM 06/16 and only a certain amount were manufactured to that specification, where the display unit is in Gold colour.

- viii) A Rigger Examiner had been sent a few pics from PRs & APs where the red lanyard had come off / slips off the Skyhook. This can easily happen if the safety thread is not tight around the opening of the Skyhook.

## **8. ADVANCED PACKERS COURSE REPORTS**

The following Advanced Packer Courses had been held since the last meeting, and the respective Course Reports had been circulated to those present:

- i) George Panagopoulos had run an Advanced Packers Examination Netheravon from the 6 – 7 June 2017. The Course was attended by Elod-Jozsef Otvos.

Elod-Jozsef successfully completed the Course and was awarded Advanced Packer (Grade S) status.

- ii) Karen Saunders had run an Advanced Packers Training Course at Skydive St Andrews from the 6 – 9 June 2017. The Course was attended by Robert Peterson, Patrycja Chyzynska and Peter Cuthbert all of whom were advised to attend the Examination phase of the Course once they had completed a number of supervised reserve pack jobs.

Karen had also reported that Rupert Connell had attended the above Course with a view to having his AP (S) rating re-instated.

Rupert had been granted 'permission' to attend this particular Course as the fourth candidate at the previous Riggers' Subcommittee meeting on 1 June 2017.

Karen Saunders stated that Rupert was updated in all aspects of packing relative to his status, after which he successfully completed the examination phase and was re-instated with his AP (Grade S) rating.

- iii) George Panagopoulos had run an Advanced Packers Examination Netheravon from the 20 – 21 June 2017. The Course was attended by Gary Chapman.

Gary successfully completed the Course and was awarded Advanced Packer (Grade S) status.

- iv) Noel Purcell had run an Advanced Packers Tandem Upgrade Course at Skydive Hibaldstow from the 10 – 11 July 2017.

The Course was attended by Liam Goddard and Ionut-Lucian Ciofu both whom successfully completed the Course and were awarded with Advanced Packer (Grade T) status.

- v) Noel Purcell had run an Advanced Packers Examination Course at Skydive Hibaldstow from the 13 – 14 July 2017. The Course was attended by Phil Wayper.

Phil successfully completed the Course and awarded with Advanced Packer (Grade S) status.

**9. PERMISSIONS**

No request for 'permissions' had been received.

**10. BPA SAFETY NOTICES/INFORMATION BULLETINS**

There had been no BPA Safety Notices/Information Bulletins issued since the last meeting.

**11. MANUFACTURERS' SAFETY NOTICES/INFORMATION BULLETINS**

- i) The German Federation DFV had recently released a Bulletin regarding the use and inspection of Soft-Links. This had been due to their concern over repeated reports of wrongly installed soft-links.

A copy of the DFV Bulletin including the translation document and instructions from various manufacturers on the use of their soft-links, had been previously circulated and would also be attached to the Minutes for information.

- ii) The STO reported that he had recently been made aware of a notice (dated 1 June 2016), which a CI had alerted him to on the UPT website. It concerned the Mandatory re-certification of Vector Tandem Reserve canopies.

Following discussion, the Committee agreed that for any Vector Tandem reserve canopies that may be affected by the requirements on the notice, were now grounded and are not to be used until they have been returned from the manufacturer with a re-certification instruction.

The notice would be circulated to CIs and PTOs tomorrow and would also attached to the Minutes for information.

**9. A.O.B.**

- i) **Nomination of Chair of BPA Riggers' Subcommittee for 2018**

The COO reported that it is the intention of BPA Council to review all Committee Terms of Reference (ToRs), and this would include the nominations process for the annual election of the Riggers' Subcommittee Chair.

In the meantime, he stated that he had created a new Nomination Form (Form 211A) for this process, which would be uploaded to the BPA Forms page of the BPA website: <http://www.bpa.org.uk/bpa-forms/>

It was noted that the new arrangements for the nomination of BPA Riggers' Subcommittee Chair would require an amendment to the BPA Riggers' Subcommittee ToRs.

The COO stated that he would draft an amended Riggers' Subcommittee ToRs for consideration at the next meeting.

- ii) The Chair reported that Noel Purcell has registered Ionut-Lucian Ciofu as a BPA Method 2 Basic Rigger.

- iii) The Tandem Equipment Record of Inspection books were due for a re-print. There had been no record of any suggested amendments from previous meetings. Therefore, unless anyone has any changes, the books will be sent off to print!

Dates of Next Meetings:                      Thursdays at 1600: 21 September and  
16 November at BPA HQ, 5 Wharf Way, Glen Parva,  
Leicester LE2 9TF

8 August 2017

**PAPERWORK REQUIRING CIRCULATION WITH THE NEXT AGENDA MUST REACH THE BPA OFFICE BY MONDAY 4 SEPTEMBER 2017**

**Distribution:**

Chairperson Riggers' Subcommittee, All CIs, All Riggers, Advanced Packers, Council, CAA  
Editor – Skydive



UNINSURED **UNITED PARACHUTE TECHNOLOGIES, LLC.**



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WWW.UPTVECTOR.COM

Deland, June 1<sup>st</sup> 2016

**To: Whom it may concern**

**Re: Mandatory re-certification of Vector Tandem Reserve canopies**

Uninsured United Parachute Technologies, LLC (UPT) requires any Vector Tandem reserve canopy VR-360 (All VTC models, including VTC-xxx or VTC-xxxR) to be inspected, tested, and re-certified, once either of the following criteria have been met:

- 25 x deployment / use
- 40 x packs/repacks
- 20 years after manufacturing date

The canopy must be returned to either UPT or Performance Designs Inc. for testing. If the canopy passes a series of evaluation criteria, a re-certification of the canopy will be issued for a defined amount of deployments or repacks.

This requirement is in place to ensure that the VR-360 follows company standards regarding fabric permeability, suspension and control line condition, and overall condition before continued usage.

Kenneth Gajda

*Rigging Department Manager  
Uninsured United Parachute Technologies*

**RIGGING DEPARTMENT**

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Deutscher Fallschirmsportverband (DFV) e.V.  
Deutscher Aero-Club (DAeC) e.V. Luftsportgerätebüro  
Verband unabhängiger Prüfer von Luftsportgerät e.V.

An alle Vereine/Schulen/  
Fallschirmtechniker  
Fallschirmwarte

**Technische Mitteilung**  
**Soft-Links**

herausgegeben: 02. Juni 2017

Nummer: 06/2017

Bezug: Einbau und Kontrolle Soft-Links

Betroffene Muster: Soft-Links

Grund: wiederholte Meldungen über den falschen Einbau von Soft-Links

Maßnahmen: Es sollten alle Softlinks vor dem nächsten packen, vorsorglich auf Zustand und Funktionalität geprüft werden.  
Zur Prüfung muß die originale Einbauanleitung vorliegen.  
Nur eingewiesenes bzw. berechtigtes Personal darf Soft-Links einbauen und prüfen.  
**Hierbei ist die Herstelleranweisung zu beachten!**  
Es sollten das 4-Augenprinzip zur Kontrolle angewendet werden.  
Unabhängig davon kann es nicht schaden, auch eine Kontrolle der Hard-Links durchzuführen.

Bemerkungen: **Im Anhang findet Ihr einige Anleitungen zum Einbau von Softlinks**

Verteiler: Techniker, Warte, Händler, Vereine, Sprungzentren.

Dresden, den 02. Juni 2017

Referat Technik DFV

Ralf Homuth – Geschäftsstellenleiter VuPL

## Translation of Bulletin 06/2017

Published: June 02, 2017

Number: 06/2017

Subject: Use and inspection of Soft-Links

Part involved: All Soft-Links

Reason: Repeated reports of wrong installation of Soft-Links

Implementing regulation: Check the condition and the functionality of all Soft-Links before the next repack using the original manual of the Soft-Links involved. Only qualified persons are allowed to mount and inspect Soft-Links **according to the instructions, set by the manufacturer.** Checking should be done using the "4 eye principle"!! Hard-Links should be checked also...

Remarks: Attached are some instructions from different manufacturers for the use of their Soft-Links

# Avalon



## AVALON User Guide and Packing Manual

- Reserve handle integrity and correct size fitted,
- Cut away housing integrity and correct size fitted,
- Reserve risers and deployment brake system.

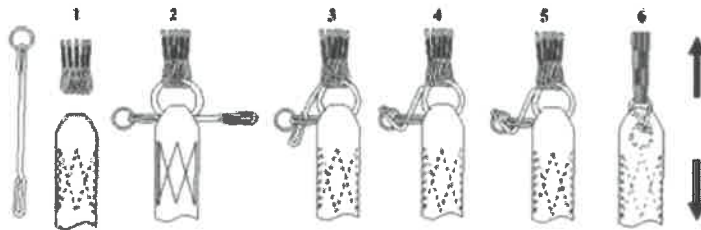
Check the AVALON Sport- and Student Harness Container for any worn, damaged, corroded or incorrectly rigged components. Any of such components must be repaired or replaced before the harness container is packed for use.

For Reserve canopy installation, read and follow the instructions included in the Reserve canopy instruction manual.

### 2.2. Reserve canopy assembly

For the assembly of the reserve canopy please follow the instructions provided in the manual of the reserve canopy. If there are soft links on the reserve canopy follow the assembly instructions below.

#### 2.2.1 Soft-links

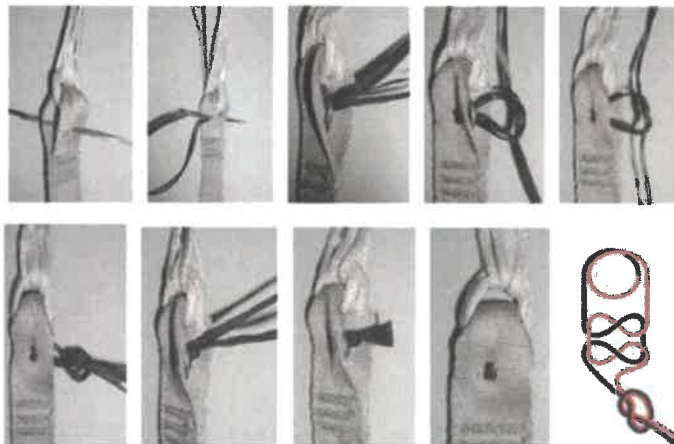


Secure the Soft Link ring in the webbing pocket, and load tack as shown or as described in the reserve canopy instruction manual.

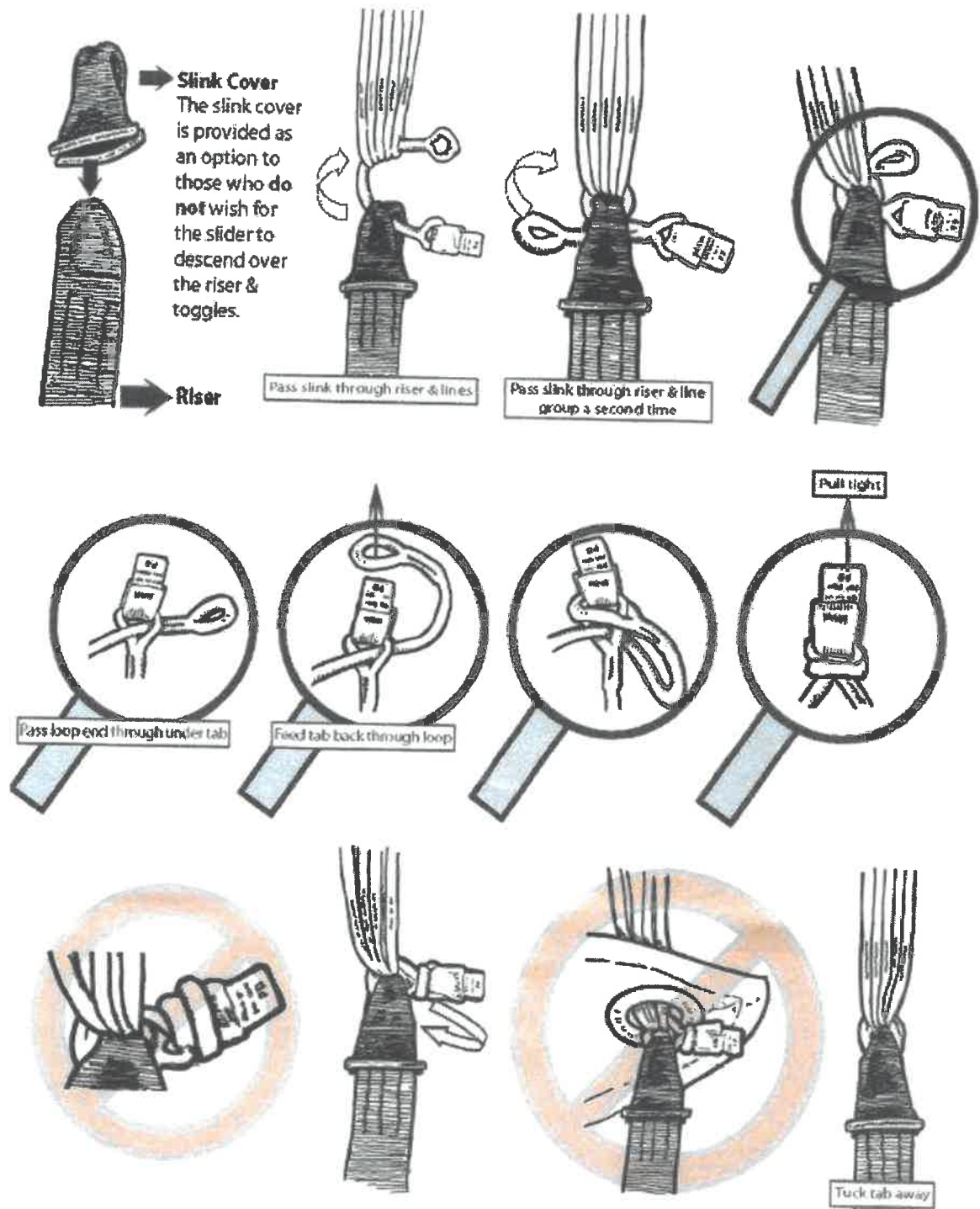
|  |         |           |
|--|---------|-----------|
| Read and follow the instructions before packing and/or using the product   |         |           |
| AVA Sport Ltd. Bulgaria, 3400-Nisenzha, Zlatari Street, 69 64  | Edison  | Page 9-31 |
| Tel: +359 06 300 235, Fax: +359 06 307 296 e-mail: <a href="mailto:ava.sport@ava.sport.com">ava.sport@ava.sport.com</a> / <a href="mailto:ava@ava.sport.com">ava@ava.sport.com</a> | 02/2011 |           |



## AVALON User Guide and Packing Manual



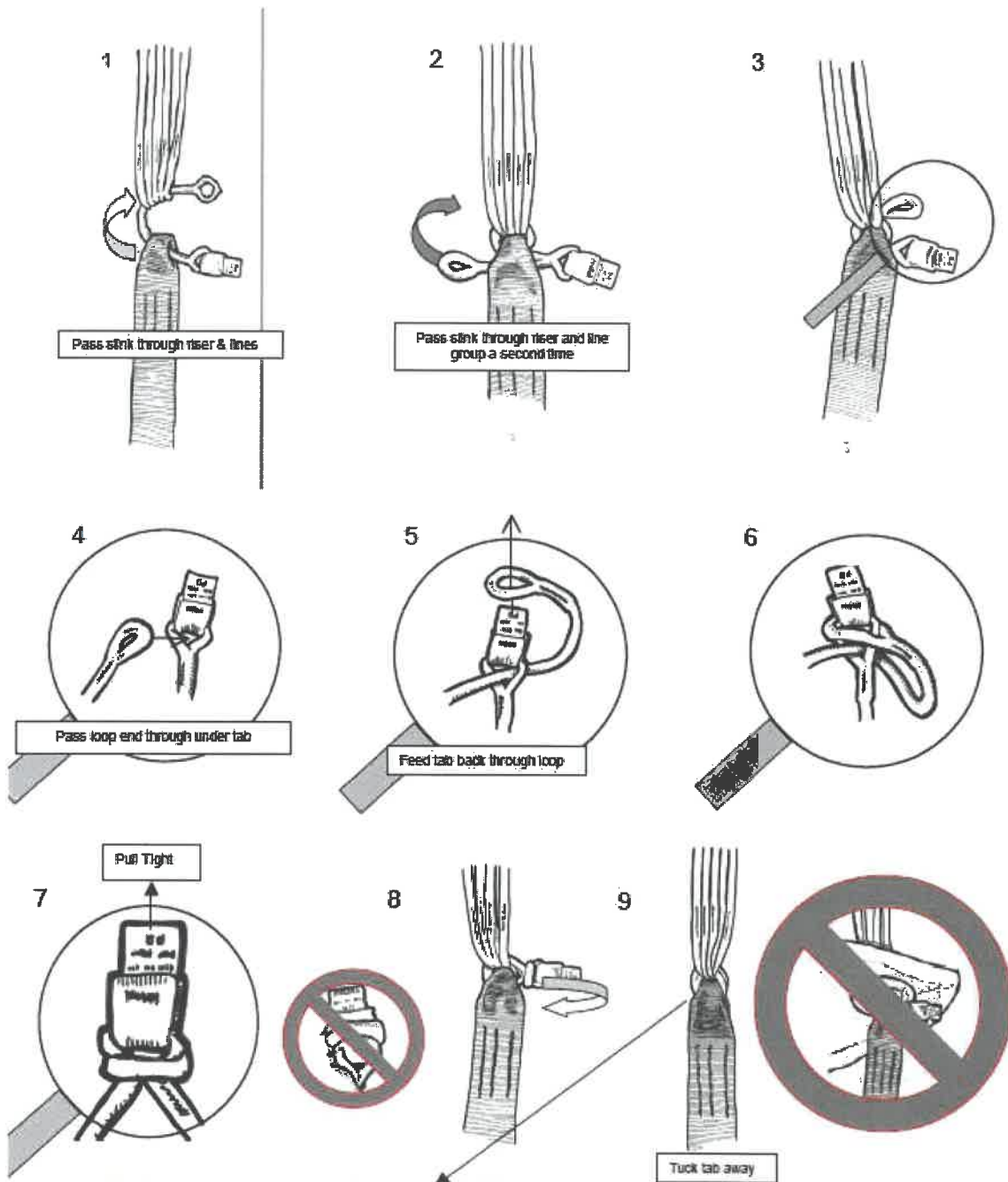
# Performance Design



During the first 15-20 deployments on a set of slinks they will develop a "set". Make sure this set happens properly by keeping the Slink tab positioned inside the riser during these initial pack jobs/deployments.

MAN-016-D REV. C

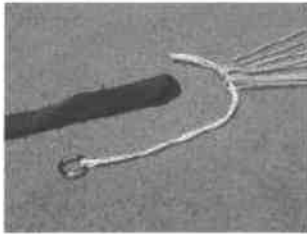
# Performance Design



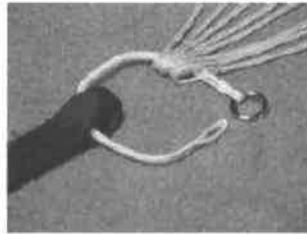
The first 15-20 deployments will cause the sink to take a more permanent "set". It is important to ensure that the tab is located between the riser during this period so as to insure this set occurs with the tab in the proper position. Once this has occurred, the sink will have a tendency to remain in this position. If this procedure is not followed, the tab may rotate out of position. Allowing the tab to remain outside of the riser during deployment and flight may result in excessive wear of the sink, potentially leading to a structural failure.

# Precision

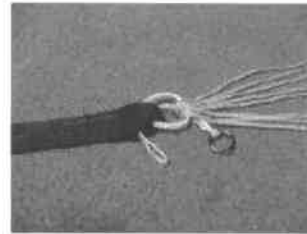
## Wrap-It Link™ Assembly Instructions



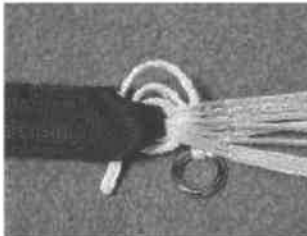
1. Confirm continuity,  
insert link through lines...



2. Wrap-It™ through riser...



3. Wrap-It™ through lines  
and riser a second time...



4. Wrap-It™ through lines  
and riser a third time...



5. Place end through loop  
holding ring...



6. Lock running end by  
pulling ring through loop.



7. Pull to tighten knot...



8. Pull lines and riser to  
evenly distribute 3 wraps.



9. Rotate ring into riser  
and shape link as shown  
above.

**Precision**  
aerodynamics, inc.

727 Rankin Ave. N., P. O. Box 386, Dunlap, TN 37327, USA  
423-949-4688 423-949-5174 (fax)  
[www.aerodynamics.com](http://www.aerodynamics.com)

# Hiper USA

## Installation Instructions for HiPerLink Soft Connector Links



1) Check the continuity of your line group. Begin installation by inserting the link through all the lines and then through the riser.



2) Pass the link through the lines and through the riser again, so that the link forms a doubled loop.



3) Insert the small loop at the top of the link through the loop just above the stopper knot. It may be necessary to use a fid or ballpoint pen to open the loop slightly to allow insertion.



4) Using a fid, ballpoint pen, or similar object, carefully open the top loop a little wider to enable it to pass over the stopper knot. Make sure that you don't damage any of the fibers as you perform this step.



5) Now pass the widened loop over the stopper knot, then "milk" the finger-trapped portion of the link to return the top loop to its original smaller size.



6) Rotate the link so that the knotted portion is hidden inside the riser. Finally, pull the riser and suspension lines away from each other to tighten the connector link. It is important that the locking section of the link remain inside the riser, so for the first several pack jobs check for this. After a few jumps the link will take a "set" and have no tendency to rotate.



[www.HiPerUSA.com](http://www.HiPerUSA.com)



# Aerazur / Parachutes de France

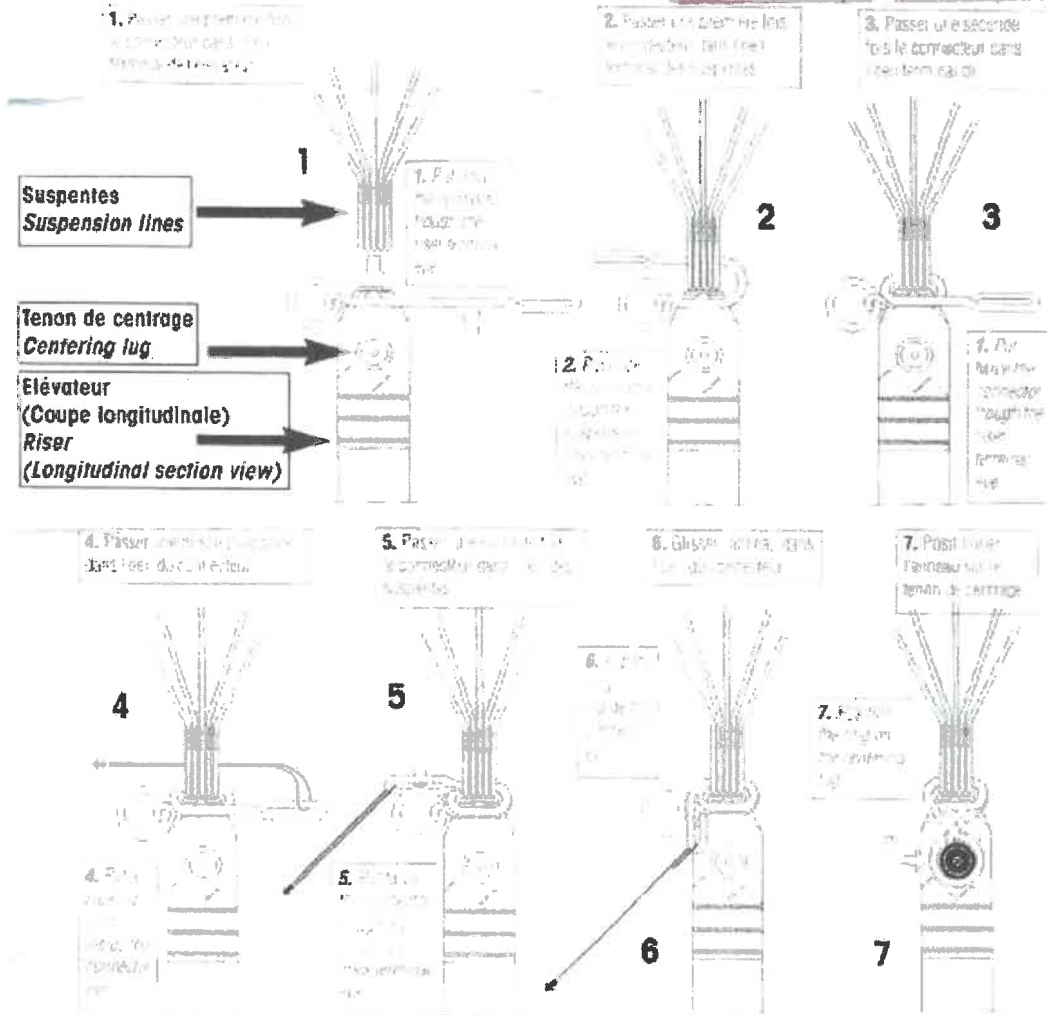
**CONNECTEURS SOUPLES P.F. P9009122800**  
**P.F. SUPPLE CONNECTORS**  
**MANUEL - MANUAL**

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**ATTENTION: Pour votre propre sécurité, n'utilisez QUE des composants originaux Parachutes de France S.A. !!!**  
**CAUTION: For your own safety, use Parachutes de France S.A. genuine components ONLY !!!**

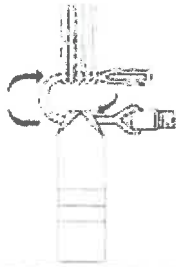
# Icarus Canopies



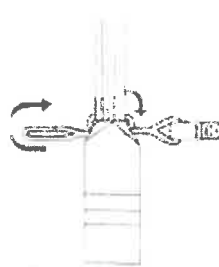
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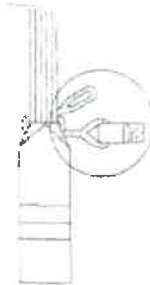
## Installation Instructions for Removable Softlinks



1 Pass the softlink through the riser and line braid ensuring that you tuck the corners of the riser webbing in.



2 Pass the Softlink through the riser and line group a 2<sup>nd</sup> time.



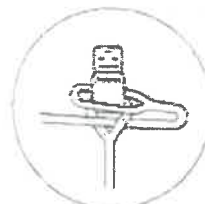
3 Both ends of the Softlink should exit on the same side.



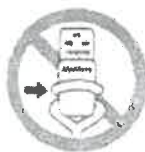
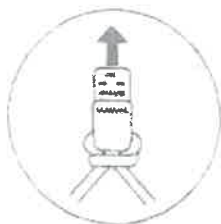
4 Pass the end through the opening under the tab.



5 Feed the tab through the loop.



6 Pull the tab so that the loop tightens.



7 Grasp above and below the softlink and pull to 20kg to set the link. Tuck the tab away inside the riser webbing opening.

# Icarus Canopies



## Soft Link Installation Instructions



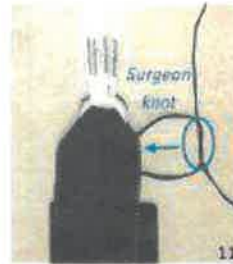
- 1 To keep the correct order of the lines during the installation of the soft link, pass the soft link through the lines without removing the plastic.
- 2 Once soft link is completely through line group, remove the plastic.

- 3 Pass the soft link through the riser completing the first loop.
- 4 Then, pass the soft link through the line group and riser a second time to complete the second loop.



- 5 Pass the loop end of the soft link through the opening under the ring.
- 6 Insert the ring through the loop end of the soft link and pull tight.

- 7 Pull on lines and riser simultaneously to even the length of the 2 link passes, and place the ring inside the riser.
- 8 Sew one hand tack passing through the ring and attaching only one side of the riser. \*Use Lite Super Tack Cord.



- 9 Pass the needle back through the two layers of the riser, without passing through the ring.
- 10 Pass the needle back, one last time, through one side of the riser only and in front of the stitch made in point 8.

- 11 Tie a surgeon knot inside of the riser.
- 12 Finally, cut ends of thread, making sure they are not too close to the knots, and check correct assembly.

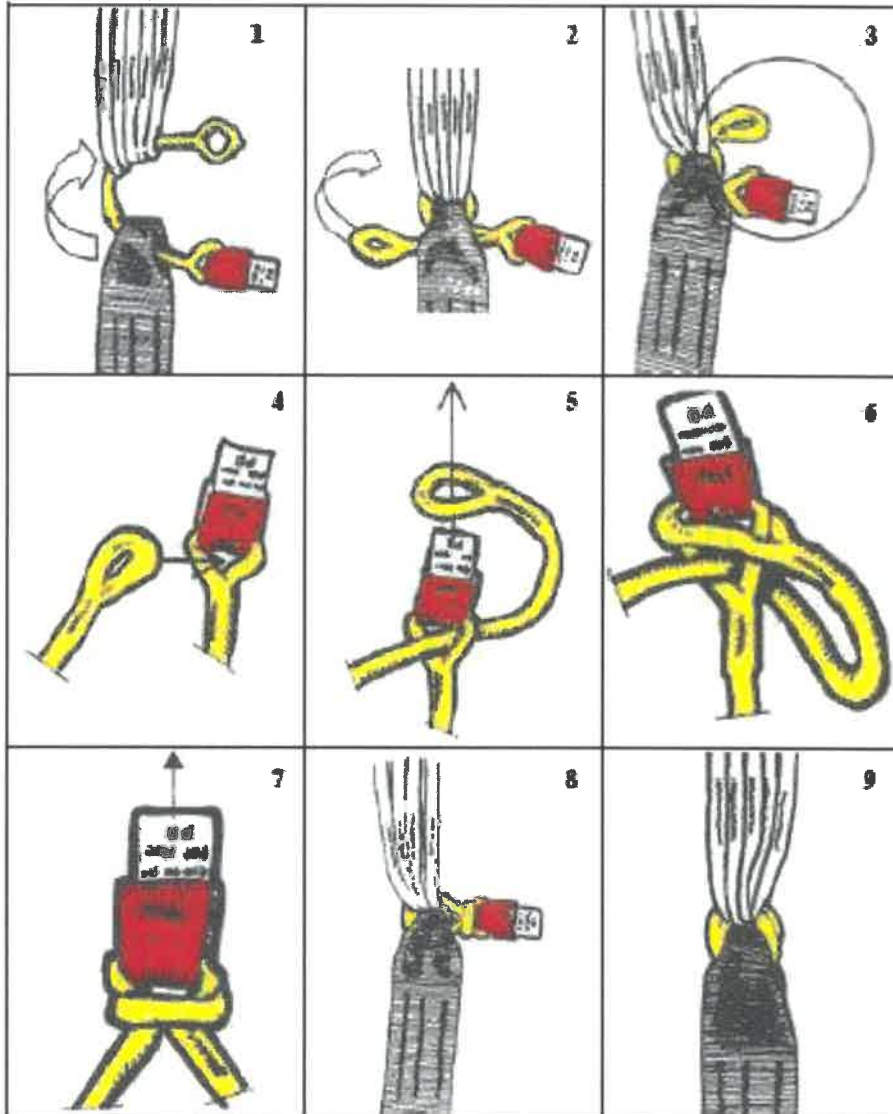


# Firebird

|   |                            |  |
|---|----------------------------|--|
| Doc. No.: EH-O-VIR1<br>Date: 01.03.05<br>Revision: 5<br>Rev. date: 01.07.2006<br>Page: 13 of 73 | Equipment Handbook<br>VIR1 |  |
|---|----------------------------|--|

## How to mount Soft Links to your canopy:

Performance Designs Soft Links ©



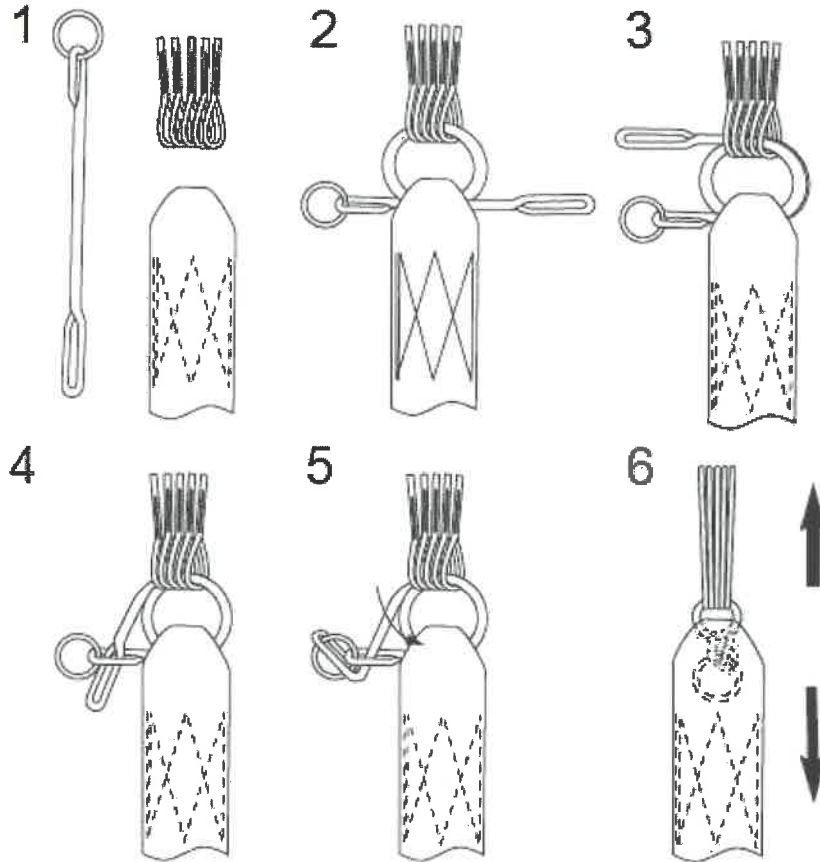
It is important that the softlinks will stay in the right position. They should not turn out of the riser (like in picture 8). The red marked stopper must remain inside the riser. If the stopper is out of the riser it is possible to get caught a line. This can cause a malfunction on the main canopy. To avoid that it is possible to fix the softlink to the riser. (Use supertack 80-90 lbs. MIL-T-43435 or 50 lbs. MIL-T-43435).

## Installation of soft links:

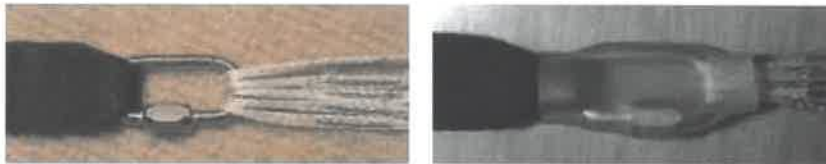
Aerodyne main canopies come standard with soft links to attach the suspension lines to the risers except the Solo students canopies.

Soft links PN: P 1487-01

Installation procedure on front and rear risers:



If the canopy is connected to the risers with stainless steel rapid links, tighten the barrel with a wrench (do not over tighten or you may break the barrel) and slide the silicone tube over the link for protection.



Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.  
Lire l'avertissement page 2 de ce manuel et suivre les instructions avant de plier et/ou d'utiliser le produit.



# Instructions for ALink Installation

Aerodyne Research, LLC, 1407 Flightline Blvd Unit 14 Deland, FL 32724, USA.  
+1-813-891-8300 www.flyaerodyne.com

**ALink for Main Canopies**  
PN: P 1487-00 (Gray Bartack)

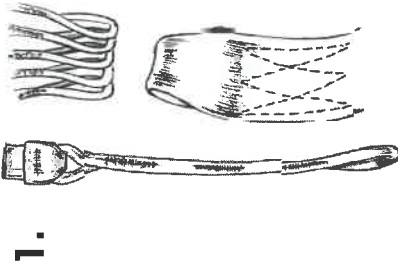


155 mm / 6.125 inch

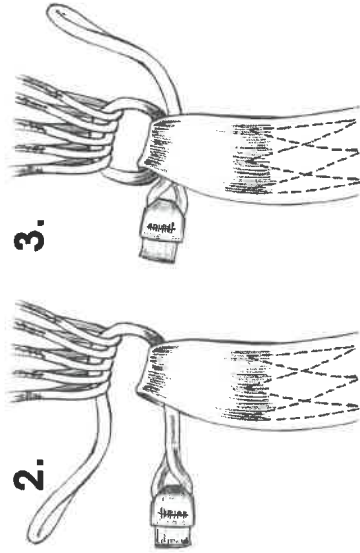
**ALink for Reserve Canopies**  
PN: P 1487-01 (Red Bartack)



170 mm / 6.75 inch



1.



2.

3.

Pass the ALink thru the suspension line loops and riser as shown.

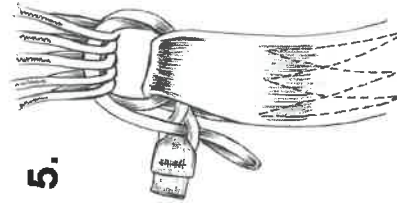
Ensure that you have passed the ALink thru all the suspension lines and that the suspension lines are clear to move.

Pass the ALink loop thru the risers, as shown.

Pass the ALink loop thru the suspension lines one more time, as shown.

Ensure that the ALink passes thru all the suspension line loops.

Check that the suspension lines are clear to move, make sure you have not passed the ALink in between the yams of the lines.



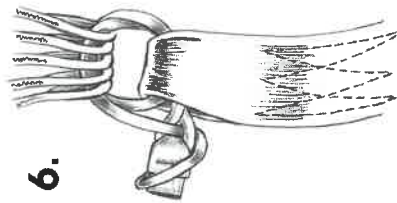
4.

Pass the loop end thru the tab end, as shown.

**WARNING**

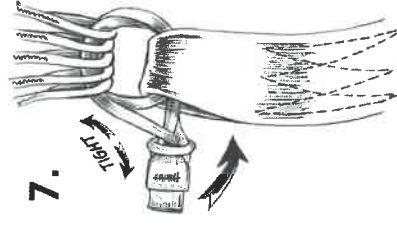


**DO NOT** pass the tab directly through the loop. Please follow steps 5 & 6 carefully.



5.

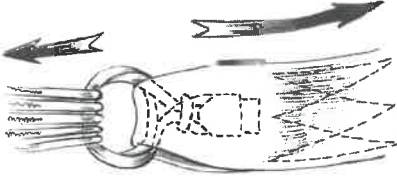
Feed the loop back over the tab.



6.

Lark's head, as shown. Pull tight, ensure the lark's head is secure.

Check that the suspension lines can move freely over the ALink and make sure you have not passed the ALink in between the yams of the suspension lines.

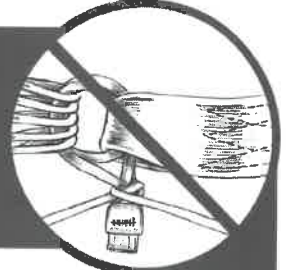


7.

Tuck the tab away as shown.

Hold the suspension lines and riser and give a sharp pull to set the ALink.

**WARNING**



It's important to secure the tab in the webbing pocket by tacking the ALink in place with a single stitch of tacking cord through one side of the riser, and knotted in the middle.

**NOTE:** It is recommended you replace the ALinks with every new lineset. Check the ALinks for excessive wear and tear, and replace when necessary.