

AVALON

HARNESS CONTAINER USER GUIDE AND PACKING MANUAL Sport and Student harness



Read and follow the instructions before packing and/or using the product		
APS Ltd. Bulgaria, 3431 - Erden , Erden Airfield Tel. +359 96 300 235, Fax. +359 96 307 296 ,www.avalonskydive.com e-mail: info@avasportcentral.com	Edition 03/2014	Page 1/31



After many years of constructing and skydiving our company now has developed the best, the most wonderful and the most comfortable skydiving harness container – AVALON Sport- and Student Harness Container.

Our goal was to create a suitable harness for the current and future skydivers needs as well as for students and for experienced skydivers alike and also combining all the latest developments in just one harness. Because of its unique design our harness is able to prevent many common problems in skydiving like involuntary openings of the reserve parachute in high speed situations, high g-force and spinning and during faulty openings of the main canopy.

AVALON Sport- and Student Harness Container is made from the best available materials and is compatible with many canopies on the market to offer you great comfort and to make you feel free in the air.



WARNING

1 Proper training and/or experience are required to lower the risk of serious injury or death. Never use this equipment unless you have:

A) Read this warning label, the appropriate owner's manual and packing instructions as well as completed a "Controlled program of instructions" in the use of this parachute assembly.

OR

B) Read this warning label, the appropriate owner's manual and packing instructions. Students may only use the AVALON Sport- and Student Harness Container after receiving detailed instructions and training from a qualified parachuting instructor.

2 To lower the risk of death, serious injury, canopy damage and hard openings the AVALON Sport- and Student Harness Container cannot be used by exceeding it's the maximum limits: 136 kg 159 knots.

Parachute systems sometimes fail to function properly even when correctly assembled, packed and operated so that you risk serious injury or death each time you use this or any parachute system!



1 General Information

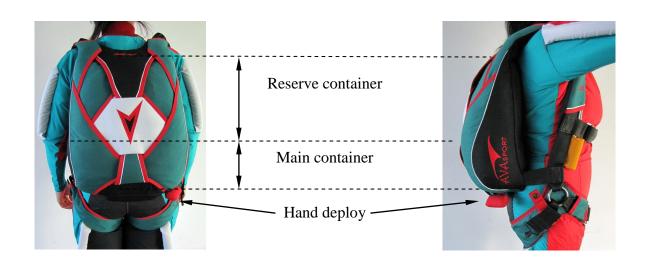
1.1 Introduction

THE AVALON HARNESS CONTAINER MUST BE CHECKED AND ASSEMBLED BY A QUALIFIELD RIGGER. Before assembly, check the harness, container and all components, ensuring that the reserve and main container sizes are compatible with the size of the reserve and main canopies. Also check if the deployment systems with which the harness is to be used are compatible.

1.2 Description

AVALON is an individual harness container





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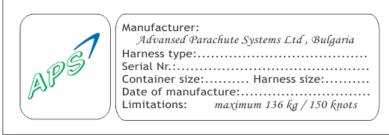


1.3 Marking and list of components

1.3.1. Labels on AVALON harness

These labels are located in a small pocket on the low back part of the harness.





Parachutes sometimes malfunction even when they are properly designed, built, assembled, packed, maintained and used. The results of such malfunctions are sometimes serious injury or death.

When you use your AVALON Pop Top you are acknowledging sport parachuting risks and accepting the fact that the AVALON or its components may malfunction. If you are not willing to accept these risks, then you should reconsider you involvement in sport parachuting.

All requirements of SAE AS8015 are observed by: Advanced Parachute Systems Ltd., 3431 Erden, Bulgaria www.avalonskydive.com

e-mail: info@avasportcentral.com



1.3.2 List of components

ITEM	Part Number	ITEM	Part Number
Reserve Pilot Chute,	P/N-010-001	Reserve Static line (RSL) Lanyard,	P/N-013-002
Reserve Free Bag,	P/N-010-003	RSL Universal Lanyard,	P/N- 013-003
D Reserve Ripcord,	P/N-011-00D	Reserve Closing loop,	P/N-013-004
Mini D Reserve Ripcord,	P/N-011-002	Main closing loop,	P/N-013-005
Pillow Reserve Ripcord,	P/N-011-001	Reserve Toggles,	P/N- 014-001
D Reserve Ripcord (Marine eye),	P/N-011-005	Type-17 Velcro Mini Ring Main Risers,	P/N-015-001 – 19", 21", 23", 25"
D Reserve Ripcord Spectra	P/N-011-004	Type-17 TrueLok Mini Ring Main Risers,	P/N-015-002 - 19", 21", 23", 25"
Mini D Reserve Ripcord (Marine eye)	P/N-011-006	Type-17 TrueLok Mini Ring Main Risers with Louie Loops.	P/N 0150-004- 19", 21", 23", 25"
Mini D Reserve Ripcord Spectra	P/N-011-007	Type-8 TrueLok STD Large Ring Main Risers,	P/N-015-003 - 19", 21", 23", 25"
Pillow Reserve Ripcord (Marine eye)	P/N-011-010	Main TrueLok Toggles,	P/N-014-002
Pillow Soft Reserve Ripcord,	P/N-011-012	Main Velcro Toggles,	P/N-014-003
Cutaway Handle,	P/N-012-001	Main Deployment Bag,	P/N - 010 - 002
Skyhook RSL Lanyard Complete	P/N- 013-001	Static Line,	P/N-013-006
Main Ripcord,	P/N-013-007		
Main Pilot Chute-F-111-Centerline H	andle options show	n below. Sizes: 27", 30", 33"	
Main Pilot Chute-ZP-Centerline Har	ndle options shown	below. Sizes: 27", 30", 33"	

1.4 Technical specification and limitations

1.4.1 Specifications

The AVALON Sport- and Student Harness Container is certified under AS 8015 B. It is produced in different sizes in accordance to the range of the different canopies. AVALON Sport- and Student Harness Container may be used by all skydivers with a valid license. It is recommended that skydiving students use the AVALON Student Harness Container.

1.4.2 Limitations

Maximum Speed: 159 knots
Maximum weight: kg 136 (300 lbs)

Qualified Reserve deployment system: free bag with spring pilot chute

Packing: as specified in this manual

Main deployment system: Deployment bag with hand deploy pilot

chute. Static line.

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Major Components & Accessories

Cut away handle with rigid Puff



Reserve handle with ripcord



Reserve Toggle



Pillow Reserve Ripcord



Metallic reserve handle



Knife pocket





Cut away handle position







2 Operating instructions

2.1 Inspection before packing

- 1. Read and understand this manual prior to using the AVALON Sport- and Student Harness Container. Only qualified by properly trained riggers may assemble this harness.
- 2. Check both 3 Ring releases to see that they are correctly assembled. Check if cut away handle is securely stored with Velcro to the main lift web.
- 3. Check the main container closure for the correct pin position and the correct routing of the bridle.
- 4. Check the reserve container for the correct pin closure and routing of the ripcord. Make sure the reserve ripcord handle is well seated in its Velcro pocket.
- 5. The main pilot chute must be protected by its pouch, but the handle must be easily visible and accessible.
- 6. Ensure that the sizes of the reserve and main canopy as well as the deployment system are compatible with the harness-container.



- 7. Prior to assembly and/or packing a thorough inspection of the AVALON harness and container must be completed:
 - Reserve container,
 - Main container,
 - Harness,
 - All cable housings,
 - All stitching,
 - All grommets,
 - Reserve handle integrity and correct size fitted,
 - Cut away housing integrity and correct size fitted,
 - Reserve risers and deployment brake system.

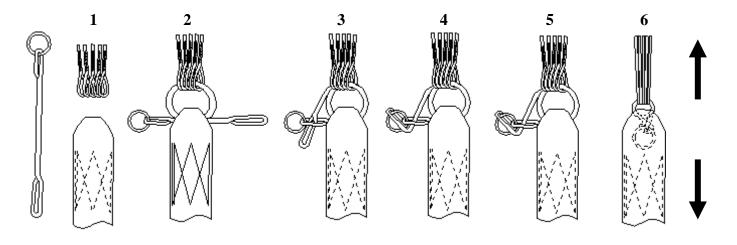
Check the AVALON Sport- and Student Harness Container for any worn, damaged, corroded or incorrectly rigged components. Any of such components must be repaired or replaced before the harness container is packed for use.

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 bellow.

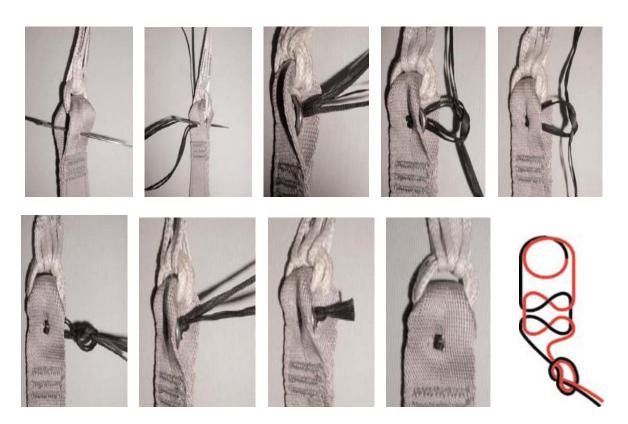
2.2.1 Soft-links



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



2.2.2 Connector links

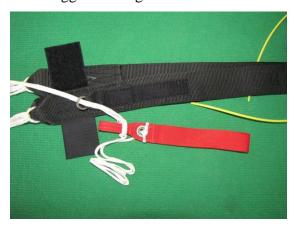
If connector links are used, don't forget to tighten them after canopy installation.

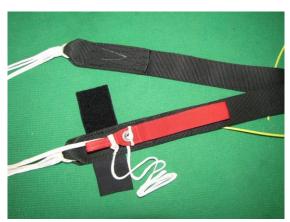




2.2.3 Reserve toggle assembly

Pass the lower steering line through the rear riser ring. Pass the line through the toggle grommet and loop around the toggle. Pull tight.



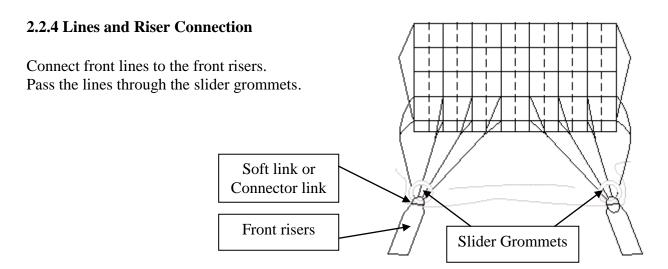


Slide the toggle finger into the pocket. Stow the extra line and close the Velcro. Fix and secure the toggle on the rear riser.



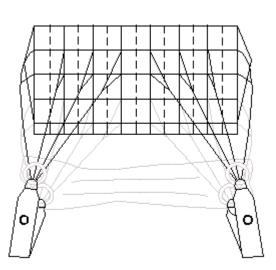






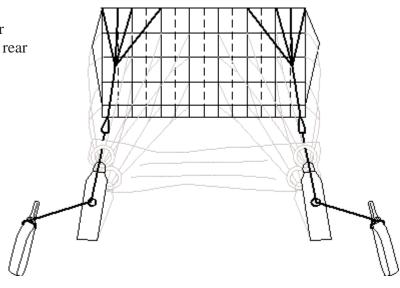
Connect rear lines.

Pass the line through the slider grommets.



Connect the steering lines.

Pass the steering line through the rear slider grommet and through the guide ring on the rear reserve riser.



2.3 AAD Assembly

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If an AAD is to be installed on the AVALON Sport- and Student Harness Container it is required to use only the original parts provided by the manufacturer. For the assembly of the reserve closing loop please follow the AADs manufacturer instructions.

Assemble the AAD in the harness container as described in the following pictures.

Put the AAD in the elastic pocket on the lower end of the reserve container.



Put the AAD Display in the opening and pull it to the upper end of the container.



Pull the display in S-order through the flap and put it into the display pocket.









Pull the cutter and its cable through housing until it reaches its final position as shown in the picture.

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Roll the rest of the cable and store it in the pocket as shown.



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AAD Display pocket AVALON Student.



ADD Display AVALON Sport.



2.4 Packing Instructions

2.4.1 Reserve container

For packing of the reserve canopy follow the reserve canopy manufacturer's WARNING, instructions and recommendations. For the closing of the reserve container follow the AVALON manuals WARNINGS, instructions and recommendations as written is this manual. Packing of the reserve canopy and container must be completed by a qualified and trained person.

2.4.1.1 Installation of breaks

Set the toggle into the lower steering line brake loop. Slide the toggle finger into the pocket. Stow the extra line and close the Velcro. Fix and secure the toggle on the rear riser.







2.4.1.2 Reserve deployment bag

Prepare the shape of the reserve deployment bag as shown in the following pictures.











2.4.1.3 Closure of reserve container

Put the risers even against the back side of inner container wall.



Place the deployment bag on top and pass the closure loop through the deployment bag.





Pass a pull the closing loop through the first flap of the reserve container.



Push the lower corners of the pos into the container as shown with the arrows in the picture. And fold the bridle. Now place the lower side of the reserve pilot chute next to the container as shown and fold the rest of the bridle onto the first flap.



Close the second flap of the reserve container as shown in the pictures and place the rest of the bridle onto the first flap.





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Now place the pilot chute as shown on the container and pass pulling cord and closing loop through the middle of the pilot chute from bottom to top plate. Please make sure that both, pulling cord and closing loop pass freely through the pilot chute, don't wrap it around the spring! Please ensure the correct position of the spring in the pilot chute.





Now close the right flap of the reserve container as shown in the picture below. If you use an AAD the closing order of the flaps 3 and 4 may be changed in order to have the cutter of the AAD sit on the flap right above the top plate of the pilot chute.





Pull the loop through the AAD on the fourth flap and close it.







Now close flaps number 5 and 6 of the reserve container as shown in the pictures. Place the reserve handle in its pocket on the harness and close the lower flaps now with the pin of the reserve handle. I a Reserve Static Line (RSL) is used, place the cable trough the guide ring as shown in the pictures.





Now close the pin cover.





2.4.1.4 Skyhook RSL

If you want to use a Skyhook RSL with your reserve system please follow the installation instructions provided by the manufacturer of the Skyhook RSL and only original parts may be used. Place the free bag into the reserve container as described in 2.4.1.3.



S-fold the reserve pilot chute bridle and place it under the closed first flap of the reserve container ans shown in the picture.



Now close the second flap of the container.



Fold the bridle over the edge of the second flap, and insert the green flex-tab on the freebag bridle into the green pocket on the second flap.

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Lay the bridle over the second flap with the Skyhook facing up. Lift the Lexan cover slightly, rotate the Skyhook enough to slip the loop on the end of the red Skyhook lanyard over the Skyhook, and rotate back into position. The Skyhook should be held firmly in place between the two pockets.



Now close flap 2 A of the container and place the rest of the bridle as shown onto the first flap of the container.



Continue closing the reserve container as described under 2.4.1.3 of this manual.

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2.4.2 Main Container

2.4.2.1 Assembly Main Risers

Miniforce risers pin toggle.



Pass the steering line through the guide ring and connect the toggle to the steering line as shown

Setting deployment brakes









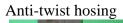




Left hand side

Right hand side

Lateral view









Read and follow the instructions before packing and/or using the product



2.4.2.2 Leg straps

The AVALON harness/container may be produced with the following types of buckles and ring systems.











2.4.2.3 Packing Instructions Main Canopy

Main assembly before closing the main container.



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Place the main risers under the internal riser covers.



Place the main deployment bag into the container with the lines facing down.



At this stage, adjust the main closure loop length to suit the main canopy size.

WARNING: The maximum force exerted by the bridle on the curved pin must not be more then 6 daN. For Safety reasons the minimum force exerted must not be less then 4 daN.

Adjust the closure loop length by moving the knot.



Pull the closure loop into position with the pull up cord. Place the washer and knot in the webbing pocket.



Read and follow	the instructions	before packing and	or using the product



Pass the closure loop through the lower flap.



Close the left lateral flap.



Pass the closure loop through the upper flap.



Close the right lateral flap.



Slide the hand deploy bridle under the right lateral flap as shown. Close the main cover flap.





Fold the internal riser cover over the main risers



View of the closed upper riser cover.



Insure that the center line of the hand deploy pilot chute is free and fold the hand deploy as shown. Then stow it in the elastic pouch in the bottom of the container.









The AVALON Student harness/container can be used with a spring pilot chute and rip cord. For packing instructions please follow as shown in the pictures below.













The AVALON Student harness/container may be used in AFF courses. For that a second deployment handle can be place on the left side of the hand deploy pouch on the bottom of the harness for the coinstructor.





The AVALON Student harness/container may also be used with a static line. Hereby the static line is directly connected with the deployment bag of the main canopy. Packing follows as shown in the pictures below.









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3 Maintenance & Repairs

The AVALON Harness/Container is built with the best materials available on the market and produced with high end production technologies. All maintenance and repairs on the AVALON Harness/ Container must be done by the manufacturer or a qualified and trained person.

Attention: The AVALON Harness/ Container has been certified under AS 8015 B. The label is sewn on the left reserve riser. If this label is not present do not pack or use the rig. The removal of the certification or warning labels voids all certification approvals.

3.1 Maintenance frequency

Reserve Canopy

The reserve canopy maintenance and packing interval is one year in normal conditions of use and storage. See also chapter 3.3.

Main Canopy

The maintenance and packing interval of the main canopy is one month or after every jump.

3.2 Maintenance procedure

3.2.1 Reserve Canopy

Warning

A reserve canopy is not always used in good conditions. It is always possible that your rig or some components are damaged during use (burns, broken stitching, etc.) For these reasons it is necessary to check all the minor and major components before taking a decision to reuse and repack it.

If there are any visible signs of wear or damage your harness/container should not be used. In this case you need to let your harness/container be checked and repaired or damaged parts replaced by a qualified person.

Warning

Never use slider bumpers on the reserve canopy.

Check the following components

- All stitching,
- Webbing tapes binding tapes fabric integrity,
- Plastic plate integrity,
- Hardware for sharp edges or damage,
- Grommets for damage.

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Accessories

- AAD reserve closure loop, replacement if necessary,
- Cut away handle cables are in good condition and no damage to cable coating,
- Reserve handle must be in good condition and does not have sharp edges,
- Reserve D-bag stitching and grommets. Replace shock cord if damaged.
- Reserve bridle is in good condition.
- Reserve pilot chute fabric, spring attachment & condition.

3.2.2 Main Canopy

Operations on the main rig must be inspected after every 50 jumps. All components and parts must be checked.

Harness container check

- All stitching,
- Webbing, tapes, binding tapes, fabric integrity,
- Plastic plate integrity,
- Hardware no sharp edges, no damage,
- no damage on grommets,
- Replace Main closure loop with new if worn. Change main closure loop as soon as it shows signs of damage.

Accessories

- Main D-bag stitching, tapes and change rubber stowing bands,
- Main bridle & kill line stitching and kill line condition,
- Hand deploy pilot chute stitching & mesh & fabric condition,
- Main risers and three ring miniforce check and follow the instructions on page 22 of this manual,
- Toggles stitching and pin.

3.3 Storage and use

Textile (polyamides) and others materials (hardware) used in the construction of all parachutes are sensitive to the following environmental elements.

- Acids (car battery)
- Abrasion
- Chlorine

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- Smoke
- Excessive heat 93⁰ C or more
- Oil and grease (polyamide)
- Bugs or vermin
- Salt water
- Ultra Violet (Sun)
- Water and humidity

When the parachute is not in use it must be stored in an appropriate bag and stored in a clean room with constant air temperature between 15° C and 30° C and humidity between 15% and 70%.

3.4 User check-list before every jump

- Verify the packing date on the data-card
- Check correct position of the reserve handle in its pocket and the correct cable routing without tension
- Check correct position of the cut away handle in its pocket and correct cable routing in housings
- Turn on AAD
- Check position of the 3-ring system and loop condition.
- Harness main webbing and leg webbing stitching.
- Hardware condition (no grease, no corrosion).
- Main and reserve closure loop condition.
- Hand deploy pilot chute bridle routing.
- Curved pin extraction force not more than 6 kg/12 lbs.
- Hand deploy handle in correct position.

When wearing your rig make sure that the harness and leg webbing is not twisted. Check position and easy access of:

- Main hand deploy handle
- Cutaway handle
- Reserve handle

3.5 Maximum service life

The AVALON harness/container Sport/Student may be used for 20 years with correct maintenance and use.

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