


Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 1 of 73		

Equipment Handbook for Parachutesystem V1R1



Manufacturer:

FIREBIRD

Am Tower 16, D-54634 Bitburg

Phone: 00496561 / 949680, Fax: 00496561 / 949681

Email: info@flyfirebird.com

Webpage: www.flyfirebird.com

written by / date:

proved by / date:

Signature:

Signature:

Register of valid Pages:

Page:	Date:	Revision:	Page:	Date:	Revision:	Page:	Date:	Revision:
1	01.07.06	Rev. 3	33	01.07.06	Rev. 3	65	01.07.06	Rev. 3
2	01.07.06	Rev. 3	34	01.07.06	Rev. 3	66	01.07.06	Rev. 3
3	01.07.06	Rev. 3	35	01.07.06	Rev. 3	67	01.07.06	Rev. 3
4	01.07.06	Rev. 3	36	01.07.06	Rev. 3	68	01.07.06	Rev. 3
5	01.07.06	Rev. 3	37	01.07.06	Rev. 3	69	01.07.06	Rev. 3
6	01.07.06	Rev. 3	38	01.07.06	Rev. 3	70	01.07.06	Rev. 3
7	01.07.06	Rev. 3	39	01.07.06	Rev. 3	71	01.07.06	Rev. 3
8	01.07.06	Rev. 3	40	01.07.06	Rev. 3	72	01.07.06	Rev. 3
9	01.07.06	Rev. 3	41	01.07.06	Rev. 3	73	01.07.06	Rev. 3
10	01.07.06	Rev. 3	42	01.07.06	Rev. 3			
11	01.07.06	Rev. 3	43	01.07.06	Rev. 3			
12	01.07.06	Rev. 3	44	01.07.06	Rev. 3			
13	01.07.06	Rev. 3	45	01.07.06	Rev. 3			
14	01.07.06	Rev. 3	46	01.07.06	Rev. 3			
15	01.07.06	Rev. 3	47	01.07.06	Rev. 3			
16	01.07.06	Rev. 3	48	01.07.06	Rev. 3			
17	01.07.06	Rev. 3	49	01.07.06	Rev. 3			
18	01.07.06	Rev. 3	50	01.07.06	Rev. 3			
19	01.07.06	Rev. 3	51	01.07.06	Rev. 3			
20	01.07.06	Rev. 3	52	01.07.06	Rev. 3			
21	01.07.06	Rev. 3	53	01.07.06	Rev. 3			
22	01.07.06	Rev. 3	54	01.07.06	Rev. 3			
23	01.07.06	Rev. 3	55	01.07.06	Rev. 3			
24	01.07.06	Rev. 3	56	01.07.06	Rev. 3			
25	01.07.06	Rev. 3	57	01.07.06	Rev. 3			
26	01.07.06	Rev. 3	58	01.07.06	Rev. 3			
27	01.07.06	Rev. 3	59	01.07.06	Rev. 3			
28	01.07.06	Rev. 3	60	01.07.06	Rev. 3			
29	01.07.06	Rev. 3	61	01.07.06	Rev. 3			
30	01.07.06	Rev. 3	62	01.07.06	Rev. 3			
31	01.07.06	Rev. 3	63	01.07.06	Rev. 3			
32	01.07.06	Rev. 3	64	01.07.06	Rev. 3			

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 3 of 73		

Table of Contents	Page
Main Page	
Register of valid Pages	02
Table of Contents	03
1. Foreword	05
2. Description of Container System	06
3. Description of Rush Reserve Parachute	06
4. System Operating Data	06
5. Technical Data Rush	07
6. Compatibility Chart	07
7. Canopy / Parachute	07
8. Harness and Container	08
9. Parts List	09
10. Maintenance Instruction	10
Fabric testing	
Repack cycles	
11. Assembly	10
The hand deployment with kill-line	11
How to mount softlinks to your canopy	13
How to use supertack to fix softlinks	14
12. Periodic Inspection Instructions	15
13. Maintenance and Storage	16
14. Cleaning	16
15. Alterations and Replacement	16
16. Periodic Inspection Instructions, Parachute	17
17. Packing the Parachute	18
18. Installation of an Automatic Activation Device (AAD)	19
Routing of the reserve loop	20

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 4 of 73		

Table of Contents	Page
19. Pre-Inspection Before Each Packing of the Parachute	21
20. Packing Procedures, Rush Reserve Parachute	21
21. Packing Instructions for the Omega Main Container	31
22. Pullout - Main parachute opening system	47
23. Reserve Static Line (RSL)	50
24. Options Student Rig	51
25. Packing the student main canopy	54
26. Main override device (MOD)	59
27. Mounting the Main override device MOD	62
28. Prejump inspection before each jump	68
29. Putting on the Parachute	70
30. Manual Activation of the Main Parachute	70
31. Manual Activation of the Reserve Parachute	71
32. Allowable Service Life	71
33. Explanation of the part number system	72
34. How to order spare parts	72
Address	73

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 5 of 73		

1. Foreword

This handbook applies to the parachute system V1R1. This Type includes the Omega Harness/Container and Reservecanopy Rush from the firm FIREBIRD Germany.

It describes the harness-container and the parachute as well as the operation, packing and maintenance instructions. It is the duty of the user to make himself well versed in the contents of this handbook before using the parachute system and to strictly adhere to the instructions contained within this handbook in the use of the parachute system. Because the described parachute system contains a reserve parachute with steering and braking capabilities, we strongly recommend that the user obtain a thorough theoretical and practical briefing in dealing with this equipment from the manufacturer. In this way the user would guarantee himself the optimal functional safety as well as a long life expectancy for the parachute. In addition, with his proper behavior, he contributes to the avoidance of accidents, which in the least spares him and the general public annoyance and damage.

Classification: Certified in accordance with ETSO-C23d
Documentation: Related Equipment Paperwork:
"Form 1" Release Certification
Packing Data Card (control pamphlet with date of last reserve packing)
Equipment Handbook

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 6 of 73		

2. Description of Container System

Type of Container	Main and Reserve Canopy Container Omega
Number, Reserve Container Flaps	6
Reserve Pilot Chute	Spring loaded, Inside
Manufacturer	FIREBIRD, Germany
Reserve Automatic Opener	Reserve Automatic Opener ready
Harness Material	Type 7 and Type 8
Hardware	Mil-Spec / PIA-Spec

Parts List Harness/Container Omega see page 9

3. Description of Rush Reserve Parachute

Type of Parachute	Ram Air Square Reserve Rush
Number of Cells	7
Construction Technique	I-Beam Chord-Wise
Manufacturer	FIREBIRD, Germany
Suspension Line Connectors	Soft Links / Stainless-steel Rapid Links
Canopy Fabric	Nylon F-111
Suspension Lines	EDELRID Dyneema

Parts List Canopy Rush see page 9

4. System Operating Data

Weight:	ca. 7-15 Kg (15-22 lbs)
Max Load on Harness/Container:	150 Kg
Max. Load on Canopy:	See Technical Data, page 07
Max. Deployment Speed:	150 KEAS, 277,8 Km/h
Max. Reserve Repack Cycle:	365 Days
Allowable Service Life:	15 Years

5. Technical Data Rush

Model	Student	Beginner	Intermediate	Expert	Exit weight
	weight max: kg / lbs.	weight max: kg / lbs.	weight max: kg / lbs.	weight max: kg / lbs.	max. (kg / lbs)
Rush 90	Not recommended	Not recommended	50 / 110	65 / 143	95 / 209
Rush 110	Not recommended	Not recommended	60 / 132	70 / 154	95 / 209
Rush 130	Not recommended	Not recommended	70 / 154	78 / 172	105 / 231
Rush 150	Not recommended	65 / 143	75 / 165	90 / 198	110 / 243
Rush 170	70 / 154	80 / 176	90 / 198	105 / 231	110 / 243
Rush 190	85 / 187	90 / 198	98 / 216	115 / 254	115 / 254
Rush 210	95 / 209	100 / 220	105 / 231	115 / 254	115 / 254
Rush 230	105 / 231	105 / 231	115 / 254	115 / 254	115 / 254
Rush 250	125 / 276	125 / 276	125 / 276	125 / 276	125 / 276
Rush 270	135 / 298	135 / 298	135 / 298	135 / 298	135 / 298
Rush 300	150 / 331	150 / 331	150 / 331	150 / 331	150 / 331

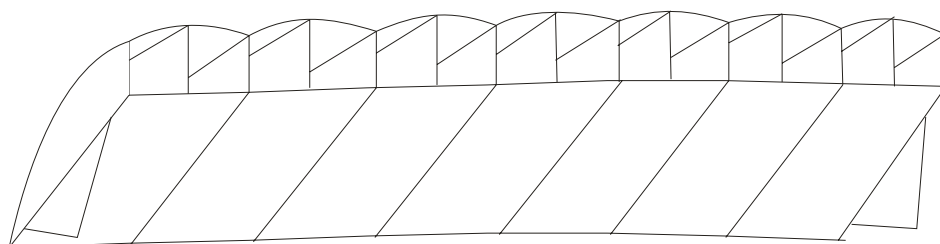
6. Compatibility Chart:

		Canopy Size (Rush):										
		90	110	130	150	170	190	210	230	250	270	300
Container Size (Omega):	XXS	X	X									
	XS	X	X									
	SS			X	X							
	S			X	X							
	M					X	X	X				
	L						X	X				
	XL							X	X			
	XXL									X	X	X

(XXS=Omega built before 07.2006, XXS V2, 3, ...=Omega new version built after 07.2006)

7. Canopy / Parachute

7-cell rectangular parachute of F111 fabric in I-beam/chord-wise construction.

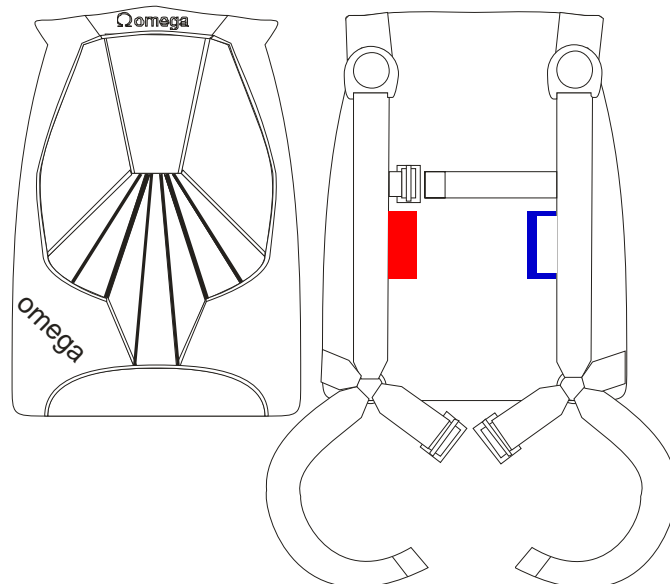


8. Harness and Container

The container of Cordura, Parapack fabric is integrated in the harness of Typ 7+8 Milspec webbing. The container is closed by a metal pin for a manual deployment. The harness is equipped with a 3-point closure and has an adjustable chest strap as well as adjustable leg straps. The attachment to the reserve parachute takes place at the suspension-line connector links and the integrated reserve risers. The main parachute is attached by means of the suspension-line connector links and main risers to the largest ring of the 3-ring release system.

Cut away handle

Reserve handle



9. Parts List:

P/N V1R1-O-01 () Containersystem „Omega“				
No.	Sub P/N	Titel:	Batch:	Remarks:
01	P/N-O-02	Square Reserve Freebag		
02	P/N-O-03	Reserve Pilot Chute		
03	P/N-O-04	3-Ring Release Handle		
04	P/N-O-05	Reserve Handle		
05	P/N-O-06	Main Risers		
06	P/N-O-07	Main Deployment Bag		
07	P/N-O-08	Main Pilot Chute		
P/N V1R1-R-01 () Reservecanopy „Rush“				
No.	Sub P/N	Titel:	Batch:	Remarks:
01	P/N-R-02	Canopy		
02	P/N-R-03	Slider		

10. Maintenance Instructions

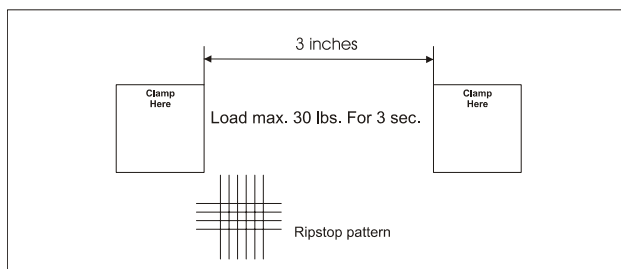
Reserve parachutes must be opened, aired, inspected and repacked at the latest every 365 days. In extremely hot and humid climates, an essentially shorter pack cycle is recommended. The main parachute must be inspected after 120 days or 50 jumps what ever comes first. After 120 days or 50 jumps you should replace all rubberbands. (Packing instructions Omega main container)

Fabric testing should be done annually (at the appropriate repack cycle) it is not necessary to test a canopy before it is within one year after the date of manufacture. When the fabric is tested note this on the packing datacard. Use commercially available 1 inch (2,54 cm) fabric testing clamps with rubber faced jaws and appropriate scale. The scale should be calibrated once per year and be accurate within 1 lbs (0.4535 kg).

Three fabric pull tests should be performed on a canopy:

- One on the left end cell top surface
- One on the center cell top surface near trailing edge
- One on the right end cell top surface

This test should never be done where any part of the fabric involved in the test is within 3 inches (7,62 cm) of any seam or data panel. The test should be done chord-wise. An additional test must be performed on any stained or discolored areas. Lock the clamps securely avoid slippage. Mark the tested area with parachute ink. Note the passed or failed fabric test in the packing datacard.



For more details what should be when maintained see:

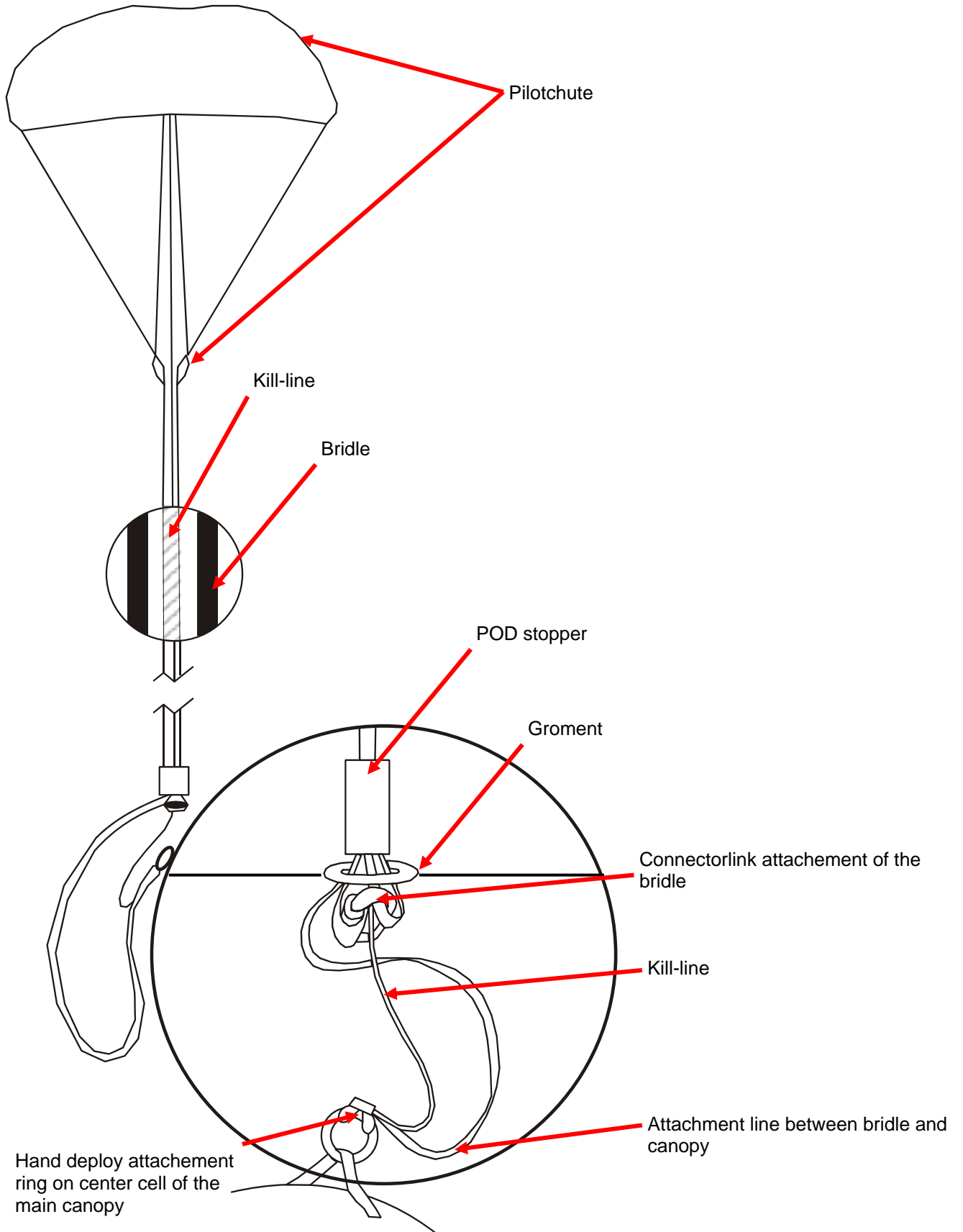
Page 15	Release device
Page 15	3-ring system
Page 16	13. Maintenance and Storage
Page 38	Rubberbands

11. Assembly

The parachute system may only be assembled by the manufacturer or an certified person. Before assembly, the parachute system should be checked to confirm that it is in a ready-for-use condition.

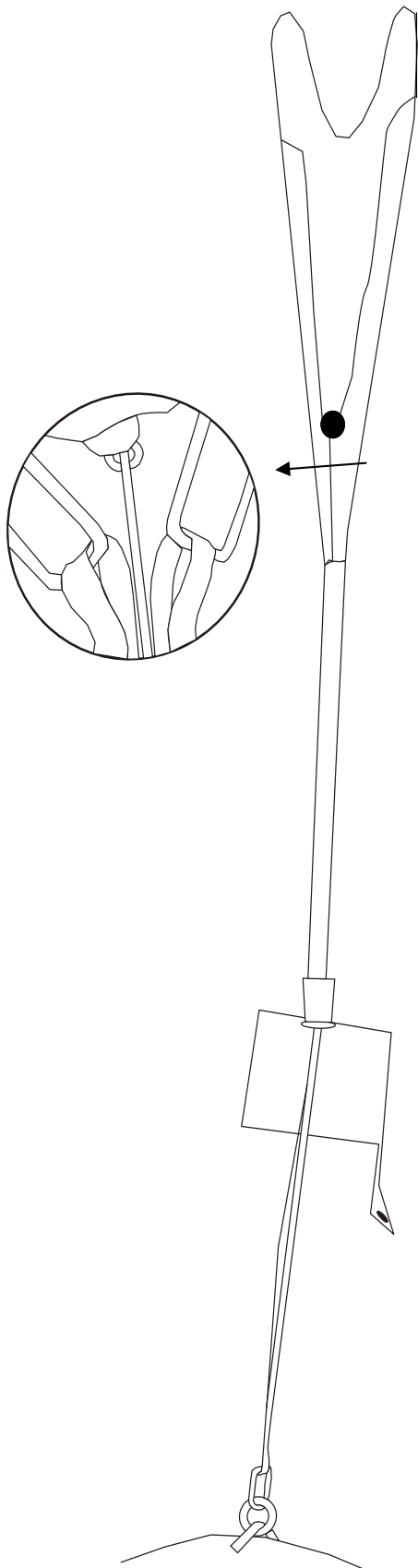
The system may only be assembled in accordance with the harness-container manufacturer's Equipment Handbook.

The hand deployment with kill-line:



The hand deployment with kill-line:

Cock the hand deploy after jump bevor packing the main canopy.



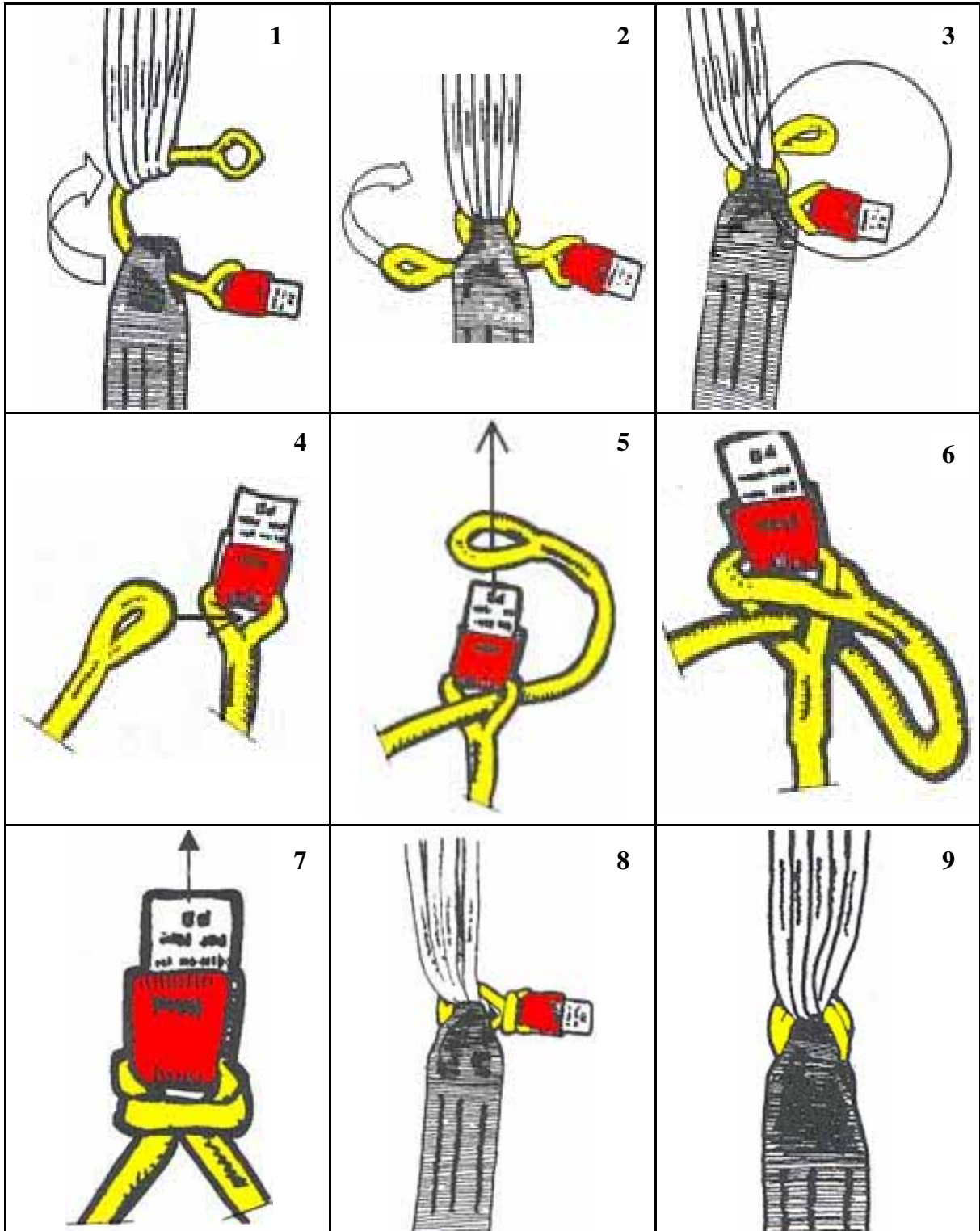
After the main canopy be open the hand deploy will collaps. The handle an the top surface of the hand deploy is pulled inside by the kill-line. It reduce the air drag and the canopy performance is better.

Bevor packing the main canopy the hand deploy must be cocked. Grap the handle and pull the kill-line all the way out. There must be a marking on the kill-line. Check the pilotchute after you cocked it and after you put the main bag in the container through the check window in the bridle.



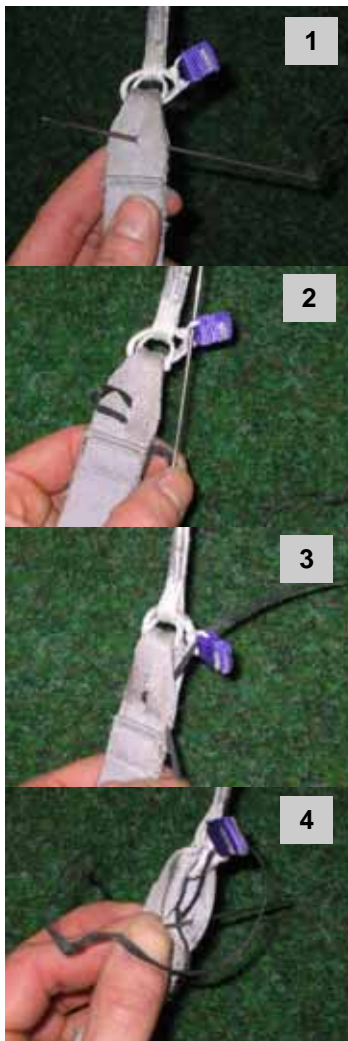
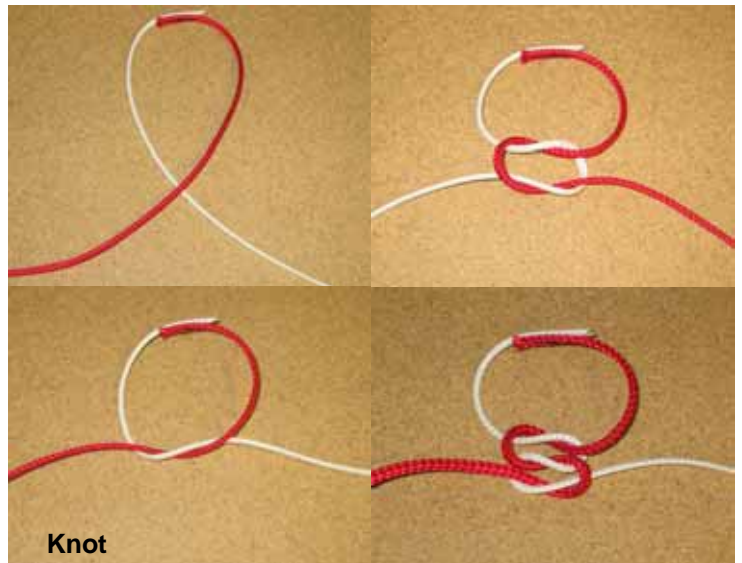
How to mount Soft Links to your canopy:

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 mailfunktion 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) .

How to use Supertack to fix softlinks:



Fix a Softlink:

Start from inbetween to have the knot, when finished, inside the riser.



<p>Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006</p>	<p>Equipment Handbook V1R1</p>	
<p>Page: 15 of 73</p>		

12. Periodic Inspection Instructions

The main parachute canopy and the container system should be thoroughly examined every 50 jumps or every 120 days after assembly, whichever comes first.

This examination is considerably more detailed than the inspection that is to be carried out each time the parachute is packed.

Every 365 days the reserve parachute must be opened, aired and thoroughly inspected before it is re-packed by a rigger or equivalent specialist.

The inspection can be carried out according to the following directions.

The container should be examined in place that is clean, dry, well lighted and large enough that the parachute can be completely laid out.

The following inspection sequence is systematic and meaningful:

1. Pilot Chute, Bridle and POD/Bag

Check the pilot chute and bridle for orderly attachment on the top surface of the canopy, as well as for damage. The parachute fabric and the reinforcement tapes, as well as their stitching, should not be damaged. Check the functioning of the pilot chute kill-line. The grommets on the bag, including the grommet on the bottom of the bag, should be undamaged, without sharp edges and firmly attached to the bag material. Replace old stowing rubber bands as necessary.

2. Main Risers

The main risers should not show damage in the material or on the grommets or rings. Check the functionality of the Velcro attachment of the toggles. Soiled Velcro should be cleaned.

3. 3-Ring System

The 3-ring system must be perfect, the rings must be round and undamaged. The closing loop must show no damage. The 3-ring system must open with the lightest pull, as soon as the cable is removed. The riser gets hard after a couple of jumps and may not release the 3-ring system. To avoid that, twist the main riser with the 3-ring system after 120 days to keep the strap in a flexible condition.


4. Release Device

It should be checked that the cables move freely in the housings. The cables should be cleaned completely after 120 days. Use a clean paper towel with silicon oil or some other lubricant. Wipe the cables 3 times that all black arrears are cleaned. Check that the yellow coding is free of damages. There should stay a light oil film. Not too much! Otherwise the oil collects the dirt and the cables get sticky too soon. The Velcro fastening must be perfect and mate well. The reserve ripcord cable must also be freely in the housing.

5. Harness, Hardware and their Stitching

An examination of the harness, hardware and their stitching can only be carried out visually. Pay attention that the yellow signature thread running along the outside of the type-7 webbing is not damaged and that the stitching is not broken. All metal parts must be free of corrosion and should move freely as designed.

6. Container Material

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 16 of 73		

Examine the container for possible tears, rips or fabric separation. The grommets especially should not show sharp edges or evidence that the fabric is torn away. The loop must be in perfect condition. It is preferable to replace the loop too early rather than too late.

**Should something unusual turn up during this inspection,
an certified person should definitely
be contacted for a more exacting examination and opinion.
When in doubt—safety first!**

13. Maintenance and Storage

The system should always be kept dry (45-70% relative humidity) and cool (10-15° Celsius, 50-60° Fahrenheit), in a container through which light will not pass. Ultraviolet light can cause invisible damage to the fabric through the deterioration of the nylon fibers. The parachute canopies and container should be kept away from all types of corrosive substances such as lye, acids, fuels, varnishes and solvents. Also storage in areas with running electrical motors (O³ - Ozone forming) should be avoided.

Parachute canopies should be opened no later than 12 months after being packed, to air, check and re-pack. In extremely hot and humid climates, an essentially shorter pack cycle is recommended.

14. Cleaning

Basically the container should only be cleaned with fresh water. The use of brushes or rough sponges should be avoided.

After contact with salt water, the container should be rinsed with fresh water at least three times within the first 24 hours.

The removal of oil, tar or similar substances should be discussed with the manufacturer. The equipment should not be cleaned in a washing machine.

Only dry the container by hanging it in the shade.

After cleaning the container should be re-inspected.

15. Alterations and Replacement


Should repairs be necessary, they should be performed by the manufacturer.

Alterations or modifications may only be carried out by the manufacturer or with his agreement. Only official replacement parts or those approved by the manufacturer may be used.

How to order new spareparts see page 26!

Pre-inspection Each Time Before the Parachute is Packed

The parachute system should be inspected according to the manufacturer's instructions. Stretch the harness-container and the main canopy out on the ground so that the suspension lines are pulled tight. Check that the lines are straight and untangled and that the slider is not damaged.

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 17 of 73		

16. Periodic Inspection Instructions, Parachute

The following inspection sequence is systematic and meaningful:

1. Canopy Top Surface

Spread the canopy out completely. Pay attention to all stitching, possible tears, burns and rips or fabric separation.

2. Canopy Bottom Surface

Turn the canopy over and check it in the same way in which the top surface was inspected. Pay special attention to the suspension-line attachments.

3. Canopy Ribs

Each rib should be examined from nose to tail. This involves looking carefully and thoroughly in each cell. Give special attention to the reinforcement tapes, the suspension-line attachment points and the bridle (to the pilot chute) attachment points. Also check whether the cross-ports are frayed.

4. Canopy Exterior

Lay the canopy out on the side so that the cells lay on top of each other. Inspect the condition of the stabilizers and slider stops.

5. Suspension Lines

Inspect the entire length of the lines for damage. Pay special attention to the cascades and where each line attaches to the connector link. Check whether the connector links are tightly fastened and whether Soft-Links show any sign of damage.

6. Slider

The slider should be inspected for damage to the fabric, the reinforcement tapes and the stitching. The grommets should not have any sharp edges and should be securely attached to the slider.

7. Steering Lines

Check that the steering lines run orderly through the slider and also through the small ring of the main riser and are correctly attached to the steering toggle. If the steering lines are twisted, they should be turned in the opposite direction.

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 18 of 73		

17. Packing the Parachute

Packing Instructions

Pack Cycle: On the condition that the parachute is in accordance with the regulations and has been handled corresponding to the instructions contained in this Equipment Handbook, the maximum allowable pack cycle is 365 days. Upon expiration of this time, the use of the parachute system without a new packing is not allowed. With a longer interruption of use, it is recommended that the parachute system not be stored in a packed condition according to the manufacturer's instructions. Ram-air parachutes of the most recent design are very reliable parachutes. As long as a parachute is packed with untangled and straight lines, it will usually open. However, in order to experience consistently good and soft openings that protect the material, we recommend the packing method represented on the following pages. The parachute should be carefully packed in the same way after each jump or at each re-pack. Part of this is to pay attention that the place where the parachute is packed is clean and not in direct sunlight. Ultraviolet rays irreversibly damage nylon parachute fabric. Fundamentally, reserve parachutes should only be packed in closed rooms on carpeting or a similar surface. Packing on concrete or asphalt should be avoided, since the rough surface could damage the fabric, lines and hardware.

Note: Reserve parachutes may only be packed by people who possess a valid packing license for this type of parachute.

Before beginning the packing process, the packer should be satisfied that the parachute:

1. Is in a reliably operating and airworthy condition.
2. Is not due for a re-inspection.

Should there be questions or uncertainty, get in direct contact with the manufacturer.

The packing of the parachute is definitely to be carried out according to the following directions.

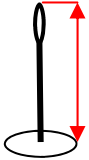
In order to be able to pack the reserve, as a prerequisite, the packer must be familiar with the basic concepts of the pro-packing method.

The following aids are absolutely necessary to pack or at least very highly recommended: Wooden packing stick, packing plate, temporary packing pin with warning flag, Cypres loop material, pull-up cord, locking pull-up cord for freebag, Velcro protecting strips und packing data card.

The harness-container and the parachute are laid out so that the reserve flaps of the container are facing up. It is advisable to weight down the container so that it doesn't slide so easily during packing.

The following preparatory work should be carried out: Set the brakes. Fasten the connector links together with a pull-up cord. Inspect the AAD (automatic opening device) for possible servicing or battery change. Check the reserve container for dirt or damage. Prepare a new loop of the right material (Check users manual of the AAD for the right material. And 20% shorter than the old loop, since the new loop material stretches).

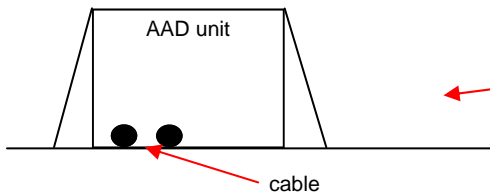
Length of the Loops, maximum length from disc to top end of loop.



Container size:	XXS	XS	SS	S	M	L	XL
Reserve-Loop:	11,5 cm	11,5 cm	11,5 cm	11,5 cm	11,5 cm	12 cm	12 cm
Maincontainer-Loop:	4 cm	4 cm	4 cm	4 cm	4 cm	4 cm	4 cm

18. Installation of an Automatic Activation Device (AAD)

The AAD can be easily pushed into the pouch inside the Reservecontainer. The cabel attachment must face to the wall between the reserve- and maincontainer!



Cutter guiding fabric tupe.

Elastic cutter attachment.



Put the control unit of the AAD inside the pocket with the window in the back pad.



Guiding fabric tube for the control unit cable.



The extra length of the cables should be rolled gently that it fit's that small pocket next to the elastic AAD pouch.

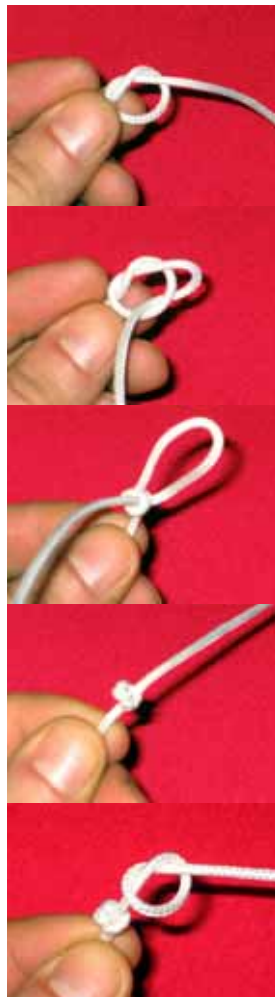
Routing of the control unit cable out of the cable pocket.

Routing the cutter cable out of the cable pocket.

No extra length of the cables should be outside the pocket!



Routing of the loop through the loop disc's.
Follow the pictures in the middle to build the special knot to secure the loop stay's in place.



19. Pre-Inspection Before Each Packing of the Parachute

The parachute system should be inspected according to the manufacturer's instructions. Stretch out the harness-container and the parachute canopy so that the lines are pulled taut. Check that the lines run straight and the slider is not damaged.

**Should something unusual turn up during this inspection,
an certified person should definitely
be contacted for a more exacting examination and opinion.
When in doubt—safety first!**

20. Packing Procedures, Rush Reserve Parachute

We would like to illustrate the packing method with the following pictures:

After checking that the lines and canopy are straight, set the brakes. And fix the risers together.

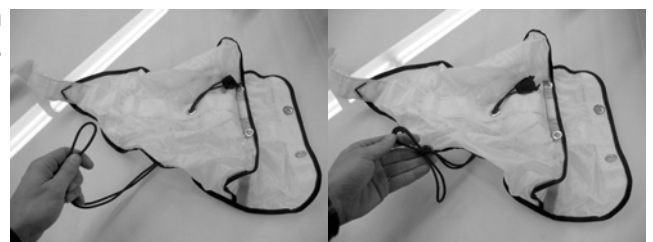
Grasp the front and back suspensionline groups between your fingers and separate them as shown. Walk forward towards the canopy and push the completely spread out slider in front of you, to the stops on the stabilizers.

Pay attention that there are no twists, lines over or lines through each other in the left or right line groups. All lines must run straight through the slider to the canopy.

If this is not the case, the line groups must be disentangled.

When you reach the stabilizers with both hands, separate the line groups as far as the slider allows and vigorously shake the canopy a few times. Now step out from between the line groups to one side and transfer the line groups to one hand.

Be shure you prepared the Freebag with an extra packing cord to pull through the pull-up-cord when the canopy is in the freebag.



20. Packing Procedures, Rush Reserve Parachute

The canopy nose should face the rig. Next find all the cell openings. Start at one outside end. Pull each supporting and non-supporting cell wall out and hold it in your hand. Make sure that no cell has been overlooked or lost.

You have now folded the entire leading edge. Hold these cells firmly between your knees while you continue packing.



Grasp the slider from above between the A and B lines of the canopy and fold the fabric to the side.



Do the same thing between the B and C lines. Repeat this process on the other side of the canopy.



20. Packing Procedures, Rush Reserve Parachute

Follow the D-lines of one side with your hand, pull them lightly out and lay them toward the center of the canopy, so that likewise between the C and D lines an S-fold is formed. Repeat this process on the other side.

Now grasp the steering lines of one side at the attachment to the canopy and pull these with the steering edge out of the canopy. Lay the steering edge in S-folds towards the middle. Repeat this process on the other side.

Now lay the canopy carefully on the ground. Watch out that the canopy stays bundled together and does not come apart, that the lines inside the canopy remain centered and the suspension lines are taut to the rig.

Now the entire canopy is once again sorted. All of the fabric should be placed to the side and the outer three cell openings separated.

Position the S-fold of the A/B lines on top. Make sure that it is as smooth and even as possible.

Now the S-fold of the B/C lines should be positioned and the S-fold of the C/D lines on top of it. Check that the lines inside the canopy remain centered and taut.



20. Packing Procedures, Rush Reserve Parachute

Place the steering lines in individual S-folds one on top of the other until the middle cell is on top. Repeat the corresponding steps on the other side.

The slider should be pulled into the canopy so it resembles the shape of a star, watching out that the slider grommets lay directly against the slider stops. The stabilizers should be individually flaked out to each side.

Now use one hand to grasp under the suspension lines at the base of the canopy and make a short S-fold.

Spread out the middle cell so that it completely covers the canopy. Secure the bundle with both knees.

Tuck the sides of the canopy in to the width of the freebag and simultaneously squeeze the air out of the canopy. Pay attention that the separated cell openings remain separated.



20. Packing Procedures, Rush Reserve Parachute

Place the freebag next to the canopy because you will need it and it should be reachable.



From underneath the canopy, make a second S-fold and lay it on top of the first.



Constantly secure everything with one hand, so that it does not slide apart.



Because the ram-air reserve freebag has a closing loop on a vertical center line, it is necessary to split the canopy in the middle.

The stitching of the center cell should be followed to the cell opening. Pull the opening of the middle cell so wide apart from the canopy fabric that it lays open and free.



Gather together the material of the center cell and push it into a second S-fold. Only the cell opening of the middle cell remains free. In this way it creates two "horns."



20. Packing Procedures, Rush Reserve Parachute

Now somewhat gather together the material of the "horns" in order to get them into the freebag more easily. First begin on one side to fit the canopy into the freebag, then the other side.

It is highly advisable to pack relatively small "horns" with the least possible fabric.

Because the Omega freebag has a closing loop on a vertical center without a rib, what will later be the loop channel must in any case be kept free with a locking pull-up cord or similar device.

Make sure that the canopy fabric looks neat.

Close the freebag with the running loop of the shock-cord "Safety-Stow."



20. Packing Procedures, Rush Reserve Parachute

Loop the suspension lines in the line bag at the bottom of the freebag. Use Velcro-protecting strips so that the lines do not catch on the Velcro of the freebag.



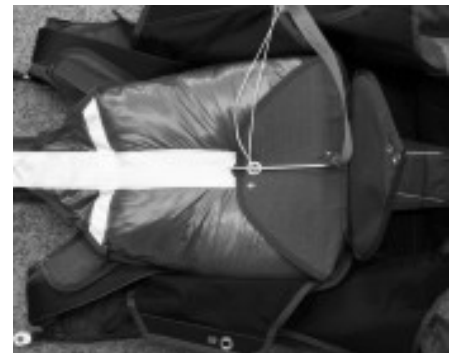
Attention should be given that the connector links of the reserve risers lay beside each other and the toggles face the bottom of the container.



The freebag should be placed in the container with the lines at the bottom and the loop should be fed through.



The bottom flap (1) is closed first. The Cypres cutter is on this flap. If a Cypres is installed, the closing loop must absolutely be pulled through the cutter.



20. Packing Procedures, Rush Reserve Parachute

Carefully stuff the top part of the freebag into the container.



The pilot-chute bridle of the freebag should be folded under the second flap (2) in 5 to 6 medium-size S-folds.



Close the second flap. There should be at least 2 meters (about 6-1/2 feet) of extra bridle remaining unstowed.



The leftover bridle should be S-folded in a "V" shape on top of the first two flaps.



20. Packing Procedures, Rush Reserve Parachute

The pilot chute should be centered and secured by means of a temporary packing pin. Make sure that no fabric is caught in the spring of the pilot chute.



Carefully tuck the pilot chute fabric under the edge of the cap and close the striped flap (3).



First close the right-side flap.



....and then the left.



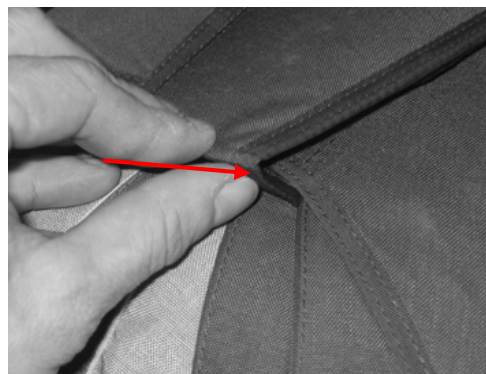
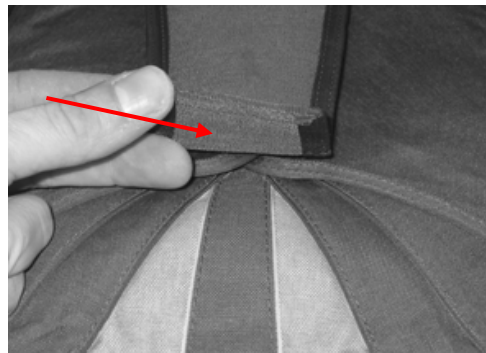
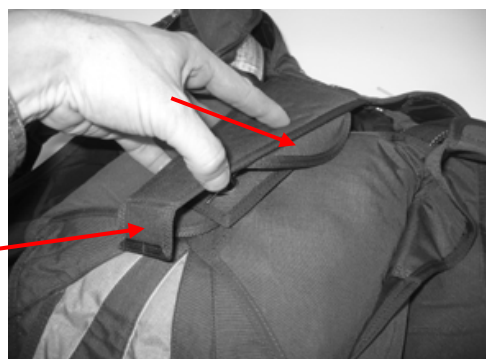
20. Packing Procedures, Rush Reserve Parachute


Finally close the top flap (6) with the reserve pin.



The top-most flap should be closed after the rigger has sealed the reserve with the red safety tie.

Nudge the side tuck-in flaps under flap 6 and the bottom part of the closing flap under flaps 4 and 5.



Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 31 of 73		

21. Packing Instructions for the Omega Main Container

Because there is no restriction on the use of a particular main parachute in the Omega container system, we are only describing the closing of the main container. Please refer to the manufacturer's manual for the packing instructions for the main canopy.

Even if you follow all instruction and you packed all parachutes well it is possible that parachutes will not open probably! If you follow all instruction well you minimize the risk to a malfunction!

Training and experience is required to use this equipment!

You should follow the inspection instruction in this manual for inspection of the parachute system. Basicly you should pack only in shady areas on a clean, flat, dry ground. Use a packing mat to protect your equipment while packing. The complet system must be inspected after 120 days or 50 jumps. Befor each packing of the main parachute you have to be shure that it is still in well condition.

All maintenance as assembling, change of parts or packing the reserve, should only be done by a certified rigger. Use only original parts from the manufacturer.

21. Packing Instructions for the Omega Main Container

Inspection of the 3ring release system.
No damages on the rings or the loop.
Routing of the loop and the yellow cable.



Lay down the container on a mat.
Fix the container to the mat.



Check the softlinks:
They must stay inside the riser!



21. Packing Instructions for the Omega Main Container

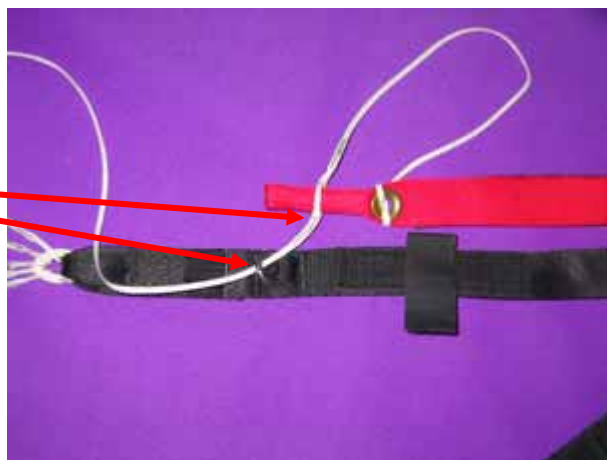
Connectorlink:

If you use them, only choose:
Size 4 stainless steel, 280 Kg with soft stopper.
Check if they are tightened well.



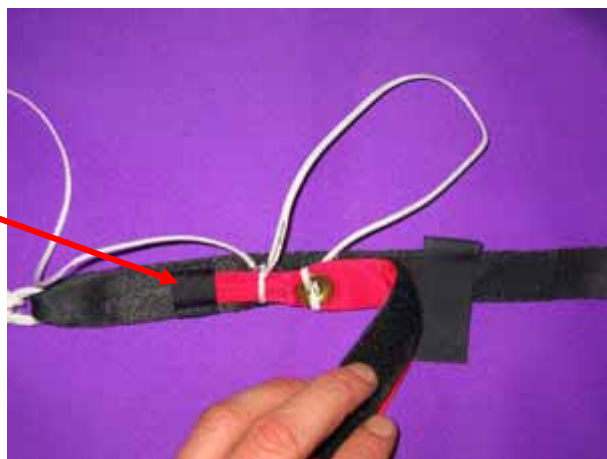
Set the brakes:

The steering lines should be non twisted.
Put the toggle thru the brakepoint in the steering line.



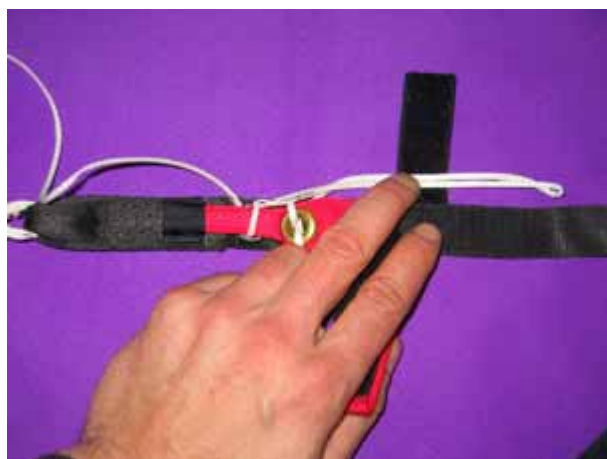
Set the brakes:

Put the top end of the toggle in it's keeper on the riser.



Set the brakes:

The extra length of the steeringline must be stowed under the velcro attachment.



21. Packing Instructions for the Omega Main Container

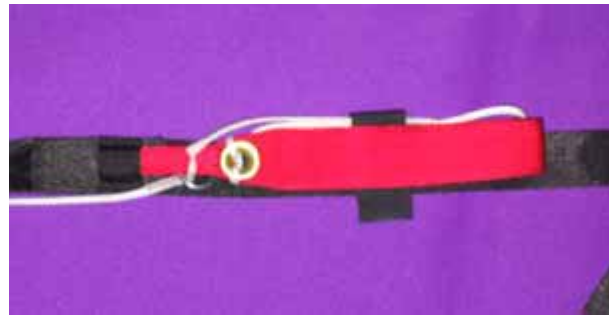
Set the brakes:

Fix the toggle on the velcro of the riser. It must keep the toggle good in place! If one toggle would drop of during the opening that can result in a spinning malfunction.



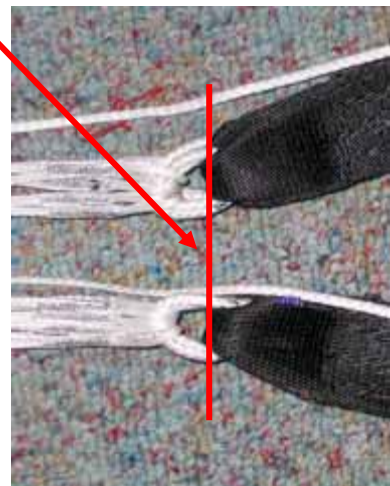
Set the brakes:

Compleat set toggle on rear riser.



Line symmetrie:

By packing is it important to keep the risers in the same length to avoid a turn or twist by the opening of the canopy.



21. Packing Instructions for the Omega Main Container

Collapsible Slider:

The string of the collapsible Slider must be inspected before each packing /jump.

The string must be released and pulled back inside the fabric tubes completely. Packing/jumping with collapsed Slider can cause injury and or damages of the equipment.

Collapsible Slider:

String with stopper.

Slider with released string:

The string must be fully released. No free line of the string should hang loose over the edge of the slider

Pick up the lines:

Grasp the lines separate in each hand. Move with the lines in each hand all the way up to the canopy with pushing the slider upwards.



21. Packing Instructions for the Omega Main Container

Line check:

The lines must be without any damages, clean, dry.
The lines must kept straight and under tension during the complet packjob.



Line check:

If you reached the top end of the lines you must check the free routing of the lines thru the slider to the line attachment points under the canopy.



Start folding the canopy:

Please follow here the instructions of the main canopy manufactur.



21. Packing Instructions for the Omega Main Container

How to pack the main canopy:

Basic advice is to put all cells next to each other in the middle of the packjob. The slider must be quartered inside the canopy at top end of the lines. We recommend a Pro-Pack Method.

Lay down the packed canopy:

Lay down the canopy very carefully. Never throw it or drop it down. If you don't be carefully the inside of the canopy will move, the lines get displaced and you can get worse openings.



Check your hand deployment:

It must be cocked. If you are not shure if it is fully cocked, pull out the handle of the top of the pilotchute again. The kil-line should be pulled inside the bridle.



21. Packing Instructions for the Omega Main Container

Attachment of the bridle:

At this point you can check the connectorlink of the bridle if it is tightened enough.



Rubberbands:

We recommend only standard MIL Spec rubberbands:

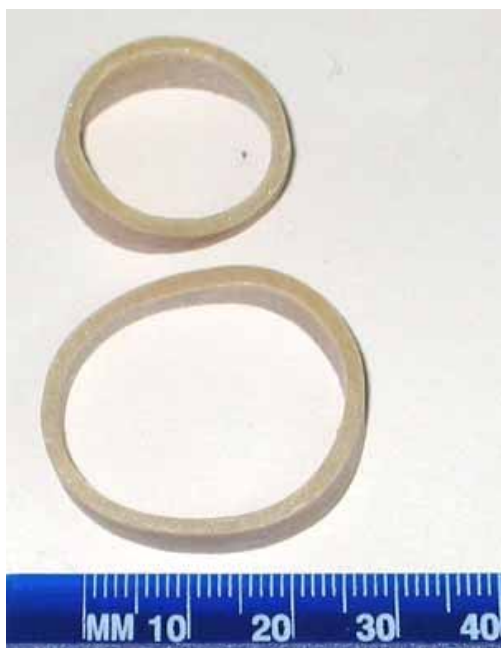
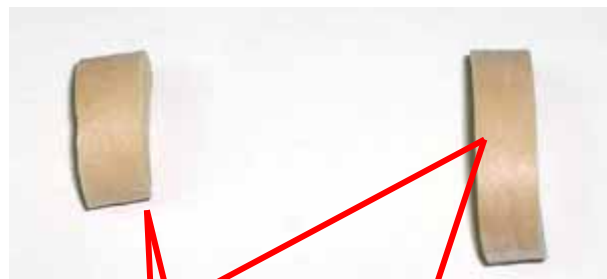
Small size: 1 1/4 x 3/8 inch, (Spectra <= 725)

Big size: 1 1/2 x 3/8 inch, (Spectra > 725, Dacron)

If you have a main canopy only with Dacron lines use only the bigger size rubberbands.

After 120 days or 50 jumps you should replace all rubberbands.

To see if the rubberbands are strong enough you should be able to lift the bag while pulling at a stowed line bundle.



21. Packing Instructions for the Omega Main Container

Folding the canopy:

Fold the canopy so wide that it fits in the main bag.
Do the first S-fold like in the picture



Folding the canopy:

The 2nd S-Fold should be done on top of the first one.



Folding the canopy:

Push the folded canopy into the main bag.



Closing the bag with the first two rubberbands.



21. Packing Instructions for the Omega Main Container

The line stows should be between 4 and 6 cm



Max. length from last rubberband to link: 40 cm



Remove the container from the packing mat.



Putting the bag in the container:

It is helpful to prepare the container to make it easier to put in the main bag. Open the riser cover, lay down the riser's straight and put a pullupcord thru the main loop.

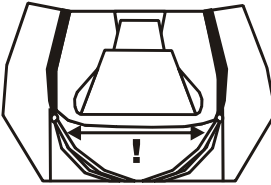


21. Packing Instructions for the Omega Main Container

Now lift up the bag without turning it and first put in the main riser and route the lines like in the picture.


WARNING! ACHTUNG!
Vermeidung von Fehlfunktionen!
To avoid malfunction!

Überlänge der Fangleinen vom letzten Gummi bis zu den Verbindungsstücken maximal: **40 cm**
Max. Line length from the last rubberband to link: **40 cm**



Haupttragegurte immer gerade in den Hauptcontainer einlegen. Die Überlänge gerade auf den Containerboden legen. Niemals die Leinen in Schlaufen legen.

Place mainriser always straight into maincontainer. Put the lines always straight on the bottom of the maincontainer. Never lay them down in curves / loops or twist them.



Put the bag on top of the lines. Take care that no line on the bottom of the container can catch a stowed line bundle.



Turn the bag gently towards the reserve container.



21. Packing Instructions for the Omega Main Container

Close flap no. 1 (the flap with the loop attachment) and no. 2 with pulling the loop thru the gromets. The bridle is routed to the right.

Route the bridle back inside the container on top of flap 2. then close flap no. 3. The bridle must stay in it's position.



Closing flap no. 4.

21. Packing Instructions for the Omega Main Container

Close the container with the curved pin. Leave a small bridle loop outside this helps the pilotchute to open the container easier. The pull force of the pilotchute will not be reduced while the bridle must be pulled out between the flaps during the opening of the parachute. And the check window in the bridle is still visible.



Stuff the bridle between flap no. 2 and 3. All the way to the right corner of the corner next to the BOC pouch.



Close the last flap with stuffing the plastik reinforced tuck tap of the flap under flap no. 2.



Closing the riser covers with putting the mainriser on top of that small flap at the yoke. Than close the top flap from the side.



21. Packing Instructions for the Omega Main Container

It should look like this if it's done.

Folding the pilotchute:

First stretch it all out flat on the ground.

Then fold it in half.



21. Packing Instructions for the Omega Main Container

Fold the border back in. What is now under your fingers should be in the same length then th BOC pouch. Now fold on the bridle.



When the bridle is all folded, put the right side of the pilot-chute on top of the bridle.



Now roll back the left side towards the bridle very tight.



In the end it a nice small package.



21. Packing Instructions for the Omega Main Container

Push it into the BOC pouch.



When it is all inside the pouch only the hacky sack ball remains outside.



When the packjob is done you should check your gear! In this visible overview you check for lose handles, open flaps, unstowed bridle, dirt or other unusual.



22. Pullout - Main parachute opening system

S-fold the non twisted bridle of the pilotchute inside the main container under flap no. 2.

Some bridle with the attachment of the pilotchute must be routed to the right corner between flap 1 and 3.



Fold the pilotchute with most of the zero-P fabric facing outside. This reduces the drag and it is easier to pull out the pilotchute.



Stuff the pilotchute under flap 1.



22. Pullout - Main parachute opening system

Close the first two flap's. Take care that no fabric is jammed between the flap. The guiding grommet and the pullout cushion stay's outside the container next to the right corner.

Mount the pullout cushion inside the right corner of the main container on that small velcro strip.

Take care that the grommet stay's outside the container. The small bridle between the pullout cushion and the straight pin should be non twisted.

Now close the right flap no. 3.



22. Pullout - Main parachute opening system

The grommet and the small pin bridle remains outside.

Close flap no 4. and close the container with the pin. After that remove the pullup cord.

Stuff the pin bridle between flap 2 and 3. The corner of that tape where's the grommet is in should stay next to that bindingtape of flap no 3. So you can check it before jumping. If this grommet is stuffed under the flap's inside the container it can cause a hard pull or no pull. Close the last flap of the main container.



23. Reserve Static Line (RSL)

We recommend RSL system only for student's. The length of the yellow cable of the cut away handle must be so adjusted that the side with the RSL hook will be released at last when the main will be cut away. The different in the length must be 4 cm, max. 5 cm.

On these pictures you can see how to mount the RSL on the Omega Student rig.



24. Options Student Rig

Spare parts, optional equipment. Only use original parts from the manufacturer.

Omega spring loaded pilotchute type: Freelift



Student ripcord.



RSL line with connector.



Main canopy packing tube for static line use.



Second release handle AFF.

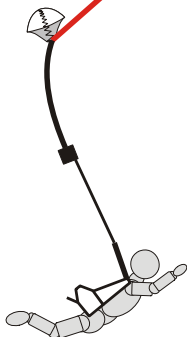
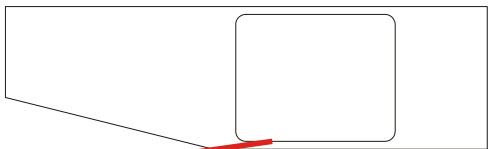
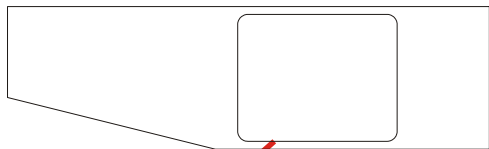


24. Options Student Rig

Static line.

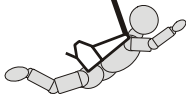
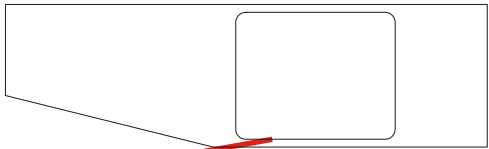
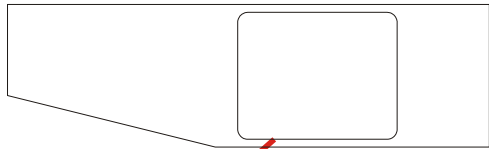


Velcro attachment for static line with pilotchute assistance.



On static line jumps with pilotchute assistance only the static line remains to the aircraft. Less wearout on the equipment.

The assembling should only be done by a certified rigger.



On static line jumps with direct bag systems the static line and the bag remains to the aircraft. More wearout on the equipment. And wore difficult to change from static line operated to manually operated.

The assembling should only be done by a certified rigger.

24. Options Student Rig



AAD window in the yoke:



Checkwindow for the reserve pin:



Typ 8 main riser:



RSL:



2 release handle AFF:

Adjustable hipring:



25. Packing the student main canopy

Follow instruction how to pack the main parachute in this manual!

Folding the pilotchute bridle



Stuffing the springloaded pilotchute



Stuff the fabric between the coils.



Press the spring complet together.



25. Packing the student main canopy

Close flap 1 and 2.



Close flap 3



Close flap 4



Close the container with the student ripcord.
Remove the pull up cord.



25. Packing the student main canopy

Velcro attachment between the static line and the spring loaded pilot-chute.



Connect the velcro attachment.



Stuff the static line



Stuffed static line with rubberband attachment points and hook up loop of the staticline hook

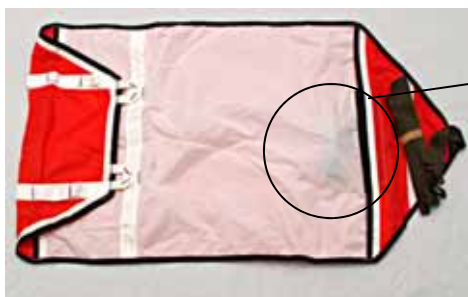


25. Packing the student main canopy

Use of a packing tube for the student main canopy.
Pull the tube over the packed main.



Important! Attachement of the static line to the main canopy. Secure the static line with a rubberband.



Secure the static line with a rubberband.



Close the velcro fastener.



25. Packing the student main canopy

To close the tube perform an S-fold inwards the tube on top of the main canopy.



Close the tube with the rubberbands.



Follow the instruction how to close the Omega main container.

Check pictures how to close the main container.

Static line without metal pin. Protects the aircraft to avoid damages to the tail. Use only with elastic main loop.



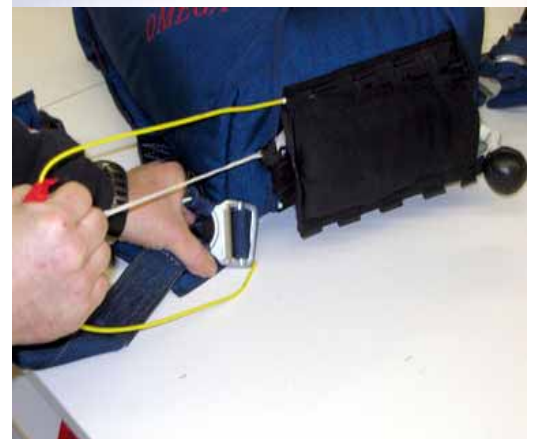
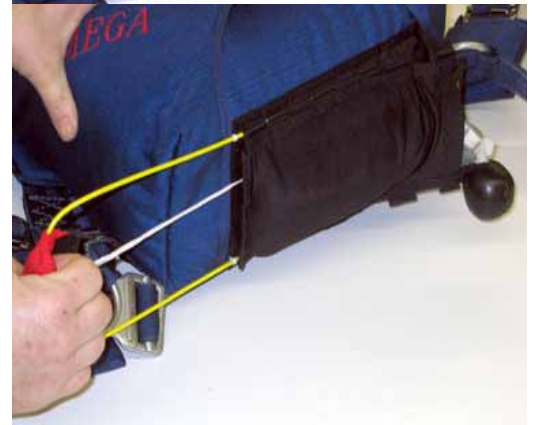
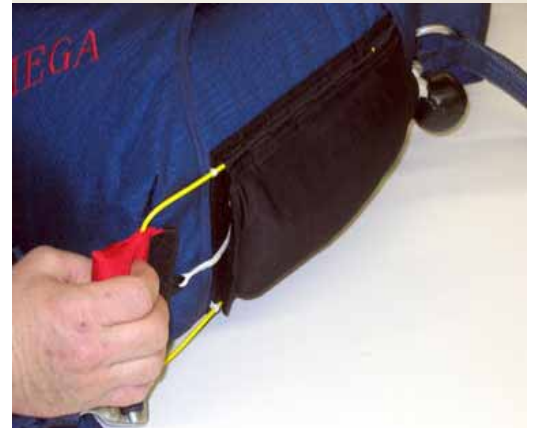
26. Main override device (MOD)

To use normal hand deploy for Accelerated Free Fall Program (AFF)

Bottom of container mounted hand deploy with MOD for AFF. To understand how it works, follow the pictures.

Peel of the handle and pull out the yellow cables.

After you pulled the cables out the complet BOC pouch is cut off the bottom of the container. But the normal hand deploy stay's inside the double layer pouch.



26. Main override device (MOD)

After that MOD handle is pulled and the pouch is disconnected in appears a 2nd pilotchute (like a pull out system)



The packing volume of the pilotchute is very small. It is to drag away the BOC pouch from the student.



26. Main override device (MOD)



When the normal bridle is pulled out it's pouch the hand deploy pilotchute comes out.



The MOD is not attached to the main canopy. This avoids that it could be caught up from the student or parts of his equipment. After it was activated it drops down on the ground.



27. Mounting the Main override device MOD

To fix the MOD after use to the Omega containersystem.

For proper use you have to release and mount again the MOD after 120 day's.

Place the MOD pouch parallel to the bottom of the container. The bridle must face to the left.

Start with the left part of the yellow cable in the white small loop at the bottom of the container. The loops must be closed in manner like a zipper.

The white loop at the right bottom corner must be closed first bevor routing the cable upwards through the loop.



27. Mounting the Main override device MOD

The yellow cable ends in the wider loop at the right side of the pouch.



Attache the pillow to the valcro fastener at the container. The small white line must be untwisted.



Folding the extra pilotchute. The bridle between the pouch and the pilotchute should be untwisted. Place the side vents with each reinforcement tape on each other. Folde the fabric inwards between two vents.

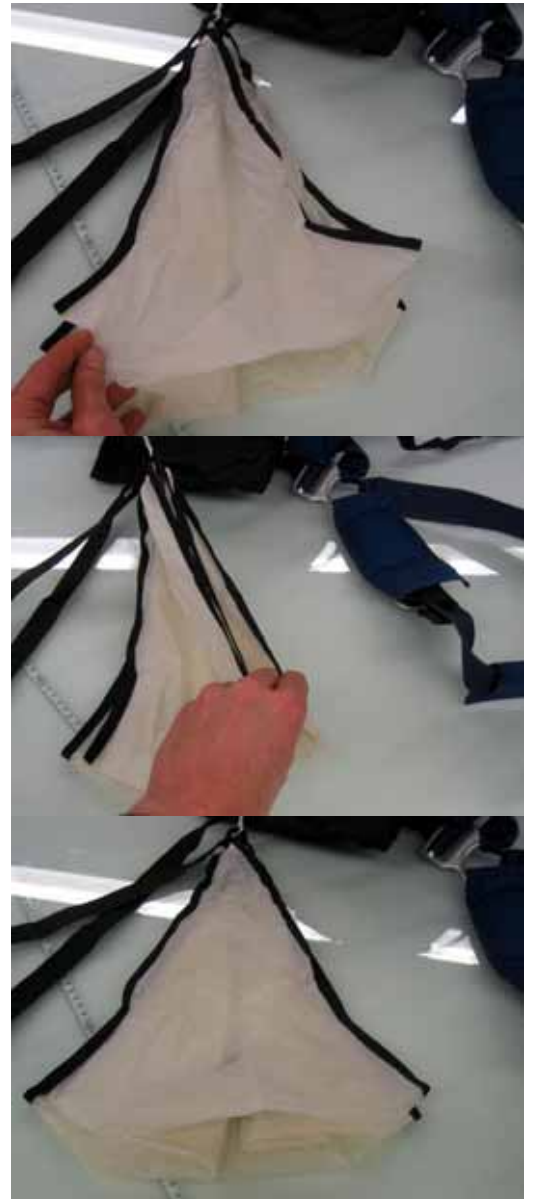


27. Mounting the Main override device MOD

Two vents to the left folded flat on each other.

Now fold the two vents on the right side in the same way.

The pilotchute is folded flat on the ground.



27. Mounting the Main override device MOD

Fold the vents inwards to the middle.



And fold the half of each side again on the middle.



Fold the pilotchute lengswise.



27. Mounting the Main override device MOD

Fold the bridle in S-folds on tog of the pilochute.

Put all together inside the first of the two small extra pockets next to the pillow. The bridle must stay in its position.



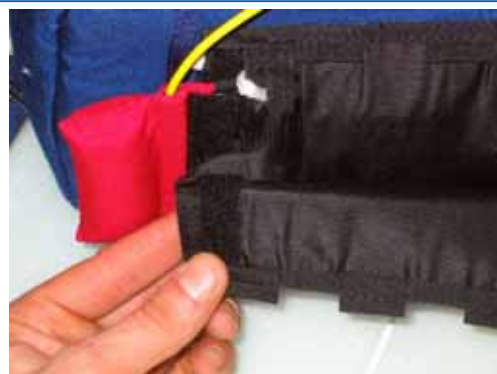
That white bridle must be stowed in that small pocket behind the pilotchute. Keep it away from the velcro!



27. Mounting the Main override device MOD

Close the velcro fastener of the pouch to the pillow.

Start closing the top of the pouch with the righth part of the yellow cable in the same way like the bottom part..

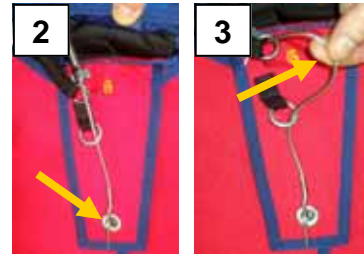


The yellow cable in the top ends also in the wider loop on the righth side of the pouch.

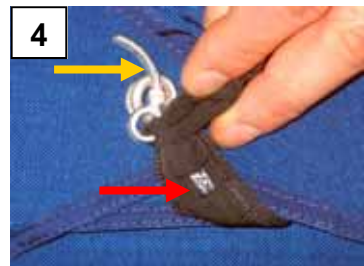


28. Prejump inspection befor each jump

1. Check the reserve data card once a day if the packjob is still valid.
2. The reservepin and it's position.
3. The free routing of the reserve ripcord.



4. The maincontainer closing pin and the pilotchute killeine.



5. The pilotchute in the pouch at the bottom of the container.



6. All tuck flaps, risercovers, main flaps.

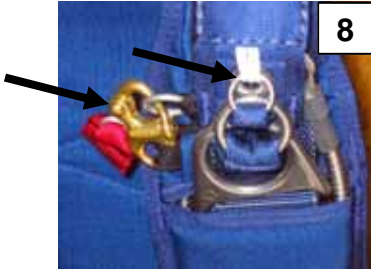


7. The AAD if it is switched on.



28. Prejump inspection befor each jump

8. The function of the RSL connector.



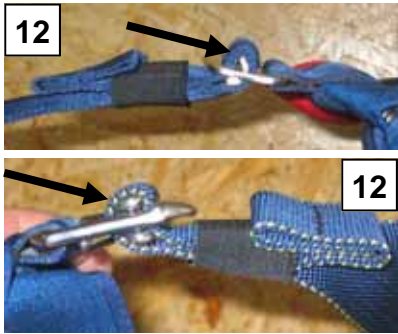
9. The routing and the velcro attachment of the RSL bridle.



10. The cut away handle.



11. The reserve handle.



12. The routing of the chest strap, leg strap and adjustability of the main lift.

29. Putting on the Parachute

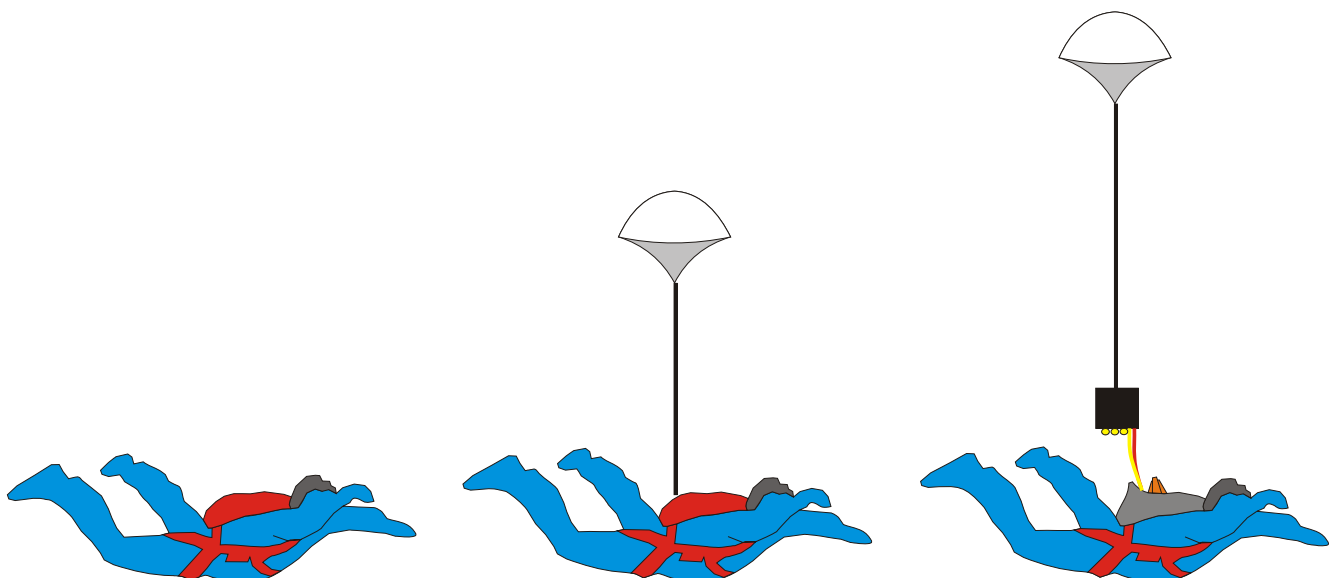
The user puts the rig on over his shoulders like a backpack. The leg straps are brought up between the legs and the ends are fed through the buckles. The chest strap is also fastened with a buckle onto the main-lift web. The leg and chest straps should be pulled tight, so that the parachute fits the body snugly but without restricting movement. If the fit is too tight, the rig hinders the wearer; a fit that is too loose can lead to the uneven distribution of opening shock and possibly to the injury or endangerment of the wearer.


30. Manual Activation of the Main Parachute

We recommend an instruction how to use this parachute system given by the manufacture.

The pilotchute must be pulled out of the pouch and released into the airflow. The pilotchute lift upwards and stretch the bridle. The bridle will pull out the curved pin. Then the bag inside the container will be lift out, the lines will be stretched and the canopy opens.

To open a parachute you must be in a stable position in a adequate altitude. During the opening the jumper must remain the stable bodyposition. See pictures below.



Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 71 of 73		

31. Manual Activation of the Reserve Parachute

After separation from the main canopy, the parachutist should pull the reserve ripcord handle from the pocket on the left vertical main-lift web with an even, strong pull. The steel cable attached to the ripcord handle will be pulled out of the housing and the pin at the end will slid out of the closing loop. At this point the reserve flaps of the rig open to free the spring-loaded pilot chute. This reaches the air stream and, with the attached bridle, pulls the freebag out. The suspension lines come out of the line bag, straighten out and, with the last two stows of the “running loops,” free the reserve parachute. The parachute stretches out of the freebag and becomes filled with air, during which the slider slides downward and comes to rest on the connector links.

32. Allowable Service Life

On the condition that the parachute is in accordance with the regulations and has been handled corresponding to the instructions contained in this Equipment Handbook, the allowable service life is 15 years.

33. Explanation of the part number system:

Parachutesystem with Omega Container/Harness and Reserveparachute Type Rush

Letter O for:
Omega Harness/Container Assembly or
Letter R for:
Rush Reservecanopy

This is the Part Number
for the complete item.
Max. 2 Digits.
It consist of the subparts
defined on page 9

V1R1-O-01(XXS)

1 to 6 Digits is max. possible to discribe the:
Container or Canopy size and it's version
See page 7


34. How to order spare parts:

Please send an informal order to:

By mail:
FIREBIRD, Am Tower 16, D-54634 Bitburg / Germany
Fax: +49 6561 949681

Or by email:
info@flyfirebird.com

Describe your spare parts with the Parts List show on page 9.

Doc.-No.: EH-O-V1R1 Date: 01.03.05 Revision: 3 Rev. date: 01.07.2006	Equipment Handbook V1R1	
Page: 73 of 73		

We are available at your convenience
to answer questions and provide further information at:



Am Tower 16
54634 Bitburg
Germany
Telephone (+49) 6561-949680
Fax (+49) 6561-949680

E-mail: info@flyfirebird.com
Internet Address: www.flyfirebird.com