

ICON HARNESS CONTAINER PACKING MANUAL

Manual
TM162
Edition 02 - 2004

ICON harness container sizes

I2	Reserve size	99-110
I3		110-135
I4		135-150
I5		150-175
I6		175-190
S7		190-220
S8		220-250



The Aerodyne Creed:

"Our Customer"

The world is getting smaller and at Aerodyne, we have a global "Vision" of the future. We know our customers are "Smart" and we need innovative new products, of the highest quality, and tested to the highest standards. We need programs that appeal to you and add value, responsiveness and convenience.

We have made the commitment never to be content and never follow the "others". We will lead the way and expand the envelope. We will be the "Icon", the symbol of a new standard in our sport.

We know we haven't chosen the easiest path, but few things worth having are easy. You are the primary focus, your needs and your convenience. It is this concept we shall build upon, because ultimately you, our customer, will determine our success.

Aerodyne International (USA, France, South Africa, the World)



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 AND APPROPRIATE OWNERS MANUAL AND PACKING INSTRUCTIONS AND COMPLETED A "CONTROLLED PROGRAM OF INSTRUCTION" IN THE USE OF THIS PARACHUTE ASSEMBLY.

OR

- B READ THIS WARNING LABEL AND APPROPRIATE OWNERS MANUAL AND PACKING INSTRUCTIONS AND COMPLETED AT LEAST 100 RAM-AIR PARACHUTE JUMPS.

- 2 LOWER THE RISK OF DEATH, SERIOUS INJURY, CANOPY DAMAGE AND HARD OPENINGS BY NEVER EXCEEDING THE MAXIMUM LIMITS : 136 Kg 150 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!

AERODYNE SYSTEMS

Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



SUMMARY

1 TECHNICAL SPECIFICATIONS

- 1.1 INTRODUCTION
- 1.2 DESCRIPTION
- 1.3 MARKING & COMPONENTS LIST
- 1.4 TECHNICAL SPECIFICATIONS
AND LIMITATIONS

2 OPERATING INSTRUCTIONS

- 2.1 RESERVE ASSEMBLY
 - 2.1.1 - Connection rapide links
 - 2.1.2 - Soft links
 - 2.1.3 - Connect canopy to Container
 - 2.1.4 - PACKING INSTRUCTIONS
- 2.2 MAIN ASSEMBLY
 - 2.2.1 - Connector links
 - 2.2.2 - Soft links
 - 2.2.3 - Connect canopy to container
 - 2.2.4 - PACKING INSTRUCTIONS

3 MAINTENANCE

- 3.1 MAINTENANCE PROCEDURES
- 3.2 FREQUENCY
- 3.3 STORAGE



1.1 INTRODUCTION

THE ICON HARNESS CONTAINER MUST BE CHECKED AND ASSEMBLED BY A QUALIFIED RIGGER.

Before assembly, check the harness, container and all components, ensuring that the Reserve and Main container sizes are compatible with the Reserve and Main canopies, and deployment systems with which it is to be used.

1.2 DESCRIPTION: Icon is an individual harness container.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



1.3 Marking & list of components

1.3.1 Label on front left reserve riser

AERODYNE SYSTEMS P.O.BOX 1616 VERULAM 4340 SOUTH AFRICA

Part No: Serial number: Date of MFG:

Container size: Harness Size:

Max.operating limits: 136 kg 150 kt

Average peak force during 4.3.4 strength tests: 5.45 G's

CERTIFICATION: TSO C23d

1.3.2 List of components:

ICON Size	Freebag	Metallic Reserve Handle	Puff Reserve Handle	Cutaway Handle	Main D-bag
I2	C138010050B	C1430100500	C1430200599	C1420100599	C137010050A
I3	C138010100B	C1430100500	C1430200599	C1420100599	C137010100A
I4	C138010150B	C1430100500	C1430200599	C1420100599	C137010150A
I5	C138010150B	C1430100500	C1430200599	C1420100599	C137010200A
I6	C138010200B	C1430100500	C1430202599	C1420102599	C137010250A
S7	C138010200B	C1430102500	C1430202599	C1420102599	C137010300A
S8	C138010200B	C1430102500	C1430202599	C1420102599	C137010350A

Miniforce™ Type 17 Risers 22" C1480100599

Miniforce™ Type 8 22" Risers 22" C1480101099

Aerodyne Type 17 Risers 22" C1480500599

Aerodyne Type 8 Risers 22" C1480501099



1.4 TECHNICAL SPECIFICATIONS AND LIMITATIONS

SPECIFICATIONS: THE ICON HARNESS CONTAINER IS CERTIFIED UNDER TSO C23d.

It is produced in different sizes in accordance to the TSO C23d SMART range of canopies.

RESERVE CANOPY USE: Must be used with TSO certified reserve canopies.

ICON container sizes:

SIZE	SMART Reserve	Max accepted	Main canopy accepted	
I2	99-110	275 cu.in. max	90 - 104	327 cu.in. max
I3	110-120	293 cu.in. max	110-135	368 cu.in. max
I4	120-150	346 cu.in. max	130-150	393 cu.in. max
I5	150-175	384 cu.in. max	150-175	416 cu.in. max
I6	175-220	476 cu.in. max	175-210	465 cu.in. max
S7	190-250	488 cu.in. max	230-250	507 cu.in. max
S8	220-250	488 cu.in. max	250-270	527 cu.in. max

ICON Harness size: The Icon harness is produced in the following sizes:

A =	XXSpecial
B =	XSmall
C =	Small
D =	Medium
E =	Large
F =	XLarge
G =	XXLarge
H =	XXXL Special

LIMITATIONS:

MAXIMUM SPEED: 150 KT

MAXIMUM WEIGHT IS DEFINED BY THE LOWER OF THE TWO : 136 KG OR THE RESERVE CANOPY TSO MAXIMUM WEIGHT

**QUALIFIED RESERVE DEPLOYMENT SYSTEM: FREEBAG WITH SPRING PILOT CHUTE
PACKING: AS SPECIFIED IN THIS MANUAL.**

MAIN DEPLOYMENT SYSTEM:

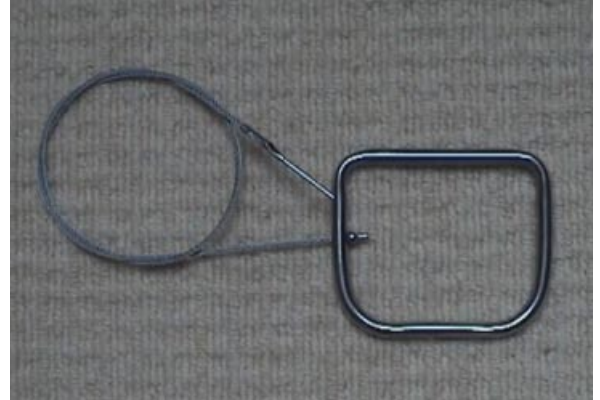
**DEPLOYMENT BAG WITH HAND DEPLOY PILOT CHUTE.
STATIC LINE.**

Major Components & Accessories:

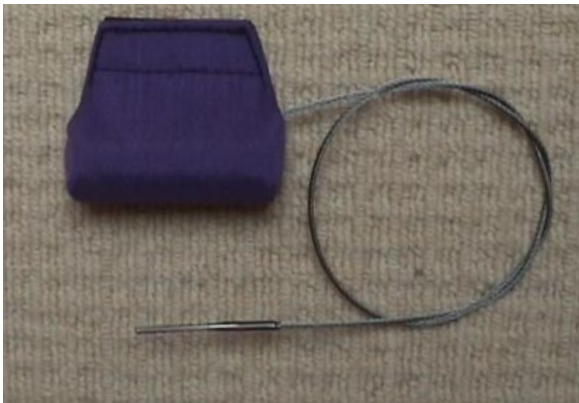
Cut away handle with rigid Puff



Metallic reserve handle



Reserve handle with rigid Puff



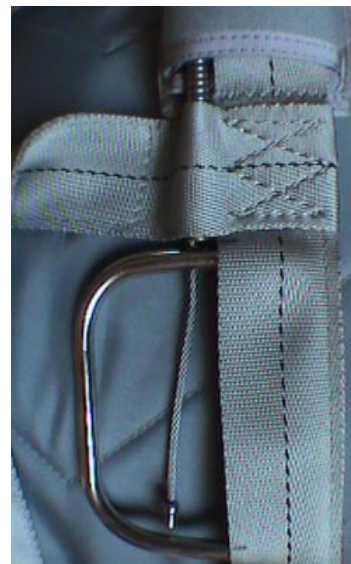
Reserve toggle



Cut away handle position



Reserve handle position



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Main pin toggle



Miniforceä Type 17 risers - Pin Toggle



Stainless steel leg strap adjusters with buffer



Route the webbing as shown on picture



Type 8 buffer
No slippage on 0,900 tons



Elastic keepers are MANDATORY on leg straps

Adjustment





2 OPERATING INSTRUCTIONS

2.1 ASSEMBLY

INSPECTION BEFORE PACKING

1. Read and understand this manual and be qualified by proper instruction for sport parachuting activities.
2. Check both 3-Ring releases to see that they are correctly assembled, and the release handle is securely velcroed 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 correct pin closure and routing of the ripcord. Be 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 reserve and main canopy size is compatible with the harness-container and deployment system with which it is to be used.
7. Prior to assembly and/or packing a thorough inspection of the Icon 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

Take note of any worn, damaged, corroded or incorrectly rigged components, which 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.

Reserve canopy assembly:

If soft links are used follow the instructions below:

Soft links connection

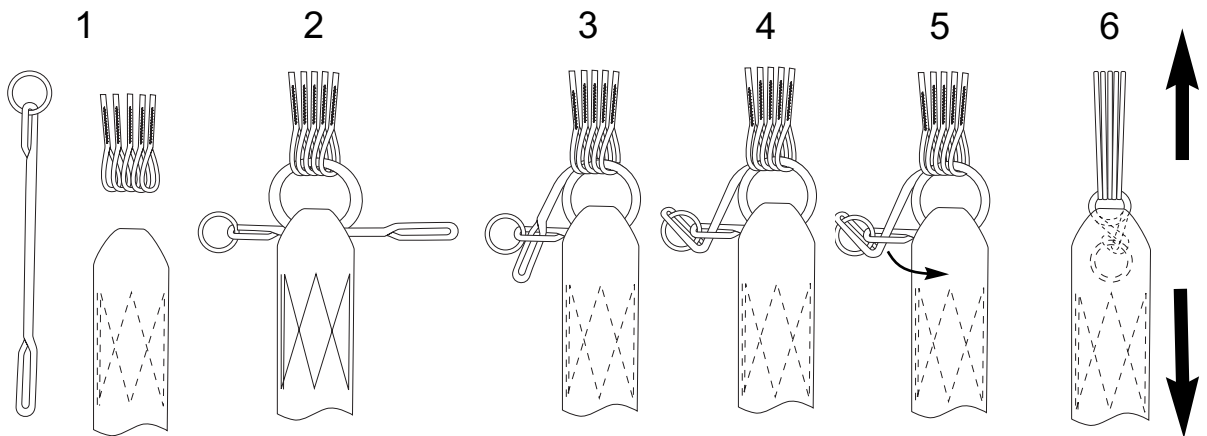
Soft link for reserve canopies.

PN: **P 1487-01**

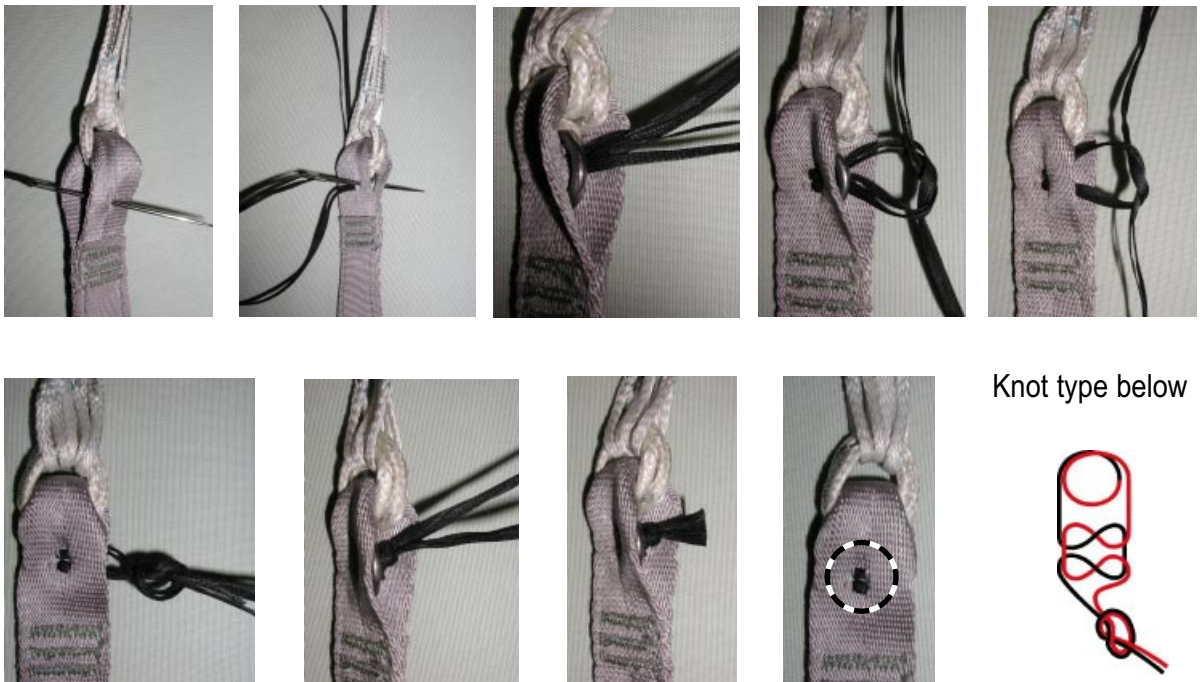
Soft link for Main canopies on **miniforce** risers.

PN: **P 1487-00**

Installation procedure on front and rear reserve risers:



Secure the Soft Link ring in the webbing pocket, and hand tack as shown.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Reserve canopy assembly:

If you use connector links:

After canopy installation, don't forget to tighten the connector links (Do not overtighten!).



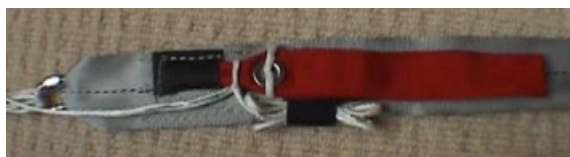
Reserve toggle assembly:

Pass the lower steering line through the rear riser ring.

Pass the line through the toggle grommet and loop around the toggle. Pull tight..

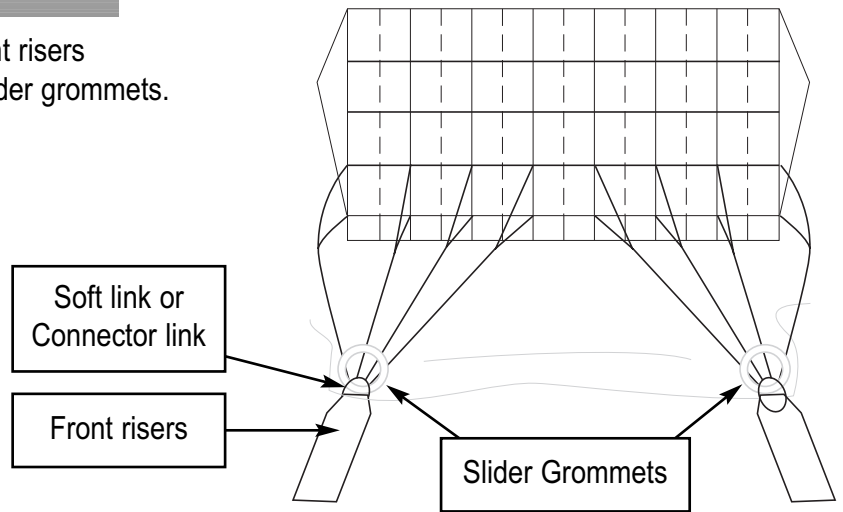


Set the toggle into the lower steering line brake loop. And slide the toggle finger into the pocket. Stow the extra line and close the velcro. Fix and secure the toggle on the rear riser.

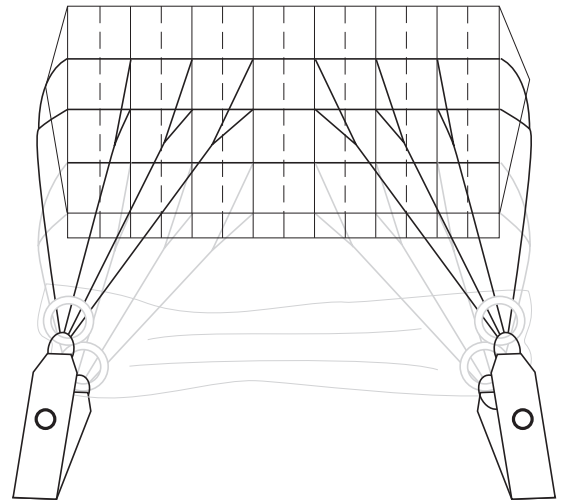




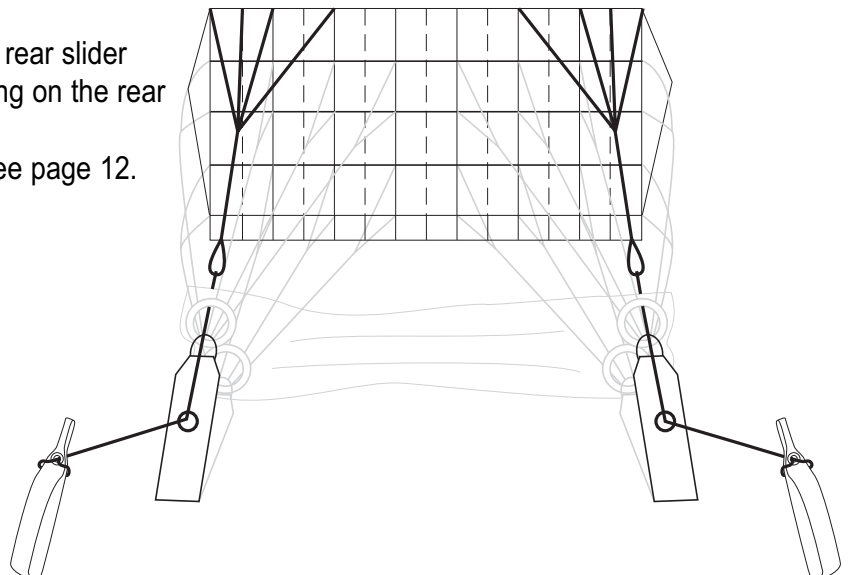
Connect front lines to the front risers
 Pass the lines through the slider grommets.
 For Connection see page 11.



Connect rear lines..
 Pass the line through the slider grommets.
 For Connection see page 11



Connect the steering lines.
 Pass the steering line through the rear slider grommet and through the guide ring on the rear reserve riser.
 For assembly of steering toggle see page 12.



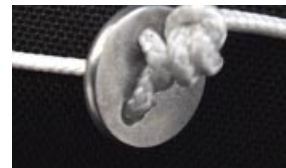
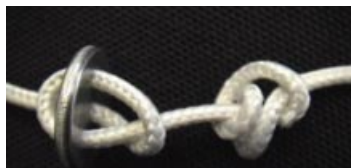
Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



CYPRES Assembly:

MANDATORY: Only use a Cypres closure loop with the Icon Harness and Container

To set the reserve closure loop and washer use the following method as shown.



Adjust the length and tighten the knot.



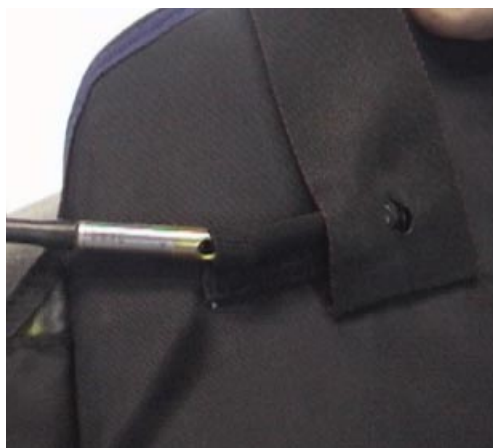
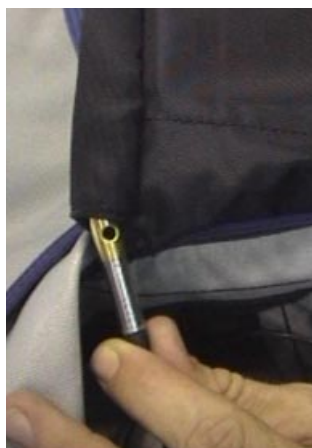
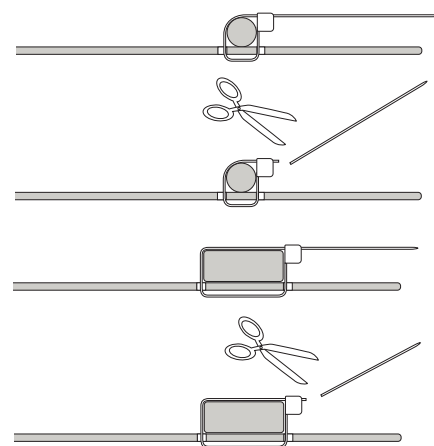
	ICON 2	ICON 3	ICON 4	ICON 5	ICON 6	ICON S7	ICON S8
SMART 99	X						
SMART 110	X	X					
SMART 120		X	X				
SMART 135			X				
SMART 150			X	X			
SMART 160				X			
SMART 175				X	X		
SMART 190					X	X	
SMART 220					X	X	X
SMART 250						X	X

Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

VERULAM 4340 SOUTH AFRICA

Clear window CYPRESS control unit installation:

Place the two tyraps with the head on the right side as shown in the drawings, place the CYPRESS control unit as shown in the picture, tighten tyraps and cut the extra length off. Follow the drawings.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



2.2 PACKING INSTRUCTIONS

2.2.1 RESERVE CONTAINER

For packing of the Reserve container, follow the Reserve canopy manufacturer's WARNING, instructions and recommendations.

For the closing of the Reserve Container follow the Icon Manuals WARNINGS, Instructions and recommendations.

Packing of the Reserve Canopy and Container must be completed by a qualified rigger.

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.

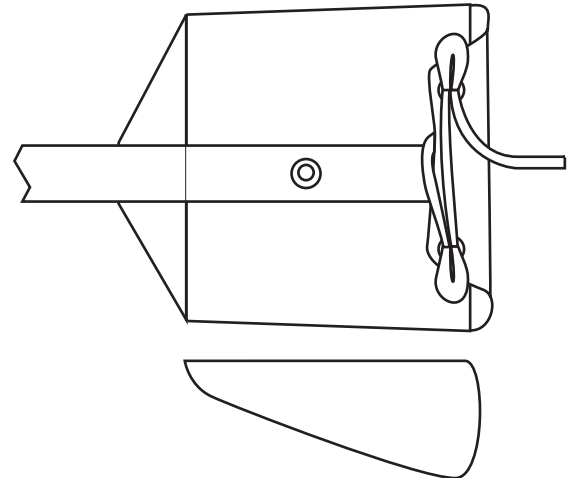




Prepare the reserve deployment bag shape as shown



Lay the risers flat against the container wall.



Place the deployment bag and pass the closure loop through the deployment bag central grommets.



Push and compress the lower corners of the deployment bag into the reserve container (see arrows).
Fold the reserve bridle as shown (3 folds on each side).



Place the Spring ejector plate and fold the remaining bridle on top of plastic flap.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



Pass a pull up cord cleanly through the pilot chute from bottom to top plate.



Ensure the lower spring coil is up against the spring ejector plate.



Lock the pilot chute in position with a temporary pin



Close the right flap



Close the left flap



Close upper flap



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.



Install the reserve handle and close the lower flap with the pin.
If you install a RSL: Route the cable through the guide rings as shown.



Verify the reserve handle pull force is between 5 lbs (22,2 Newtons) minimum and 22 lbs (97,9 Newtons maximum)

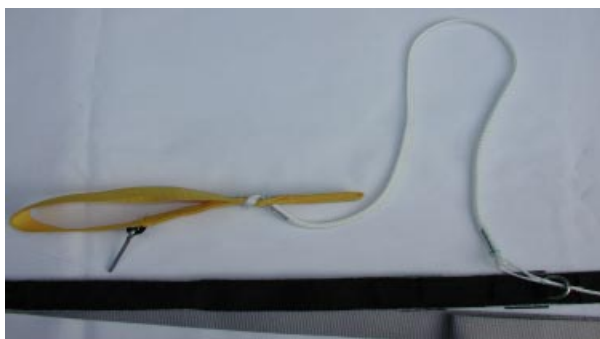


Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Miniforce risers Pin Toggle.



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

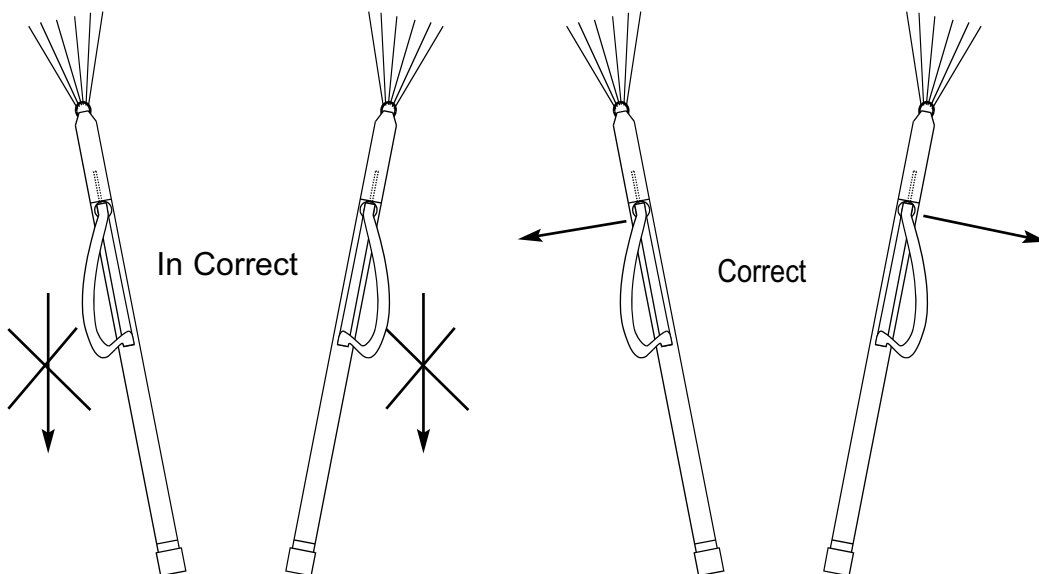


Setting deployment brakes.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

RELEASE BRAKES SYSTEM



Right hand side



Left hand side



Lateral view



Anti-twist housing



Miniforce® three ring maintenance: Release the three ring system every 50 jumps and knead the webbing as shown.



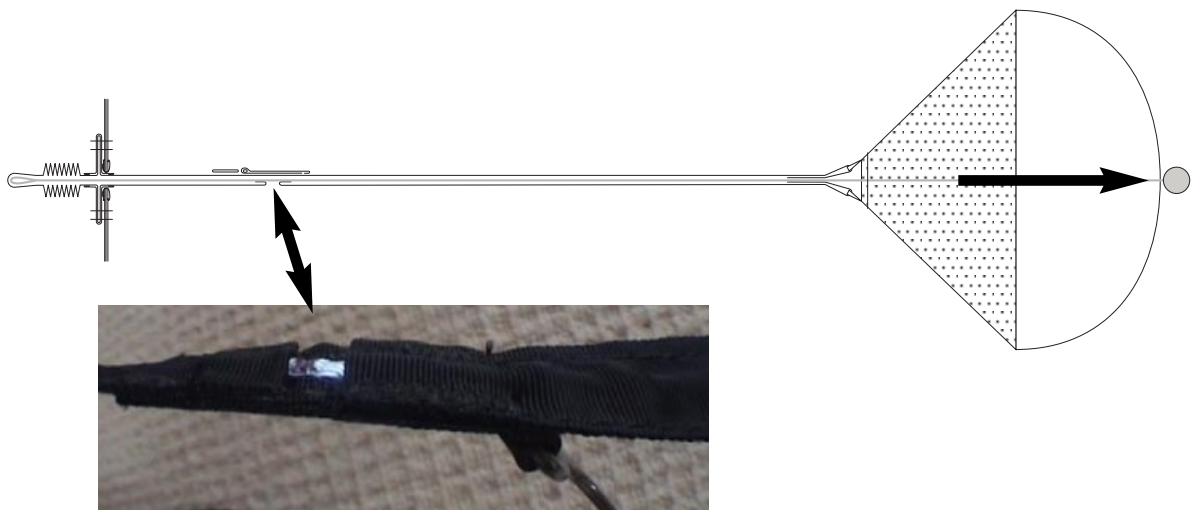
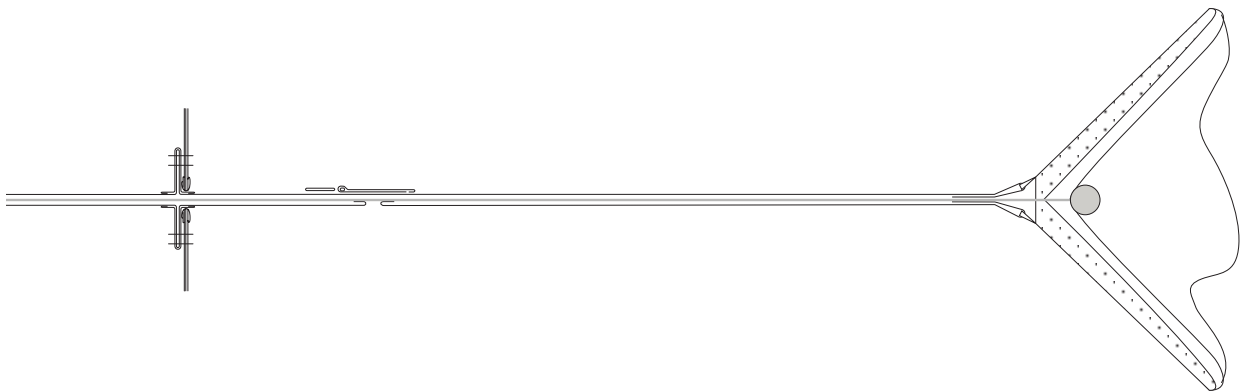
Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Kill line and main deployment bag assembly

Secure the kill line with a connector link inside the bridle as shown.



Connect the bridle to the main canopy with the connector link as shown.



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Main assembly before closing the main container

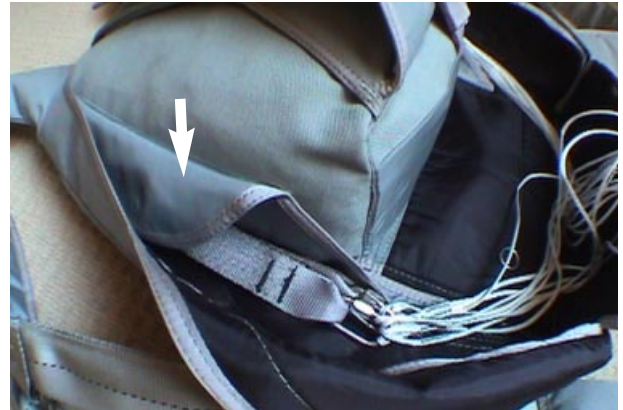


Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Place the main risers under the internal riser covers.



Fold the internal riser cover over the main risers



Place the risers under the upper riser covers



Close the upper riser covers by inserting the tongue into the pocket.



Press into position



Picture showing closed upper riser cover.



Place the main deployment bag in the pack tray 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 than 6 daN. For Safety the minimum force exerted must not be less than 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.



Pass the closure loop thru the lower flap



Pass the closure loop through the upper flap



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Close the left lateral flap,



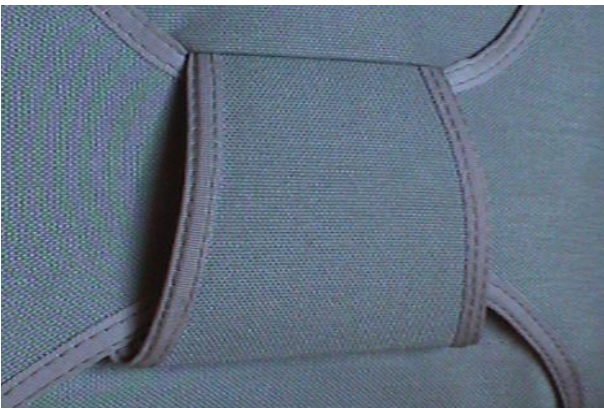
Close the right lateral flap. Check the mark on the kill line to indicate that the pilot chute is cocked.



Slide the hand deploy bridle under the right lateral flap as shown. Fold the hand deploy bridle



Close the main cover flap



Insure that the center line of hand deploy pilot chute is free



Fold the hand deploy as shown



Read the warning on page 3 of this manual and follow the instructions before packing and/or using the product.

Free Fly Handle





3 MAINTENANCE & REPAIRS

3.1 MAINTENANCE FREQUENCY SCHEDULE

3.2 MAINTENANCE PROCEDURES

3.3 STORAGE

3.4 USER Check-list



3 ICON MAINTENANCE & REPAIRS

The ICON is built with the latest design and production technologies.

Qualified personal:

All maintenance on the ICON Harness & Container must be done by the Manufacturer or a qualified rigger.

Attention:

The ICON is certified under TSO C23 d

The TSO label is sew on the left reserve riser. If this label is not present do not pack the rig.

REMOVAL OF THE CERTIFICATION OR WARNING LABEL VOIDS THE TSO AND ALL CERTIFICATION APPROVALS.

3.1 Maintenance frequency:

Reserve:

Reserve maintenance and packing: 1 year in normal* conditions of use and storage

If the conditions are different, the time between maintenance operations may be

Reduced by the user.

Main: One month or each 50 jumps.

3.2 Maintenance procedure

Operations on the reserve container:

WARNING:

A reserve canopy is not always used in good conditions.

It is 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, HAVE YOUR RIG INSPECTED BY A QUALIFIED RIGGER FOR ADVICE ON REPAIR OR REPLACEMENT OF PARTS.

WARNING: NEVER USE SLIDER BUMPERS ON THE RESERVE CANOPY.

Check:

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

Accessories:

- CYPRESS reserve closure loop replace with new.
- Cut away handle cables are in good condition and no damage to cable coating
- Reserve handle for no sharp edges and swaging is in good condition
-
-



- Reserve D-bag stitching and grommets. Replace shock cord if damaged
- Reserve bridle is in good condition
- Reserve pilot chute fabric, spring attachment & condition

Operations on the main rig each 50 jumps:

Inspection all components:

Harness container check:

- All stitching
- Webbing - tapes - binding tapes - fabric integrity
- Plastic plate integrity
- Hardware no sharp edges no damage
- Grommets no damage
- Replace Main closure loop with new

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

- Acids (car battery)
- Abrasion
- Chlorine
- Smoke
- Excessive heat 93°C and up
- OIL and grease (polyamids)
- Rodents and pests
- Salt water
- Ultra Violet (Sun)
- Water and humidity

When the parachute is not in use it must be placed in a carry bag and stored in a room where the temperature is maintained between 15° and 30° and the humidity between 15% and 70%.



3.4 User check-list before jump:

- Verify the packing date on the data-card.
- Reserve handle in its pocket, and the correct cable routing without tension.
- Turn automatic opener (AAD) "ON"
- Cut away handle in his pocket and cable routing correctly into housings.
- Correct setting 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 over 6 kg/12 lbs.
- Hand deploy handle in correct position.

When putting rig on back 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.