

# Rigging Innovations

Owner's Manual



## Harness and Container System



# Warning

1. Training and/or experience are required to lower the risk of serious bodily injury or death.

**NEVER use this equipment unless you have:**

- A. Read the warning label and completed a “controlled program of instruction” in the use of this parachute assembly.

- OR -

- B. Read the warning label and all appropriate owners / flight manuals, 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 limits shown on the warning label.

**Warning labels may be found in the following locations**

- Ram-air parachute- center cell top skin at trailing edge.
- Harness/container system-backpad.



# Warning

## **BODY FLYING ATTITUDES (FREEFLYERS)**

Some body positions (i.e. head down, stand up, and long dives) may enable the user to reach speeds and attitudes, beyond those for which your equipment has been designed and tested.



Premature or unintentional deployments in these body positions, even if you are below the maximum placarded deployment speed, are extremely dangerous.

Parachute systems are designed to operate within specific weight and speed parameters, while oriented in a body position ranging from “belly to earth” to a slightly “head high” attitude.

Deployments outside of these parameters could cause one or all of the following:

- Extremely hard openings resulting in equipment failure
- Severe bodily injury
- Possible harness failure or ejection from the harness
- Canopy damage, malfunction or death!



## DISCLAIMER - NO WARRANTY

Because of the unavoidable danger associated with the use of the CURV parachute system, the manufacturer makes NO WARRANTY, either expressed or implied. The system is sold with all faults and without any warranty of fitness for any purpose. Manufacturer also disclaims any liability in tort of damages, direct or consequential, including personal injuries resulting from a defect in design, material or workmanship or manufacturing whether caused by negligence on the part of the manufacturer or otherwise. By using this system, or allowing it to be used by others, the buyer WAIVES any liability of or the manufacturer for personal injuries or other damages arising from such use.

If the buyer declines to waive liability on the part of the manufacturer, buyer may obtain a full refund of the purchase price by returning the system, before it is used, to the manufacturer within 15 days of the date of the original purchase with a letter stating why it was returned.



### !!! WARNING !!!

You can substantially reduce risk by ensuring that each component of the system has been assembled and packed in strict compliance with the manufacturer's instructions, by obtaining proper instruction in the use of this system, and by operating each component of the system in strict compliance with owner's manual. However, parachute systems sometimes fail to operate properly even when properly assembled, packed and operated so that you risk serious injury or death each time you use the system.



### !!! DANGER!!!

Each time you use this parachute system you risk serious bodily injury or death.



This manual designed and produced by  
**RIGGING INNOVATIONS INC.**

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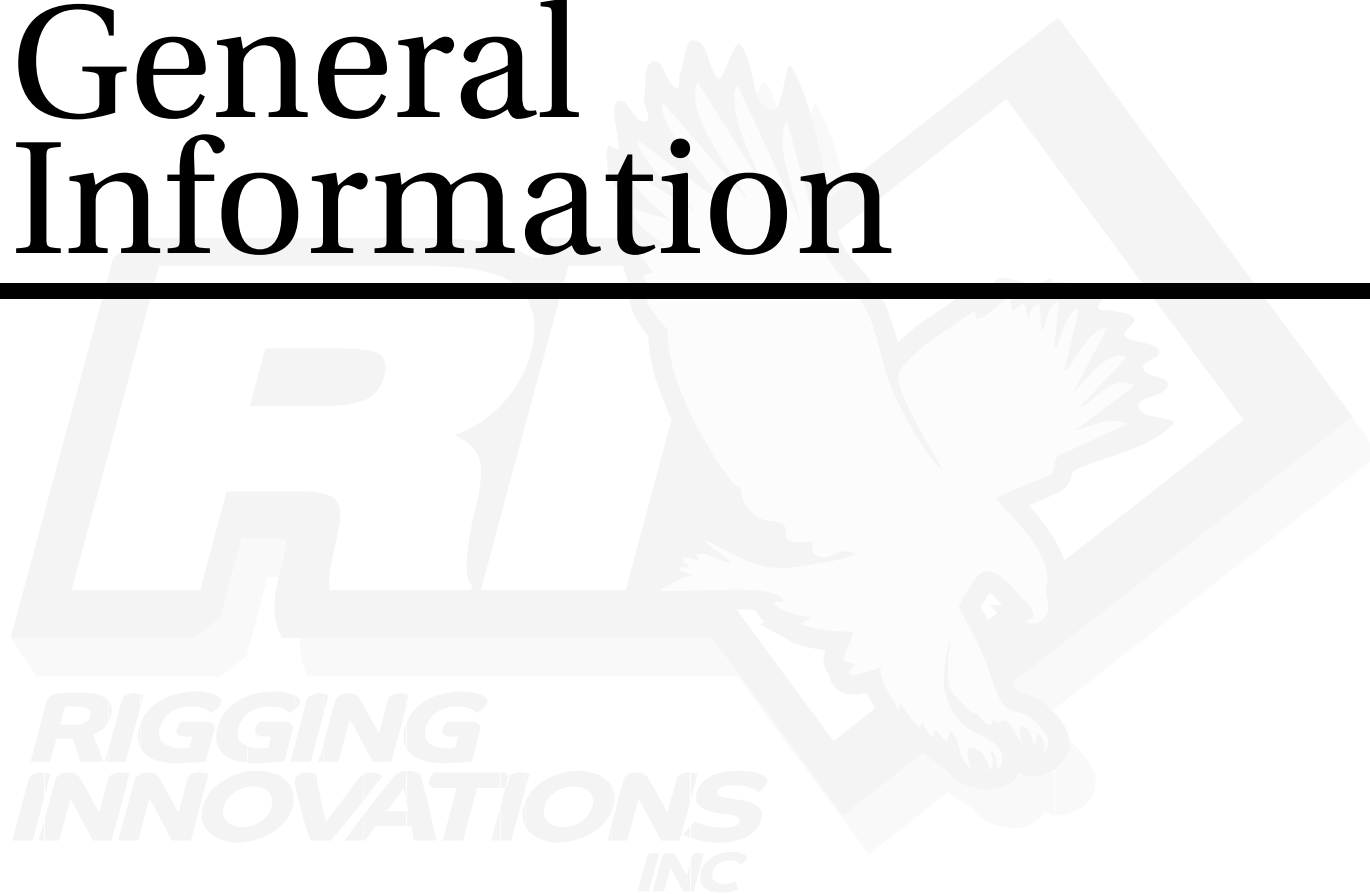
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# Section 1.0

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# General Information

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# Curv Certification

1.1

The **CURV** harness and container system is approved as a minor design change under the original Talon TSO and approved under FAA TSO-C23c, Category B: limited to use by persons up to 116 kg (254 lb.) fully equipped, and up to 150 knots.

## DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION



**NORTHWEST MOUNTAIN REGION**  
**Western Acft. Cert. Office**  
PO Box 92007  
Los Angeles, CA 90009-2007

AUG 19 1985

Rigging Innovations Inc  
Mr. Sandy R. Reid, President  
236 E. Third St.  
Perris, CA 92370

Gentlemen:

Rigging Innovations Inc., Talon Dual Parachute Harness & Container Assembly  
Part Number 6111-(-); Technical Standard Order C23c

Your application for authorization to use Technical Standard Order (TSO) procedures, reference your letters dated June 14, 1985, and July 29, 1985 have been reviewed. The certification of conformance with the requirements of the Federal Aviation Regulations (FAR) Part 21, Subpart O, TSO-C23c is acceptable. The following technical data are considered to fulfill the requirements for TSO authorization and are being retained in our files:

Talon Owner's Manual, dated June 14, 1985 Rigging Innovations, Inc.  
Test Summary PER 4.3.2.1, TSO-C23c dated July 2, 1985

The quality control procedures contained in your quality control manual currently on file at the Manufacturing Inspection District Office in Long Beach, CA, and your statement that those procedures will be applied to the manufacture of subject articles at the above address, are considered adequate in accordance with FAR 21.143.

Effective this date you are authorized to use TSO procedures for the subject dual parachute harness and container assembly and you may identify this article with the applicable TSO markings as required by TSO-C23c.

As a TSO manufacturer, you are required to report any failure, malfunction, of defect related to your TSO in accordance with the provisions of FAR 21.3. You must also notify the FAA when you no longer manufacture a TSO approved article as required by 21.613(b).

This authorization pertains only to manufacturing operations at the above address and this office must be notified in advance of any proposed relocation to preclude interruption while awaiting quality control approval of your new facility.

Sincerely

A handwritten signature in black ink, appearing to read "Charles I. Buzner". Below the signature is a small rectangular stamp with the name "CHARLES I. BUZNER" printed in capital letters.

CHARLES I. BUZNER

# Rigger Qualifications

1.2

To pack and maintain this parachute system, the FAA Senior or Master Rigger - or foreign equivalent - must possess a BACK rating endorsement to his or her certificate.

**Since these systems are certified only with square reserve parachutes** the rigger must be trained to pack ram-air parachutes prior to certifying the **CURV** system for emergency use.

## **14 CFR Part 65.127() No certificated parachute rigger may –**

- (e) Pack, maintain, or alter a parachute in any manner that deviates from the procedures approved by the administrator OR the manufacturer of the parachute;
- or
- (f) Exercise the privileges of his certificate and type rating unless he understands the current manufacturer's instructions for the operation involved.

**ANYONE** who circumvents Rigging Innovations, Inc. instructions is in violation of **14 CFR Part 65.127 and is, therefore, performing an illegal procedure.**

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# “Am I qualified to use this equipment?”

## 1.3

As the new owner of a Rigging Innovations, Inc. CURV parachute system, before you use it, it is very important that you can answer yes to several questions. Only by doing so can you be assured that you have the necessary training and/or experience to safely utilize modern parachute equipment of this type.

**Question 1:** *Does my experience level and /or training qualify me for using this equipment?*

Advanced equipment such as the CURV may have features requiring a certain level of experience and training in order to be used safely.

**Question 2:** *Have I been briefed or trained in the operation of this equipment by qualified personnel such as an instructor or licensed rigger?*

If you have progressed to the level where you are qualified to jump advanced equipment, or if you have been trained on other types, there may be certain features of this system that you are unfamiliar with. Make sure that you have received a thorough briefing from a certified instructor or rigger for the type of equipment you are about to jump.

**Question 3:** *Does the equipment fit properly?*

Can you see and / or reach the main deployment handle, 3-ring release handle, reserve ripcord and RSL? This equipment is built in a variety of container sizes, lengths, and widths, and a custom pre-sized harness. These configurations along with options such as pullout and BOC main deployment, make compatible sizing to the individual extremely important to the safe operation of the system. If the system does not fit properly, the handles may be inaccessible or may move during the jump thereby causing problems in the air.

The above questions have dealt with your ability to safely jump this RIGGING INNOVATIONS product only. If you have answered "Yes" to all the questions, you should feel comfortable using R.I. equipment. However, there are additional factors that may influence your decision and ability that do not relate to R.I. products. If you have any questions or feel uneasy about using this harness and container system, do not hesitate to ask a qualified Parachute Instructor, FAA certified parachute rigger or contact Rigging Innovations for any further information or training you feel necessary at:

Telephone: 520.466.2655 or [tech@rigginginnovations.com](mailto:tech@rigginginnovations.com)

## **RIGGING INNOVATIONS INC.** **Customer Service Policy and Limits**

### **Harness and containers**

RI will provide no charge repair service for repairs that RIGGING INNOVATIONS INC. has determined to result from defects in material or workmanship for a period of **six months from the date of purchase**. Date of purchase and proof of purchase must be supplied to RI by the customer with the item in order to be repaired free of charge.

### **Safety**

RI will perform all **Mandatory** service bulletins, repairs, or modifications due to SAFETY concerns free of charge.

### **Unauthorized modifications/alterations**

RI will charge for repair service when the damage is caused by unauthorized modification or alteration of the product. RI reserves the right to refuse to repair any product so modified or altered.

### **Improper use**

RI will charge for repairs that results from improper use or from abuse such as exposure to chemicals, saltwater, improper washing, improper packing, excessive exposure to sunlight, or negligence on the part of the user (i.e. jumping already damaged equipment).

### **Limits**

RI reserves the right to refuse service on equipment for which materials and / or manufacturing patterns and specifications no longer exist.

### **Configuration**

Articles sent in for repair should be sent in with all parts. RI may request and require additional information pertaining to the product.

### **Accessory part - replacement**

RI will recommend replacement of component parts based on inspection when safety is a factor due to normal wear and tear or maintenance of the product.

### **Product improvement**

Product improvements may be available as an option to customers.

# Section 2.0

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# Component Compatibility

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## Canopy Compatibility

2.1

### IMPORTANT!

It is imperative that the rigger and the owner understand what canopies are compatible with a particular model of Rigging Innovations, Inc. harness/container assembly.

**IF INCOMPATIBLE CANOPIES ARE USED WITH THIS CURV SYSTEM, IT COULD FAIL TO OPERATE AS DESIGNED RESULTING IN SERIOUS INJURY OR EVEN DEATH TO THE USER**

## Reserve Compatibility

2.2

To determine whether a particular reserve canopy is compatible with a CURV harness/container assembly, there are several requirements that must be met. They are pack volume, deployment type, TSO certification, and placard limitations.

## Volume

2.3

The pack volume of a canopy is determined by using the standard Parachute Industry Association (PIA) volume measurement as determined by PIA Technical Standard TS-104 in its most current edition. By cross referencing this measurement to the Rigging Innovations, Inc. Main/Reserve Container Volume, Table II, the volume compatibility may be determined.

### **IMPORTANT NOTES ON VOLUME REFERENCES**

Rigging Innovations maintains the PIA canopy volume measurement study. If R.I. has not tested a particular make and model canopy in our volume chamber we cannot be responsible for its fit in a given size container. We will accept orders for specific size rigs if no reference to canopy make or model is made. However, if canopy sizes are stated on an order form then R.I. will determine what is the best container size for those canopies.

Proper container sizing is one of the more difficult processes in determining the correct size of main to reserve canopy compatibility. Volume testing by the Parachute Industry Association has shown a volume variable of up to 20% for a given canopy model.

The PIA canopy volume may be based on a single sample and should serve only as a rough guide in selecting the correct size of container to canopy. Factors such as temperature, humidity, age, number of jumps and packing technique affect the volume of a given canopy.

Reserve canopy technology has not progressed at the same pace as main canopies. Often, the reserve canopy volume determines the container size. Today's high performance main canopies allow jumpers to fly much smaller volume canopies than an appropriate size reserve canopy for the individual's weight and experience.

R.I. generally takes a conservative approach when selecting the appropriate container size for a given canopy combination.

**TABLE II**  
**CURV Main/Reserve Container Volumes**  
All numbers refer to the cubic inch volume of the containers.

Container Size	Volume/Reserve/Main
Vc000	250/275
Vc00	275/300
Vc0	300/325
Vc1	325/350
Vc2	325/400
Vc3	375/425
Vc4	425/475

## Deployment Bag And Bridle

## 2.4

Only a Rigging Innovations reserve deployment bag and bridle assembly of the correct size and properly labeled with P/N 2119 - ( ) is compatible with the **CURV**. **No other deployment bag is approved for use with the CURV system.**

### **SAFETY STOW**

Only a Rigging Innovations safety stow of the correct size with P/N 2911 - (3) is compatible with the CURV. No other safety stow is approved for use with the CURV system.

### **DEPLOYMENT TYPE**

There are 5 different canopy deployment methods in common use. Of these, only TYPE 5 is approved for use in the Rigging Innovations, Inc., **CURV** harness/container assembly.

The description and example is as follows:

Type 5: Free Bag: Canopy stowed in bag and lines stowed on/in bag.

Examples: Icarus, Performance Designs, Smart, and Precision R-Max reserves

# Orange Warning Label Placard Data

2.5

As part of the manufacturers requirements, the ORANGE WARNING LABEL located on the back pad must be filled in by the rigger assembling and packing the **CURV**.

## **FAILURE TO COMPLETE THE ORANGE WARNING LABEL WILL RESULT IN THE TSO BEING NULL AND VOID!**

The data required for the warning label is obtained from the canopy manufacturer and should be found on the canopy warning label or data panel.

Please note that there may be instances where one model canopy may have TWO DIFFERENT placard limitations; one as a reserve and one as a main. An example of this is the Precision Super Raven 4 canopy. As a reserve it is limited to 254 lb. maximum gross weight. However, as a main it is placarded at 288 lb. Make sure that your rigger marks the correct space with the right category information.

# Industry Speed And Weight Limitations

2.6

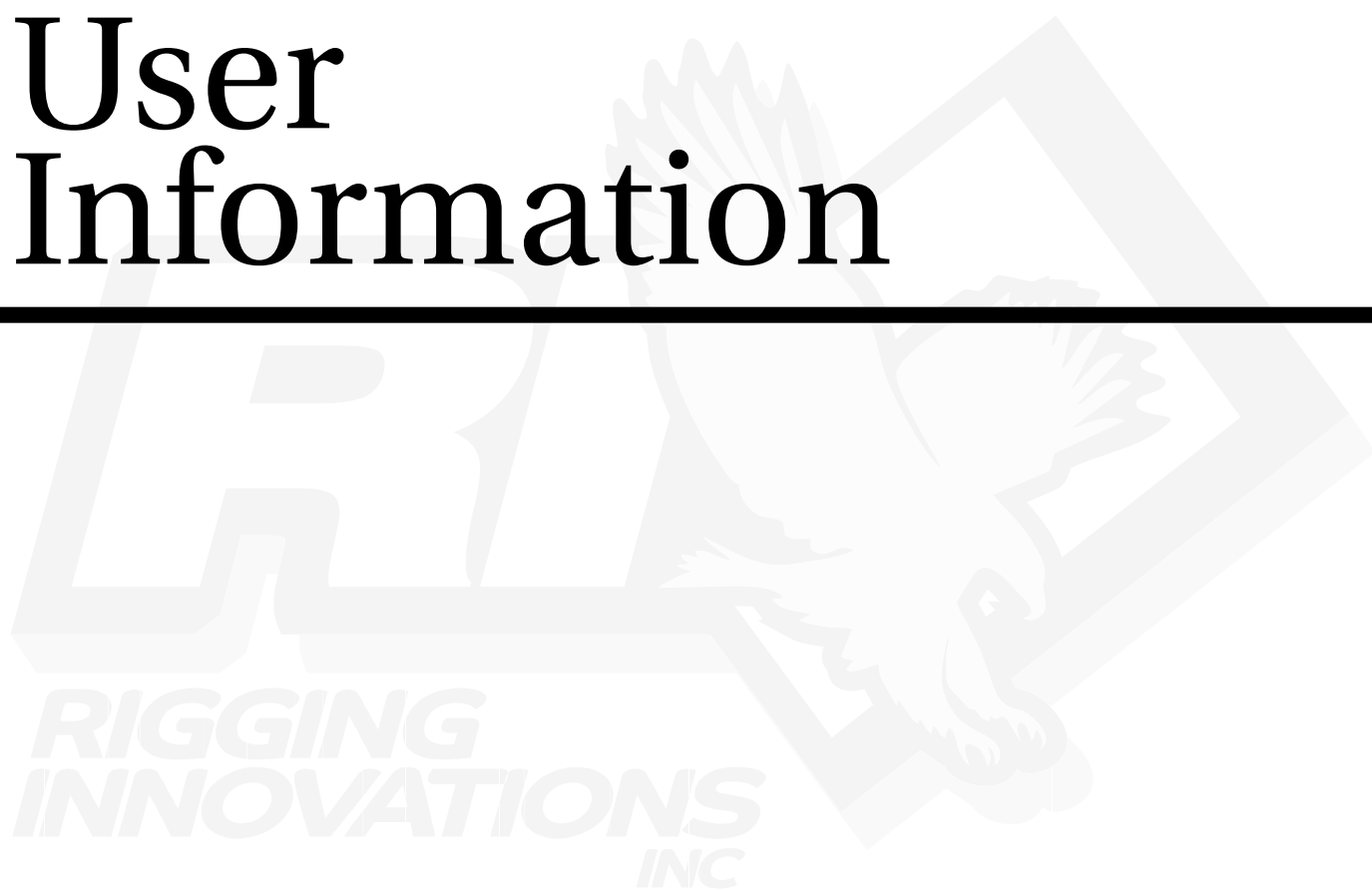
 <b>WARNING</b>		
1. TRAINING AND/OR EXPERIENCE ARE REQUIRED TO LOWER THE RISK OF SERIOUS INJURY OR DEATH		
NEVER USE THIS EQUIPMENT UNLESS YOU HAVE:		
A. READ THIS WARNING LABEL AND COMPLETED A "CONTROLLED" PROGRAM OF INSTRUCTION IN THE USE OF THIS PARACHUTE ASSEMBLY		
OR		
B. READ THIS WARNING LABEL AND ALL APPROPRIATE OWNERS/FLIGHT MANUALS, 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 LIMITS SHOWN BELOW.		
	MAIN	RESERVE
MAXIMUM DEPLOYMENT SPEED	KTS.	KTS.
MAXIMUM GROSS WEIGHT (JUMPER + CLOTHING + EQUIPMENT)	LBS.	LBS.
MANUFACTURER:		
MODEL:		
ATTENTION RIGGER: • REFER TO OWNERS MANUAL FOR PLACARD INFORMATION AND COMPATIBILITY LIMITATIONS • FILL IN DATA WITH WATERPROOF INK • CHANGE DATA ON LABEL IF A DIFFERENT CANOPY IS INSTALLED		
 REMOVAL OF THIS LABEL VOIDS THE TSO. MANUFACTURED UNDER TSO C23c BY RIGGING INNOVATIONS INC. 4900 N. Tumbleweed Rd. Bldg. 1, ELOY AZ 85231, USA.		

# Section 3.0

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# User Information

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# Main Container Instructions

## Assembly For Main Canopy

3.0

### Step 1

Lay out main parachute, flake canopy, and check lines for straightness and continuity.

### Step 2

With line check complete, attach connector links to main risers (nose of canopy on front riser, tail on rear riser). Note that risers are marked on back with an L or R to designate left and right. Double check that you have the proper riser on the appropriate side of canopy.

### Step 3

Route steering lines through guide rings on rear risers. Attach steering toggles to lower control lines in accordance with canopy manufacturer's instructions or standard practice. Double check that toggles is secure and knot will not slip.



### Caution

Some canopies have brake-setting loops large enough that they can pass over and below the toggle loop where the control line attaches, or over and below the knot that forms the loop for attaching the toggle. Either occurrence may cause difficulty releasing the brakes.

### Step 4

Check that elongated diameter of canopy brake-setting loop and toggle-attach loop is 3/4" max. Zigzag, hand stitch, or re-tie loops as needed to reduce the loop length to 3/4 inch. (Fig 3-1)

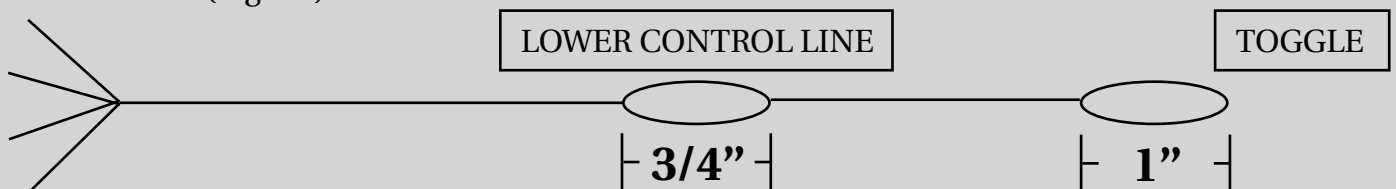


Fig 3-1



## Step 5

Attach the risers to harness making sure you have left on left and right on right.

# Main Container Instructions

## Main Deployment Bag Attachment / Pilotchute and Bridle

### 3.1



### Warning

Improper installation or use of the kill-line pilotchute can lead to high-speed malfunctions that may be fatal. Kill-line pilot chutes **MUST** be cocked each time the parachute is packed.

## Step 1

Remove the rapide link from bottom end of bridle. Route the bridle down through grommet in center of bag. Pull both key ring retainer loops through grommet. (Fig 3.1.1)



Fig 3.1.1



Fig 3.1.2



Fig 3.1.3

Thread the circular key ring over the end of the bridle and up to the retainer loops. Thread the ring thru the loops. (Fig 3.1.2) Hand tack ring opening inside of retainer loop. Attach the bottom end of bridle to canopy attachment point (loop or ring) with the rapide link. Ensure that you route the rapide link through white centerline as well as the Type 3 tape loop. (Fig 3.1.3) Tighten the rapide link.

## Step 2

To cock the kill-line pilot chute, elongate bridle by pulling the pilot chute handle while holding the bag down with one foot (Fig 3.1.4).

Check the window on bridle near the curved pin. A cocked pilot chute will show green kill-line in the window. (Fig 3.1.5)



Fig 3.1.4



Fig 3.1.5

## Step 3

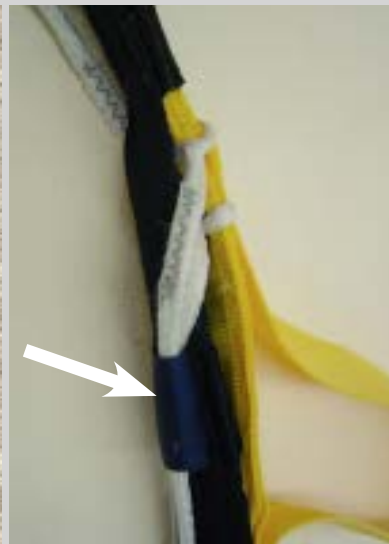
Install rubber bands provided onto main deployment bag.

The main parachute is now ready to pack according to canopy manufacturer's instructions.

## Step 4

Set deployment brakes by pulling steering lines down until locking loops are just below guide rings on main risers. Insert main toggle upper end into locking loop on steering line and into fabric sleeve above the guide ring. The steering line should be outboard of the toggle and pocket. Lower end of toggle is inserted into fabric loop below the guide ring.

Stow excess steering line in the sleeve on the opposite side of the riser.



# Main Container Instructions

## Main Packing

3.2

### Step 1

When packing the main canopy, dress it approximately 4" wider than bag (2" each side) to fill out sides and not concentrate bulk in the center. For best appearance, bulk must be distributed evenly in the bag. Route lines out center and lock the center locking stow. Lock the two outer locking stows and continue stowing lines to within 18" of the connector links.

### Step 2

Press the air out of bag at this time to flatten bag prior to placing it in container. Place the bag at the bottom of main container.

### Step 3

Route main risers over shoulders and close the main riser covers and route the main risers down along side the reserve container. Main toggles face inboard.

### Step 4

Place the bag into main container with the lines to bottom of container. Push the top of the bag down into the container while pulling up on the center flap to seat the bag in the container.



# Main Container Instructions

## Main Container Closing - B.O.C (Method 1)

3.3

### Step 1

Route the main bridle across the top of bag and out the right side of container.

**Double check that the KILL-LINE PILOTCUTE is cocked. A green mark should be visible in window opposite curved pin.**



### Step 2

Close main flaps in the order stamped on each flap.

#1 - **Bottom** (Fig 3.3.1); #2 - **Top** (Fig 3.3.2);

#3 - **Right side** (Fig 3.3.3); #4- **Left side** (Fig 3.3.4).

Pull flaps into place and lock with curved pin.



Fig 3.3.1



Fig 3.3.2



Fig 3.3.3



Fig 3.3.4

### Hint



When pulling the closing loop thru each grommet, push the previous flap down with your non closing loop hand. This will keep any wrinkles out of the side panel.

## Step 3

Tuck the bridle under the bottom of the top flap and then right under the side flap until the bridle is near the mouth of the BOC pocket. (Fig 3.3.5) Make sure that the window of the kill-line bridle faces up and that the green centerline is visible.(Fig 3.3.6)



Fig 3.3.5



Fig 3.3.6

## Hint



End tabs should be touching or slightly overlapping.

A gap between the two side end tabs indicates that your closing loop is too long.

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# Main Container Instructions

## Alternate Main Container Closing - B.O.C

3.4

### Step 1

Route the main bridle out the right side of container.

**Double check that the KILL-LINE PILOTCHUTE is cocked. A green mark should be visible in window opposite curved pin.**



### Step 2

Close main flaps in the order stamped on each flap.

**#1 - Bottom** (Fig 3.4.1); **#2 - Top** (Fig 3.4.2); **#3 - Right side**; **#4- Left side**.

Pull flaps into place and lock with curved pin. (Fig 3.4.3)



Fig 3.4.1



Fig 3.4.2

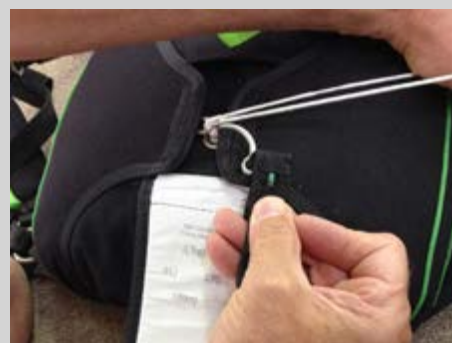


Fig 3.4.3

### Hint



When pulling the closing loop thru each grommet, push the previous flap down with your non closing loop hand. This will keep any wrinkles out of the side panel.

**Step****3**

Tuck the bridle under the bottom of the right side flap and then right under the side flap until the bridle is near the mouth of the BOC pocket. (Fig 3.4.4) Make sure that the window of the kill-line bridle faces up and that the green centerline is visible. (Fig 3.4.5)

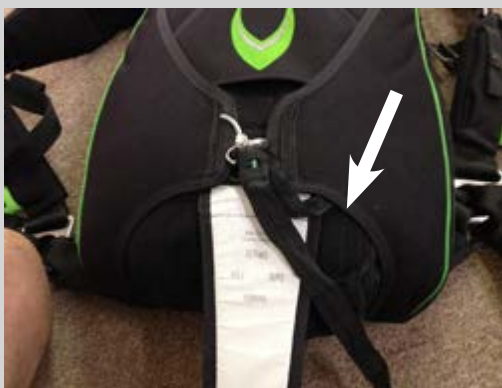


Fig 3.4.4



Fig 3.4.5



# Main Container Instructions

## Folding The B.O.C. Throw-out Pilotchute

3.5

### Step 1

- Place pilotchute on a flat surface with the handle down and spread to its full size. (Fig 3.5.1)
- Fold pilotchute in thirds. (Fig 3.5.2, 3.5.3, 3.5.4)
- Fold the bottom edge upward towards and even with the handle. (Fig 3.5.5) This should be approximately the length of the pocket.



Fig 3.5.1



Fig 3.5.2



Fig 3.5.3



Fig 3.5.4



Fig 3.5.5



## Step 2

“S”-fold the bridle in the center (Fig 3.5.6) and then fold the sides of the pilot chute over the bridle so the result is a flat package about the same width as the spandex pocket. (Fig 3.5.7)



Fig 3.5.6



Fig 3.5.7

## Step 3

Slide pilot chute into spandex pocket position handle towards the back of the container, with the bridle routed out the front of the BOC pocket. (Fig 3.5.8) Place the protective flap over the top of the pilot chute. (Fig 3.5.9)

Tuck the upper corners of the BOC pocket under the side flaps. Massage the pocket as needed to smooth out the pilot chute.



Fig 3.5.8



Fig 3.5.9

## Note

When a free fly handle is used, the protective flap should be left laying flat in the BOC pocket. The tab for the free fly handle should be tucked under the container's side flap.



# Main Container Instructions

## Folding The Pullout Pilotchute (P.O.P.)

3.6

### Step 1

**Double check that KILL-LINE BRIDLE is cocked.**

The green mark should be visible near bottom of bridle. (Fig 3.6.1) Lay pilot chute with mesh facing up. Pull center of pilot chute where the handle and bridle are attached outward to edge of the pilot chute. Fold fabric over so that the mesh is covered. (Fig 3.6.2)



Fig 3.6.1



Fig 3.6.2

### Step 2

Fold the pilot chute in a long narrow configuration and place pilot chute near the top of the main bag and allow the handle and lanyard to exit the bottom right corner of container. "S" fold bridle and place it under the pilot chute.

**Double check that lanyard is clear and free to move through grommet on bridle.**



### Step 3

Close container in the numbered sequence

#1 -Bottom (Fig 3.6.3); #2 -Top (Fig 3.6.4); #3 -Right (Fig 3.6.5); #4 -Left (Fig 3.6.6)

Making sure handle exits lower right hand corner. Secure locking loop with straight pin on the end of pull-out lanyard. (Fig 3.6.6) Grommet tab should be exposed at bottom corner. Lanyard should be free from handle through grommet to pin.



Fig 3.6.3



Fig 3.6.4



Fig 3.6.5



Fig 3.6.6

### Step 4

Tuck the bridle in, and place the tab for the pull-out handle underneath the right side flap.



**DO NOT TRAP LANYARD UNDER BOTTOM FLAP STIFFENER.  
TRAPPING BRIDLE WILL CAUSE A DIFFICULT OR  
IMPOSSIBLE PULL.**

# Main Container Instructions

## Threading 3-Ring™ Release Housings

3.7

The CURV 3-Ring™ system utilizes flexible metal housings. This ensures smooth, consistent release forces. Threading the release cables is easily done without special tools.

### Step 1

Thread the long cable into the long metal housing on right side until it comes out left end.

### Step 2

Thread the short cable into the short housing until it comes out the right end.

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# Main Container Instructions

## Assembling 3-Ring™ Release

3.8

### Step 1

With riser rings and loop facing away from harness, pass larger riser ring through harness ring from the rear and fold riser ring upward.



### Step 2

Pass small riser ring through middle ring and fold small ring upward.



### Step 3

Pass loop from top to bottom around small ring and through riser grommet.

Double-check that loop goes only through the small ring and not second ring also.

Do not twist loop.



### Step 4

Place grommet on end of release cable housing over loop and hold it in place while pushing yellow cable through loop. Stow loose end of yellow cable in channel on back of rear riser.

**Repeat Steps 1 through 4 with the other riser.**



### Step 5

Connect the RSL snap shackle to left main riser. Double check the risers for correct assembly. Inspect from side. Only 1 item through each ring, all rings lay parallel, and white loop routed through only small ring and then thru terminal end of the housing.



# Main Container Instructions

## Assembly Of Reserve Static Line Lanyard (RSL)

3.9

The Reserve Static-line Lanyard or RSL system is a lanyard attached from the left main riser to a ring around the reserve ripcord cable. Upon jettisoning a malfunctioned main canopy the lanyard automatically pulls the cable, which pulls the pin on the reserve ripcord. This results in activation of the reserve with a minimum loss of altitude. Through the use of the RSL system, a greater degree of safety is realized. **It must be stressed however, that the RSL is simply a backup to manual activation of the reserve ripcord.**



**In the event of a malfunction, the jumper must pull the reserve ripcord manually even though the RSL may activate the reserve faster.**

**There have been fatal cases where the RSL has been disconnected but the jumper waited for the RSL activation.**

The **CURV** RSL System must be installed when the reserve is packed since the reserve ripcord **MUST** pass through the ring as the ripcord is installed.

### Step 1

Install the stiffened section of the lanyard into the pockets on the yoke under the left rear reserve riser. The ring end goes towards the reserve canopy and the snap shackle goes towards the harness 3-ring.

Route the reserve ripcord through the housing and out the top. Fold the ends of the lanyard inboard of the riser. Place the lanyard ring between the guide rings making sure the rings are folded back towards the reserve container. Route the ripcord through the rings and into the short housing under the top reserve top flap. (Fig 3.9.1) Route the ripcord between the inner and outer reserve flaps. The ripcord is now in place and ready to close the container. (Fig 3.9.2)



Fig (3.9.1)



Fig (3.9.2)

## Step

2

Connect the RSL snap shackle to left main riser. Double check the risers for correct assembly. Inspect from side. Only 1 item through each ring, all rings lay parallel, and white loop routed through only small ring and then thru terminal end of the housing.



**It is important that lanyard is routed directly from the cable to left riser without passing under, around or through any of the housings or other attachments.**



**If you have any doubts or questions about routing or the installation of the Reserve Static-line Lanyard System, the CURV should not be jumped until it has been inspected by a competent rigger, familiar with the system.**



**!!! DANGER!!!**

**INCORRECT RSL ROUTING WILL RESULT IN POTENTIALLY FATAL CONSEQUENCES!**





# Main Container Instructions

## Harness Adjustments and Fitting

3.10

### Note



Rigging Innovations' articulated harnesses offers superior fit and comfort when worn properly. Please pay special attention to the following instructions, especially regarding rig placement high on your back. Your articulated harness should be worn TIGHT! Loose adjustment is magnified by the articulation at the rings. Learn to adjust your harness snugly on the ground and you will feel the advantage in the air and under canopy.

### Step

1

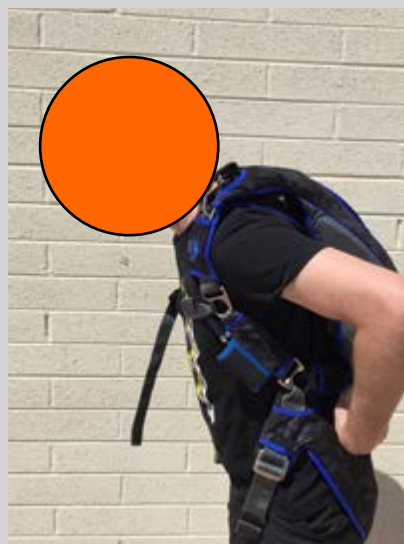
Put rig on and fasten chest strap. Fasten and tighten leg straps to snug but not tight. Note that the CURV leg strap configuration is different than other designs. When fitted correctly, the "hip ring" no longer sits directly on the hip bone. It may seem strange at first but the resultant comfort of the design is far superior to any other.



### Step

2

Bend forward at your waist and hoist your rig from the bottom so it sits high on your back. Tighten the leg straps so that they're tight but not uncomfortable or restrictive.



### Step 3

Straighten up and tighten the chest strap. If the harness is sized correctly, the tension of the harness can be varied by tightening or loosening the chest strap.

### Step 4

Stow loose ends of leg straps in elastic keepers and in the opening at end of pad so they will not come out and flap in free fall or be mistaken for pilotchute, release or ripcord handles. Keeping elastic keepers up against the hardware will prevent leg strap tension changes, which sometimes occur during your ride to altitude.

### Step 5

For BOC, practice pulling pilot chute out of pouch while lying on your stomach to ensure that you can pull it. Make sure that you are satisfied with pull force needed to extract pilotchute from spandex pocket.

### Step 6

For pullout pilotchute, practice pulling the pilotchute while lying on your stomach. Make sure handle is accessible and that pull force is not too great.

### Step 7

When suspended in the harness, a 2 or 3 inch gap is normal between your shoulder and shoulder pad. You should be able to reach the toggles easily and collapse slider while suspended under canopy.

#### **Locate the following and familiarize yourself with their visual and physical locations**

- A. Main pilotchute handle. (BOC or POP)
- B. 3-Ring release handle.
- C. Reserve ripcord handle.

(Release and ripcord handles should be far enough forward that they are easy to see and grip.)

**If you have any questions about these instructions, you should seek the help of a certified Rigger or contact Rigging Innovations, Inc. at 520.466.2655**

# Main Container Instructions

## Maintenance Procedures

3.11

The **CURV** begins its life as one of the finest pieces of parachute equipment you can buy. It is up to the owner to maintain it in top condition. Listed below are certain areas that you and your rigger should check on a regular basis to ensure proper operation and long life of your equipment.

### Before Each Jump You Should Check:

1. All ripcord and 3-Ring™ housings for tackings, damage or obstructions.
2. Reserve ripcord pins, cables, handles and pockets for proper seating, wear and/or damage.
3. Main deployment activation devices (BOC and pull-out) for wear and placement. Also
4. check routing of bridles for twists, etc.
5. Main risers routed smoothly over shoulders and riser covers closed properly.
6. 3-Ring™ release mechanism assembled properly and excess cable stowed properly.
7. All harness webbing and hardware for wear or damage.
8. All flaps closed in proper sequence and tucked in.



**IF ANY WEAR OR UNUSUAL CONDITION IS FOUND, CONSULT RIGGING INNOVATIONS, INC. OR A QUALIFIED PARACHUTE RIGGER IMMEDIATELY 520.466.2655**

### After Putting Your Rig On, Check:

1. Reserve ripcord handle secure in its pocket.
2. Chest strap is properly threaded and free end secured.
3. Leg straps are properly threaded and free ends are stowed.

# Main Container Instructions

## 3-Ring™ Release Maintenance

3.12

The following procedure should be done weekly, or every 25 jumps, whichever comes first. If the rig is subjected to unusual abuse, such as exposure to excessive dust or sand, or if it is dragged, it should be inspected immediately.

### Step 1

OPERATE RELEASE SYSTEM ON THE GROUND. Pull release cable completely out and disconnect risers.

### Step 2

**While the system is disassembled, closely inspect it for wear.**

1. Check nylon loops on risers to be sure they are not frayed.
2. Check Velcro on release handle and harness to insure that it will adequately hold handle.
3. Check stitching that holds harness hardware to main lift web and hand tacking that hold cable housings in place.
4. Check metal housing ends for sharp edges or deformation.

### Step 3

VIGOROUSLY TWIST AND FLEX the riser webbing on each side where it passes through the big ring to remove any set or deformation in the webbing. Failure to do this might result in a hesitation when the release is activated with a low-drag malfunction such as a streamer or bag-lock.

### Step 4

Check inside of release housing for gravel or other obstructions. Use the cable to dislodge gravel. Inspect housing/channels for dents or cuts or other damage.

**Step 5**

Clean and lubricate release cable monthly with a silicone spray. Spray on a paper towel and firmly wipe the cable a few times. A THIN invisible film should remain - too much will attract grit or dirt. Failure to clean release cables could result in higher than normal pull force during breakaway.

**Step 6**

Re-assemble system properly, in accordance with instructions given in this manual. Double check it. Do a continuity check to make sure canopy is straight and risers are not reversed or twisted.

Regular, careful and thorough compliance with this maintenance procedure will prolong the life of the 3-Ring™ release system, and help to ensure proper operation during breakaways.



**IF ANY WEAR OR UNUSUAL CONDITION IS FOUND, CONSULT RIGGING INNOVATIONS, INC. OR A QUALIFIED PARACHUTE RIGGER IMMEDIATELY 520.466.2655**

**RIGGING  
INNOVATIONS  
INC**

# Main Container Instructions

120-Day Maintenance

3.13

**Your Rigger should thoroughly inspect your CURV at every repack cycle to insure that all components are in airworthy condition. These areas should include the following:**

1. Reserve pilotchute, bridle, deployment bag, housing, and ripcord.
2. Reserve canopy fabric and lines.
3. Reserve connector links.
4. Ripcord pocket.
5. Main bridle and pilotchute.
6. Harness and container in good airworthy condition.
7. Webbing buffers. Inspect inside of buffers for excessive wear. (Fig 3.13.1)



Fig 3.13.1

Buffers are designed to absorb wear before the harness webbing. The inside should look shiny and smooth and may be discolored from hardware finish. If buffers are cut or frayed, it may be caused by damaged hardware or foreign matter (dirt) imbedded in the material. If wear is excessive, rig should be grounded and returned to Rigging Innovations for inspection and repair.

# Main Container Instructions

## Major Alterations / Repair

3.14

**Rigging Innovations, Inc.** does **NOT** authorize alterations or major repairs to the CURV harness and container systems. All alterations or major repairs must be made by the Manufacturer, a designated R.I. Service Center, or authorized master parachute rigger or foreign equivalent. Contact **Rigging Innovations, Inc.**, at 520.466.2655, for the name of an R.I. Service Center in your area.



# Main Container Instructions

Rig Cleaning - CORDURA®

3.15

## Table III

CORDURA® Recommended Stain Removal Methods \*

STAIN	REMOVAL METHOD
Coffee, Fruit Juice, Milk, Soft Drinks, Tea, Tabasco Sauce, Wine, Urine	Detergent <sup>1</sup> /blot/water/blot
Catsup, Chocolate, Blood	Detergent/blot/ammonia <sup>2</sup> /blot/water/blot
Mustard	Detergent/blot/vinegar <sup>3</sup> /blot/water/blot
Spicy mustard (turmeric), Kool- Aid®	Solvent <sup>4</sup> /blot/detergent/blot/vinegar/blot/water/blot
Cooking oil, Crayon, Lipstick, Mayonnaise, Motor oil, Show polish	Solvent <sup>4</sup> /blot/detergent/blot/water/blot
Chewing gum	Freeze with ice cube/ scrape/solvent/blot/ detergent/blot/water/blot
Furniture polish, Ink (Permanent)	Paint remover <sup>5</sup> /blot/solvent/blot/detergent/blot/ammonia/blot/vinegar/blot/water/blot
Furniture polish, Shoe polish	Seek the help of a professional upholstery cleaner
<p><b>Notes on Cleaning Agents</b>                      The following procedures should be used with all cleaning agents. A clean, white cloth dampened with the recommended cleaning agent should be used in an inconspicuous place to test for color-fastness. Optimum cleaning will be achieved by not over-wetting the cloth and by turning it frequently to keep it clean. Rings can be avoided by working from the outer edge of the spot toward the center. This process should be repeated until the spot is removed or there is no further transfer to the cloth.</p> <ol style="list-style-type: none"> <li>Detergent.....One teaspoon neutral powder detergent (e.g. Tide or All) in 1 pint warm water.</li> <li>Ammonia.....A 3% solution.</li> <li>Vinegar.....White vinegar or a 10% acetic acid solution</li> <li>Solvent.....Dry cleaning fluid - preferably 1.1.1 trichlorethane</li> <li>Paint remover.....Paint remover with no oil in it.</li> </ol>	
<p>NOTE: Oily and greasy stains --- In addition to the recommended method, some stains (e.g. perspiration/body oils) respond well to dry cleaners such as "HOST" (Racine Industries), "CAPTURE" (Milliken) and "K2R" (Texize). Carefully follow directions on the label.</p>	

\* Recommendations based on fabrics finished with Du Pont Teflon® WBC Soil and Stain Repellent for CORDURA®. The methods were effective on stains that were allowed to sit untreated overnight. Removal is usually easier when stains are cleaned immediately.



# Main Container Instructions

## Washing The Harness And Container

3.16

Regular care and cleaning of your CURV will prolong its life and enhance the resale value should you decide to sell it. It is recommended that you have your rigger wash your CURV at least once a year. The following techniques of washing Rigging Innovations harness and containers have been utilized successfully for many years.



### CAUTION!

**Some colors, such as red, may bleed and contaminate lighter colors like white. Rigging Innovations therefore does not guarantee any results or accept any responsibility for color changes resulting from following these washing instructions.**

### Hand Washing

#### Materials required:

1. Wash tub
2. Medium stiffness brush
3. Woolite™ or similar mild liquid soap.
4. LOTS of fresh water.

- Step 1.** Remove all canopies, AADs, and component parts such as toggles, RSL, ripcords, bags, and elastic keepers as well as the packing data card.
- Step 2.** Soak rig in lukewarm water. Apply straight Woolite™ or soap onto dirtiest areas and scrub with the brush. Soak in lukewarm water for 20 minutes.
- Step 3.** Scrub the entire rig vigorously all over. Soak for another 20 minutes
- Step 4.** Repeat step 2. For particularly dirty rigs, you may want to empty the first batch of soapy water and wash in a fresh batch of soapy water.
- Step 5.** Squeeze out as much soapy water as possible. Immerse in fresh, clean, cool water and rinse several times until no further soap comes out.
- Step 6.** Hang to dry out of direct sunlight. Use of a fan directly onto the rig greatly speeds up the drying process.

## Machine Washing

### Materials required:

1. Jumbo tumbler type commercial washing machine. It is not recommended to do this in your home washing machine.
2. Medium stiffness brush
3. Woolite™ or similar mild liquid soap.
4. Large pillowcase or laundry bag.
5. Assortment of rags
6. Extra laundry.

- Step 1.** Remove all canopies, AADs, and component parts such as toggles, RSL, ripcords, bags, and elastic keepers as well as the packing data card.
- Step 2.** Wrap the hardware of the rig with the rags to pad them so they don't beat the inside of the washing machine.
- Step 3.** Soak the rig in lukewarm water and apply Woolite™ or other soap directly onto the dirtiest parts. Scrub these parts vigorously. Allow these parts to absorb the Woolite™ during the time you're traveling to the Laundromat.
- Step 4.** Place the rig into the pillowcase and add extra padding such as some of your regular laundry! Tie off the pillowcase to hold everything in. Place into the wash machine and wash in warm water.
- Step 5.** Run through at least two rinse cycles or hand rinse several times until no further soap comes out.
- Step 6.** Hang to dry out of direct sunlight. Use of a fan directly onto the rig greatly speeds up the drying process.

## Scotchgard

The use of Scotchgard™ brand fabric protector has become commonplace in recent years. This fabric treatment seals the pores of the fabric against dirt and other stains. Scotchgard™ is not a magical “silver bullet” against dirt. However it has shown good results in keeping lighter color fabric cleaner longer under normal use. Grinding in on grass or asphalt or other heavy abuse will still stain and/or damage the rig materials.

Scotchgard™ is not harmful to today's container fabrics such as Para-pak and Cordura™. There are currently several Scotchgard™ formulas. The standard fabric and upholstery formula in the **RED CAN** has proven the most successful. Do not use the rug and carpet formula in the blue can.

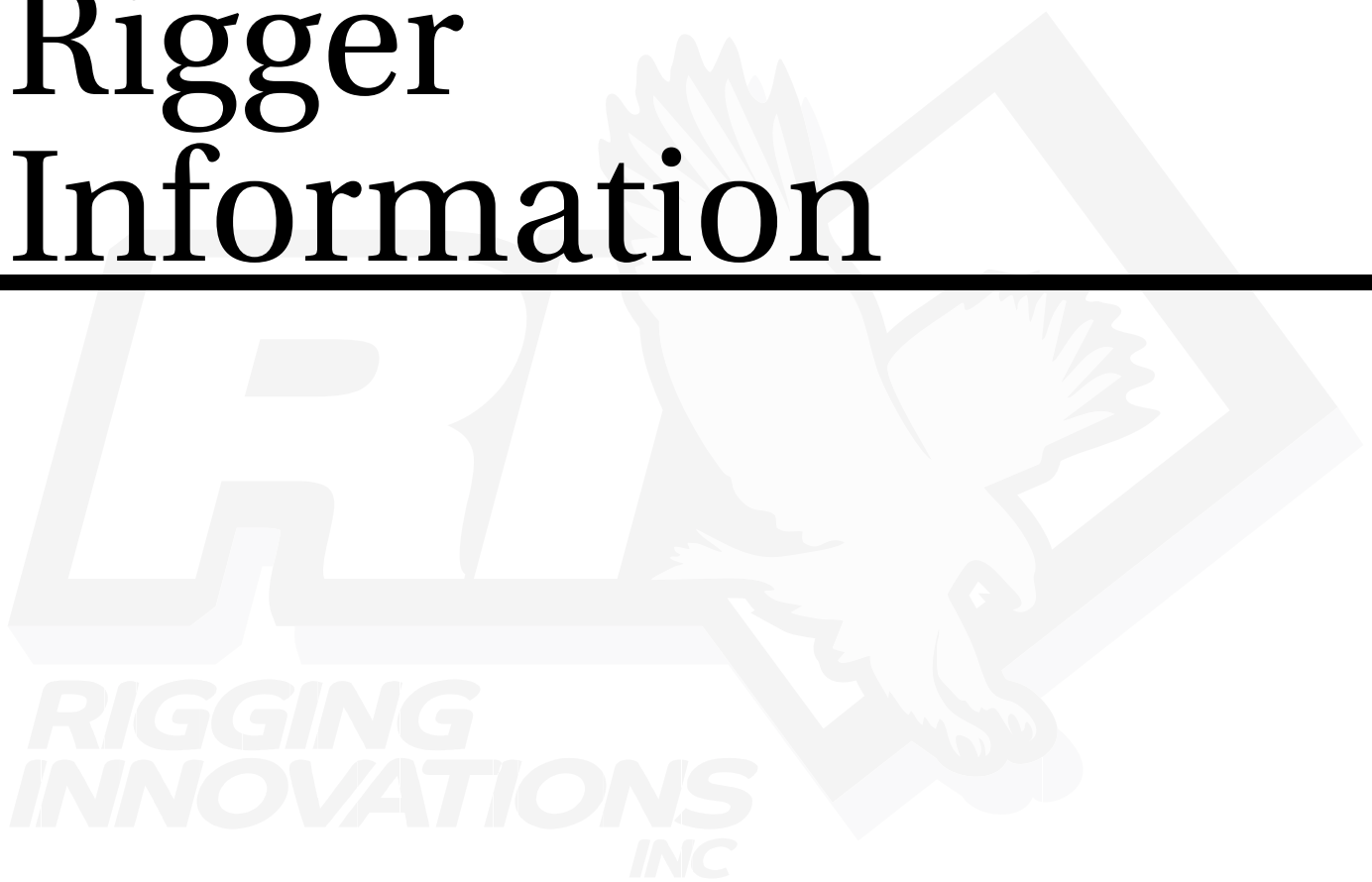
After the rig is completely dry, hang it in a well ventilated location. **FOLLOWING THE DIRECTIONS ON THE CAN**, apply the protector to the entire **OUTER SURFACE** of the rig. For those areas such as the inside of the leg pads, backpad, and bottom of the main container, and light colored panels such as white, etc, apply a second coat after the first has dried. Do not intentionally spray the hardware, housings, and clear vinyl Cypres window. After the rig has dried, it may then be re-assembled and placed back into service.

# Section 4.0

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# Rigger Information

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# Orange Warning Label Placard Data

4.1

As Part of the manufacturer's requirements, the ORANGE WARNING LABEL, located on the back pad, must be filled in by the Rigger assembling canopies to the CURV.



**FAILURE TO COMPLETE ORANGE WARNING LABEL WILL RESULT IN THE TSO BEING NULL AND VOID!**

	Main	Reserve
<b>MAXIMUM DEPLOYMENT SPEED:</b>		
<b>MAXIMUM GROSS WEIGHT (JUMPER + CLOTHING + EQUIPMENT):</b>		
<b>MANUFACTURER:</b>		
<b>MODEL:</b>		
<b>ATTENTION RIGGERS:</b>	<ul style="list-style-type: none"><li>• REFER TO OWNERS MANUAL FOR PLACARD INFORMATION AND COMPATIBILITY LIMITATIONS.</li><li>• FILL IN DATA WITH WATERPROOF PEN.</li><li>• CHANGE DATA ON LABEL IF A DIFFERENT CANOPY IS INSTALLED</li></ul>	

The data required for the warning label is obtained from the canopy manufacturer and should be found on the canopy warning label or data panel, as well as the Owner's Manual.

Please note that there may be instances where one model canopy may have TWO DIFFERENT placard limitations; one as a reserve and one as a main. An example of this is the Precision Super Raven 4 canopy. As a reserve it is limited to 254 lb. maximum gross weight. However, as a main it is placarded at 288 lb. Make sure that your Rigger marks the correct space with the right category information.

# Parachute Assembly Inspection Form

4.2

## Parachute Assembly Inspection Form

**Note:** Count all Tools Before Starting Assembly

**Qty:**

# A

### Harness and Container

Manufacturer:

Model:

Date of manufacture:

Serial no:

Initial After Each Item If No Discrepancies Are Found

Initials

1.	Main lift web	
2.	Chest and leg straps	
3.	Harness hardware and Flex-rings	
4.	3-ring release	
5.	Pilotchute pocket	
6.	Reserve ripcord, handle pocket, cable housing	
7.	Cutaway handle, attachment point, cable housing and channels	
8.	Container flaps and grommets	
9.	Closing loop length and condition (main and reserve)	
10.	Comments:	

# B

### Main Canopy and Pilotchute

Manufacturer:

Model:

Date of manufacture:

Serial no:

Initial After Each Item If No Discrepancies Are Found

Initials

1.	Risers and 3-Ring	
2.	Connector links and slider bumpers	
3.	Slider grommets, tapes, fabric	
4.	A-lines and attachment points	
5.	B-lines and attachment points	
6.	C-lines and attachment points	
7.	D-lines and attachment points	
8.	Steering lines and toggles	
9.	Canopy cells and cross-ports	
10.	Slider stops ( on canopy )	
11.	Bridle line, d-bag stop, pin	
12.	Pilotchute and handle or pud	
13.	Deployment bag	
14.	Comments:	

# C

## Square Reserve Canopy And Pilotchute

Manufacturer:
Model:
Date of manufacture:
Serial no:

Initial After Each Item If No Discrepancies Are Found		Initials
1.	Risers	
2.	Connector links	
3.	Sliders & Grommets	
4.	A-lines and attachment points	
5.	B-lines and attachment points	
6.	C-lines and attachment points	
7.	D-lines and attachment points	
8.	Steering lines and toggles	
9.	Canopy cells and cross-ports	
10.	Slider stops (on canopy)	
11.	Deployment bag and safety stow	
12.	Bridle line	
13.	Pilotchute	
14.	Packing card and information	
15.	Comments:	

# D

## Assembly of Square Reserve Canopy

Initial After Each Item If No Discrepancies Are Found		Initials
1.	Inspection of canopy and Container completed (parts A & C)	
2.	Line Continuity correct including steering lines thru slider grommets	
3.	Slider on correctly	
4.	Rapide™ links tightened or Slinks™ assembled correctly.	
5.	Steering lines tied to toggles on mark	
6.	Steering line length equal to each other	
7.	Safety stow on deployment bag installed	
8.	Packing data card filled out	
9.	Packed according to manufacturers instructions	
10.	Reserve pin sealed	
11.	Fill out warning label	
12.	Comments:	

# E

## Assembly of Main Canopy to Container

Initial After Each Item If No Discrepancies Are Found		Initials
1.	Inspection of canopy and Container completed (parts A & B )	
2.	Line continuity correct including steering lines thru slider grommets.	
3.	Slider on correctly	
4.	Release handle cables are proper lengths	
5.	Rapide™ links tightened or Slinks™ assembled correctly	
6.	Steering lines tied to toggles on mark	
7.	Steering line length equal to each other	
8.	D-bag, bridle and pilotchute are attached properly	
9.	Fill out warning label	
10.	Comments:	

**Note:** Count all tools after assembly and packing is completed to ensure that none were left in the canopy or container.

**Qty:**

### Signature of Rigger(s) Inspection

Signature:

Date:

Print Name and Seal Symbol:

Signature:

Date:

Print Name and Seal Symbol:

General Comments:

## Ram-Air Reserve Packing Instructions

4.3

**Prior to assembling and packing a square reserve into a CURV, the rigger must thoroughly read and understand these instructions.** The rigger must determine reserve and container compatibility based upon volume, deployment type and placard information. Only reserve canopies that have been assigned weight and speed limits by the canopy manufacturer are approved for use in the CURV. The rigger who assembles the reserve is responsible for completing the Orange Warning Label. Refer to the Rigging Innovations Warning Label Placard Data Sheet for proper information.



### NOTE:

**Minimum qualification; FAA Senior or Master Parachute Rigger or foreign equivalent.**

## Ram-Air Reserve Packing Instructions

### Assembling The Reserve System

4.4

### BACKGROUND

Rigging Innovations recommends PRO (Proper Ram-Air Orientation) packing on the floor for packing CURV reserve containers. PRO packing results in the best bulk distribution and greatest comfort for the wearer. The molar method is used to insert the parachute into deployment bag. In the last several years there have been developed several different techniques of PRO packing. They all end in the same result. It is up to the rigger to determine whether their particular technique is in compliance with the intent of these instructions.

The method shown in the following section is just an example as to how the CURV may be packed. Depending on the size and model of the canopy and the size of the container, the exact folding of the canopy may vary slightly to accommodate the bulk needed to shape the deployment bag.



**Assemble an appropriate size reserve parachute to the CURV harness and container system ensuring the following:**

1. Line continuity is correct.
2. Connector link bumpers installed and tied per canopy manufacturer's instructions.
3. Connector links are tightened finger tight plus one-quarter turn of the barrel.  
**WARNING: If Maillon rapide links are too tight, barrels will crack.**
4. Mark connector links with a fine line from a permanent Marker.
5. If soft links are used, assemble according to the manufactures instructions. The rigger should tack the soft links to the reserve risers. (See Fig 4.4.1)
6. Steering lines are routed through rear grommets on slider.
7. Steering lines are routed through guide rings on rear risers.
8. Steering toggles are securely attached.
9. Automatic Activation Device correctly installed.
10. Closing loop length is checked. (See Table IV for approximate length).
11. Completely inspect the canopy.

**NOTE:** Rigging Innovations has tested and evaluated the use of soft links and **HIGHLY RECOMMENDS** the use of this them in conjunction with the **CURV** harness and contain-er system. The use of this product results in a stronger assembly that is easier to pack and more comfortable to the wearer as it eliminates the metal links and the corresponding slider bumper bulk.



Fig 4.4.1

# Ram-Air Reserve Packing Instructions

## Approximate Closing Loop Lengths

4.5

**NOTE:** The loop length recommended in this chart is an approximation based on packing experience in our facility. Variables such as canopy size, temperature, humidity, and packing technique will affect the best loop length. In addition, these lengths include the additional length necessary for the Cypres™ cutter.



**IT IS THE RIGGER'S RESPONSIBILITY TO ENSURE THE  
RIPCORDER PULL  
FORCE DOES NOT EXCEED 22 Lb. (10 Kg.).**

<b>CONTAINER SIZE</b>	<b>LENGTH</b>
Vc000	5.5"/140mm
Vc00	5.5"/140mm
Vc0	5.5"/140mm
Vc1	5.5"/140mm
Vc2	5.5"/140mm
Vc3	5.5"/140mm
Vc4	5.5"/140mm
Vc5	5.5"/140mm



**NOTE: Only CYPRES™ type closing loops are approved for use with "loop-cutter" Automatic Activation Devices. Thicker loops made from other materials are dangerous because they may slow pack opening and reserve deployment.**

# Ram-Air Reserve Packing Instructions

## AAD Reserve Installation

4.6

**Rigging Innovations only approves the following AADs to be install in the CURV:**

- Cypres2
- Vigil2/Vigil 2+
- Mars m2

Only modern, electronic “loop cutter” type AADs have been tested and approved for use with the CURV system. The most popular brand of loop cutter AAD is the CYPRES™ manufactured by Airtec GmbH, in Germany. The very small container volumes and closing configuration of CURV prevent the use of older style AADs. The CURV comes “CYPRES™-ready” from the factory with all the pockets, channels and other parts necessary for direct installation of the AAD without further modification.

The following instructions tell the rigger how to install a CYPRES™ in the CURV. However, it is important that the rigger also have a current copy of the CYPRES™ Rigger’s Guide to familiarize him or her with the total CYPRES™ concept. Also, the rigger should have a CYPRES™ Rigger’s Kit containing several useful tools when installing a CYPRES™.

### Step 1

The reserve locking loop supplied with the CYPRES™ MUST be used. Special discs supplied with CYPRES™ must also be used to make knots for locking loop.

### Step 2

Adjust locking loop to appropriate length in accordance with Table IV. Install locking loop into container.

### Step 3

Install CYPRES™ processing unit into spandex pocket on divider wall at bottom of reserve container.



## Step 4

Thread cutter cable under Velcro and under protective cable channel\*. Then feed the cable through the 2 spandex channels on the left reserve side flap.

Align hole in cutter with grommet.

Carefully coil excess cutter cable under Velcro closure flap located on right end of CYPRES™ installation pocket. DO NOT bend or kink excess cable.



## Step 5

Gently slide control unit under Velcro and up through the channel on the back pad.



## Step 6

Place control unit underneath cutaway housing.



## Step 7

Place protective pad between cable and housing.

Pull slack in control cable back down into pack tray, leaving about 1/2" (1 cm) slack where cable curves into the container. Coil any excess cable neatly without kinks or sharp bends into the tunnel pocket on pack tray at the right side of the stiffener plate.



## Step 8

Double check that control button, display and red light are visible in pocket window.



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INC

# Ram-Air Reserve Packing Instructions

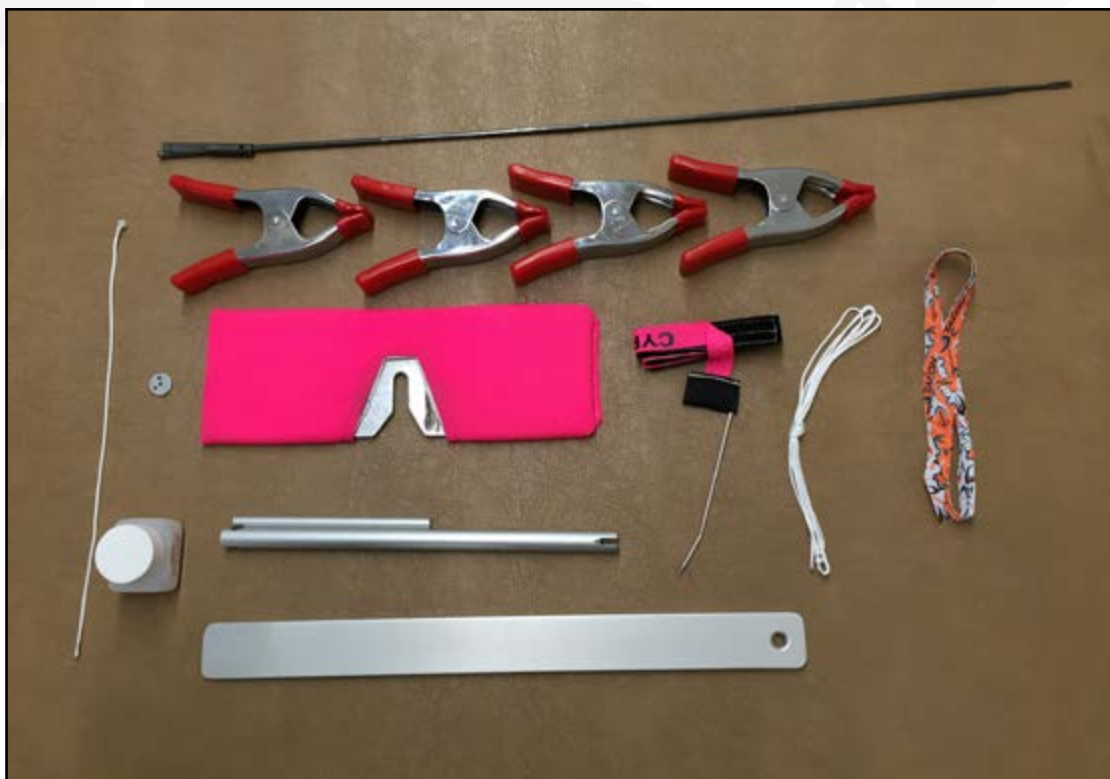
## Folding the Reserve Parachute

4.7

<b>Before you start!</b>	Check for recent updates or R.I. Service Bulletins
	Telephone: 520.466.2655
	FAX: 520.466.2656
	Website: <a href="http://www.rigginginnovations.com">www.rigginginnovations.com</a>

### List of Recommended Tools

- 4- Plastic or rubber tipped packing clamps,
- 1- Packing Paddle 18" (50cm) or longer
- 1- Pull-up cord (micro line), 72" (1.82m)
- 1- Gun Cleaning Rod, .22 CALIBER (5.56mm)
- 1- Knee-board or V-type Closing Plate
- 1- Temporary pin flagged
- 1-Pull up cord



## Step 1

Anchor the risers together at the large 3-Ring assembly point. Make sure the anchor point is even, and touching.



## Step 2

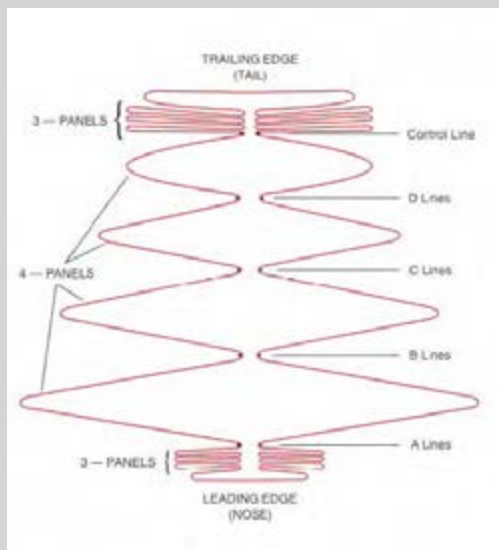
Pull the slider down to the connector links. Make sure the tapes face upwards towards the canopy.



## Note



The finished configuration for the canopy stack should look like the image on the right



**Step 3**

Set the brakes.



**Step 4**

Close the line stow keepers.



**Step 5**

Take the line groups at the risers and walk up to the canopy.





**Step 6**

Suspend the canopy over the shoulder.



**Step 7**

Count out 7 nose inlets.



**Step 8**

Take all 7 nose inlets in your hand and grip them between your knees.



**Step 9**

Separate the canopy in the middle.



**Step 10**

Separate line groups A & B.



**Step 11**

And fold the fabric between A & B.



**Step 12**

Separate line groups B & C.



**Step 13**

Fold the fabric between B and C and do the same between C and D.



**Step 14**

Flake the stabilizer and flake the tail outwards.



**Step 15**

This is a view of canopy after flaking.



**Step 16**

Flaking 3 nose inlets on each side.



**Step 17**

Lay the canopy on the ground with the lines taut.



**Step 18**

Fold the left side nose inlet.



**Step 19**

Place the B lines on top of the A lines.



**Step 20**

Place C lines on top of B lines.



**Step 21**

Place D lines on top of C lines.



**Step 22**

Flake the stabilizer outwards.



**Step 23**

Flake the tail and repeat the same operation for the right side of the canopy.

Align the center panel.



**Step 24**

Make sure all suspension lines are taut and towards the center of the pack job.



**Step 25**

Pull slider up to the slider stops and quarter.



**Step 26**

Dress the canopy to the width of the D-bag.

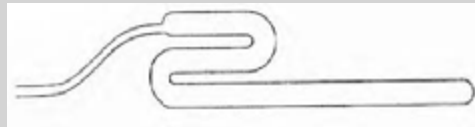
S-fold the nose under each side.

Separate the ears.



**Step 27**

S-fold the tail and slider ensuring that the slider does not move.



S-Fold



**Step 28**

Pull the center of the tail out to cover the slider grommets.



**Step 29**

Place the free bag underneath the canopy.

Position the packing paddle 1/3 of the way up from the tail





## Step 30

Kneeling on the tongue of the free bag, fold the canopy back towards the rigger and expose the center cell. Insert first “S” fold into free bag.



## Step 31

Place your packing paddle on the seam of the free bag, ensuring the center cell remains spread open.



## Step 32

Fold the canopy back and roll and material under to maintain proper ear separation, making sure not to cover the center cell.



**Step****33**

Form the ears by creating a fold that aligns with the top seam of the free bag. Place ears in free bag.

**Step****34**

Close the free bag and secure with the locking stows. Shape the free bag. The shape of the bag should reflect the desired shape of the reserve container.

**Note****i**

When placing the canopy in the bag it is permissible to allow the folded canopy to stick out 2-3 inches at the mouth of the bag to fill the corners of the reserve container.

**Step****35**

Cover any exposed hook Velcro™ to avoid contact with the lines.  
Make clean line stows, the same width as the line stow pocket. Stow the lines neatly while ensuring that you leave a sufficient amount of line between the bag and riser ends

**Step****36**

Remove the cord used to anchor the 3-Rings.



# Ram-Air Reserve Packing Instructions

## Closing the Container

4.8

### Step 1

Place reserve risers into the pack tray.

Spread the risers with the rear riser to the outside to minimize the bulk against the back pad.

Thread the pull up cord through the closing loop



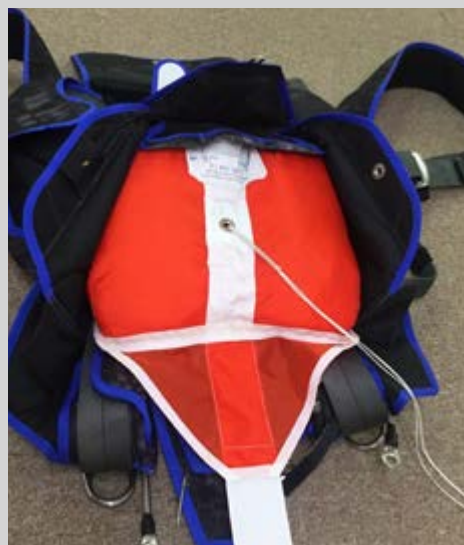
### Step 2

Rotate the free bag into the proper orientation and use a gun cleaning rod to pull the pull up cord through the free bag grommet.



### Step 3

Place the free bag into the container ensuring that the corners are properly filled.



### Step 4

“S” fold the bridle vertically in the on top of the free bag for about 3’, then create a 90 degree fold (Fig 4.8.1) and continue folding the remainder of the bridle horizontally along the top of the free bag. Fold the top portion of the bag over the bridle and secure in place with a clamp.

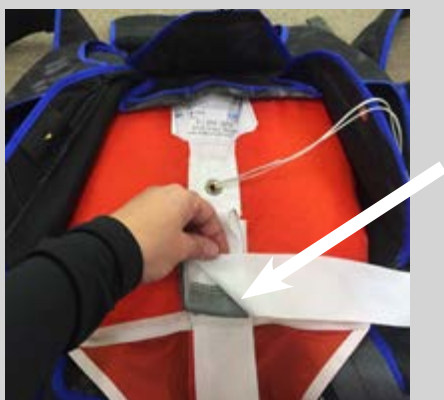


Fig 4.8.1

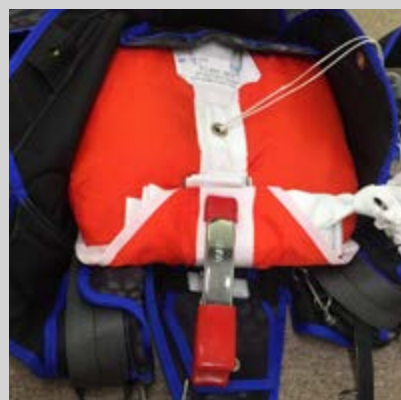
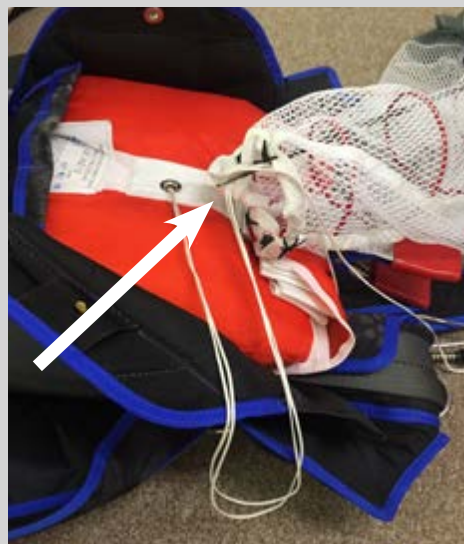


Fig 4.8.2

### Step 5

Use the gun-cleaning rod to thread the pullup cord through Stealth pilot chute from bottom to top.



## Step 6

Center the base of the pilot chute on center grommet of freebag. Compress pilot chute while stuffing fabric and mesh between the spring coils. Position the cap of the pilotchute with the arrow facing toward top or bottom of container. (See Right).

Secure with temporary pin.

**WARNING! Do not leave fabric outside of spring coils as a coil lock could occur and pilotchute launch may be inhibited!**



## Step 7

If an AAD such as a Cypres™ is installed, route the pull-up cord through the cutter first then through the right (#1) side flap grommet.



## Step 8

Next thread the left (#2) side flap grommet. Simultaneously close the side flaps

Secure with temporary pin.



## Step 9

Use a packing paddle to properly place the protective flap between side flaps and free bag. (Fig 4.8.3)

Close bottom flap #3 and secure with temporary pin. (Fig 4.8.4)



Fig 4.8.3



Fig 4.8.4

## Note



At this point, you should only be able to pull 1/4" – 1/2" of loop through the first three flaps.

If you can pull more, the loop is too long. Open container and shorten loop.

## Step 10

Use a packing paddle to insert the tuck-in flaps between the top of the deployment bag and the inside of the reserve container.

**Double check that the reserve ripcord passes through RSL ring before continuing!**



## Step 11

Close flap #4 and insert ripcord pin. (Fig 4.8.5)

Use packing paddle to smooth any wrinkles may that appear after closing the #4 flap. (Fig 4.8.6)



Fig 4.8.5

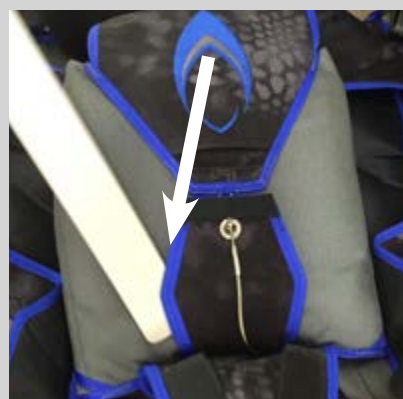


Fig 4.8.6

**CAUTION:** Place closing plate on bottom edge of inner top flap. Placing closing plate or kneeling on pin protector flap will kink or break the flap. The rigger should determine how tight the closing loop is and decide whether to perform a pull test.

## Step 12

Once the rigger is satisfied that pull force is less than **22 pounds (10 Kg)** seal ripcord and log pack job in your logbook and on the Packing data card.

Place the data card in the data card pocket located behind the top of the orange warning label.



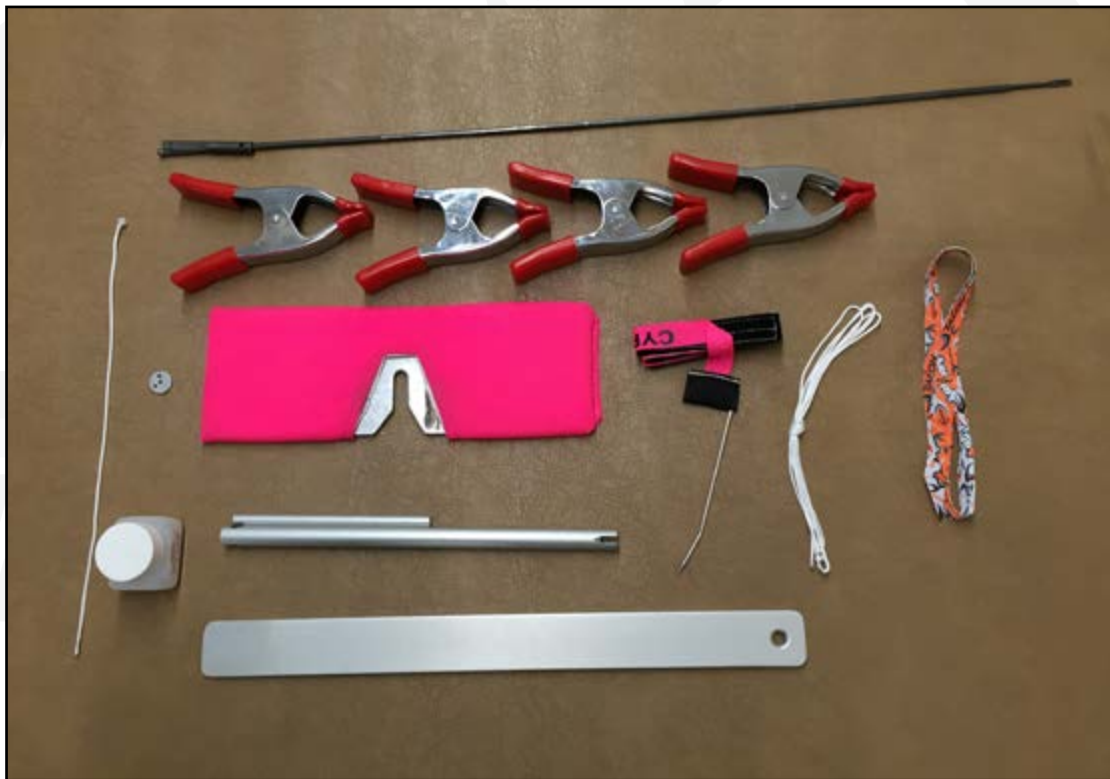
**WARNING:**  
**MAXIMUM ALLOWABLE PULL FORCE ON  
RESERVE RIPCORD IS 22 POUNDS (10 KG).**





# COUNT YOUR TOOLS

- 4- Plastic or rubber tipped packing clamps,
- 1- Packing Paddle 18" (50cm) or longer
- 1- Pull-up cord (micro line), 72" (1.82m)
- 1- Gun Cleaning Rod, .22 CALIBER (5.56mm)
- 1- Knee-board or V-type Closing Plate
- 1- Temporary pin flagged
- 1-Pull up cord



**COMPLETE PLACARD DATA ON ORANGE WARNING LABEL.**

**FAILURE TO COMPLETE ORANGE WARNING LABEL WILL  
VOID THE TSO.**

# Revision Log

<b>Date</b>	<b>Actions Performed</b>	<b>Comments</b>
05/29/2015	Curv 2.0 Manual Created	



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