WINGS TANDEM

Dual Harness/ Container System

Owner's Manual for Assembly, Packing, Donning, and Maintenance



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WARNING!

SKYDIVING / PARACHUTING IS A HIGH RISK ACTIVITY WHICH CAN CAUSE OR RESULT IN SERIOUS INJURY OR DEATH.

Only persons who have successfully completed a **WINGS TANDEM** Certification Course may use this **WINGS Dual Harness/Container System**.

The following information must be read and understood before any use of this equipment:

USER KNOWS THE RISKS OF SKYDIVING AND ACCEPTS THAT:

Skydiving can cause **death** and/or **serious injuries**. Many of these deaths and injuries can be attributed to equipment problems or malfunctions.

Skydiving equipment can fail, even if all possible precautions are taken by the user, the equipment manufacturers and everyone else involved with the jump.

Failure to activate the main or reserve parachute (or follow emergency procedures) at a safe altitude, and/or equipment failure can result in **severe injury or death.**

IT IS THE USER'S RESPONSIBILITY TO:

Receive proper training before any use of all skydiving equipment.
Be extremely careful and cautious.

Read and understand all owner's and operating manuals for all skydiving equipment.

Thoroughly check all skydiving equipment and replace any defective or worn component prior to use.

Review emergency procedures before each use of this and all skydiving equipment.

WARNING!

Check equipment warnings –

DO NOT EXCEED EQUIPMENT LIMITATIONS!

Never violate the training and experience requirements for the specific equipment use.

DISCLAIMER – STATEMENT OF WARRANTY

Because of the unavoidable dangers involved in the use of this and all parachute equipment – **WINGS TANDEM** (including but not limited to all owners, officers, staff, and employees), makes no warranties of any kind, expressed or implied. The liability of the seller is limited to replacing defective parts found upon examination by the manufacturer to be defective in material or workmanship within 7 days after purchase and found not to have been caused by an accident, improper use, alteration, tampering, abuse or lack of care on the part of the purchaser.

By using this equipment or allowing it to be used by others, owner/buyer waives any liability of **WINGS TANDEM** for personal injuries or any other damages arising from such use. Any promise or representations inconsistent with or in addition to the **Statement of Warranty** are not authorized by **WINGS TANDEM** and shall not be binding.

!WARNING!

Parachuting is a hazardous activity that can result in serious injury or death.
Failure to follow all warnings, instructions, and required procedures may result in serious injury or **DEATH!** Parachutes sometimes malfunction even when they are properly designed, built, assembled, packed, maintained and used.

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Chapter 1

Product Information

1.1 Wings Tandem

Wings Tandem is committed to providing you with the latest, most versatile, dependable, and most cost-effective tandem skydiving system available on the market today.

This manual is designed provide you with the necessary information to assemble, pack and maintain your system.

Only operate your Wings Tandem with proper training and certification in this tandem system. For guidance on operating the Wings Tandem, please refer to the Wings Tandem Operations Manual, available for order, or by free download at www.WingsTandem.com.

Wings Tandem, built under **TSO C23D,** is an expansion of a military heavy load freefall system. That military rig was designed for user simplicity, reliability and durability. These same aspects translate into improving the civilian operator's bottom line. By extensive use of tough 1000 denier Courdura nylon and stainless steel hardware, the rig will last even under high-wear conditions. When parts need to be replaced, we have designed those parts to detach and reattach quickly and easily in the field by the user to get the rig back in the air as soon as possible.

Drop zone operators, tandem instructors, riggers and packers from around the country contributed valuable insights on how best to convert a military tandem into a system that meets the needs of a civilian tandem operation. Details highlight the research and thought that went into the design.

1.2 Features

- Three Ring Drogue Attachment

The three-ring release is one of the most common pieces of skydiving hardware, and one of the most reliable. Every skydiver, rigger and packer is already familiar with it. By placing the three-ring drogue release in the center of the rig and close to the center of gravity of the instructor and student, the tandem pair stays in a comfortable and slightly head-high orientation for droguefall.

- Drogue

The drogue must stay securely packed until the instructor wants it out, and then it must deploy quickly and cleanly. The unique untapered, non-expandable design of the drogue pouch, along with the slick F-111 nylon pouch liner, prevents hard pulls. A magnet in the drogue handle locks the drogue into the pouch, positioning the packed drogue completely in the pouch while preventing it from deploying prematurely. Constructing the drogue pouch of durable 1000 denier Cordura ensures the pouch will last the life of the container, compared to Spandex pouches that lose their elasticity and must be replaced periodically.

Like a sport rig, the drogue does not fully collapse until after the main comes out of the deployment bag. This means the drogue has power to lift the bag out of the container while avoiding an unnerving "trap door" effect.

Wings Tandem also uses a unique 2-stage soft-open drogue. When the operator pulls the drogue release handle, the drogue apex pulls down about a foot, reducing the drogue's drag about 20%. This softens the opening force.

- RESERVE BOOST

Reserve Boost uses the cutaway main canopy to lift the reserve bag out of the container. In the event of a total malfunction, Reserve Boost does not interfere with the normal deployment of the reserve.

- Floating RSL

In the event of a broken main riser on the RSL side, the RSL could possibly pull the reserve pin and fire the reserve into a still-attached main. To prevent this, the risers of the Wings Tandem use stainless steel hardware that provides dramatically decreased wear on the riser fabric.

The weak point of any riser is the grommet. We place the RSL attachment point below the grommet, so that if the riser fails at the grommet, the RSL stays with the harness. Finally, if the riser does break below the grommet, the floating RSL attachment leaves the RSL with the harness.

- Field Replaceable High-Wear Items

The entire tandem system focuses on simplifying the tandem equipment. No special tools are needed to pack or close the rig. Many parts are easily replaceable in the field, and many do not need a rigger to do the work.

For example, leg pads on tandems are a major source of wear. Wings Tandem's leg pads can easily and quickly be replaced in the field.

- Stainless Steel Construction

Stainless steel hardware resists nicks and gouges that softer metal can get in normal tandem operations. Stainless steel is not only inherently smoother, it does not corrode. It will never develop rough spots that will cause premature wear when against fabric.

- Flare Toggle Option

For owners who want lower toggle pressure for most of the canopy flight, Wings Tandem comes configured with separate steering and flare toggles. If simplicity is desired, the steering lines on each side can instead be attached to the gold toggles, eliminating the flare toggles.

The steering lines are run through rings on the risers that prevent the lines from becoming twisted and entangled.

- Instructor and Student Comfort

Both harnesses use articulated designs, allowing greater flexibility. Adjustable main lift web allows each tandem instructor to quickly custom fit the harness. The student harness is built for both comfort and security. Padded adjustable shoulder pads help make the student harness the most comfortable in the industry. The integrated "T" strap comfortably holds the student more securely.

Details:

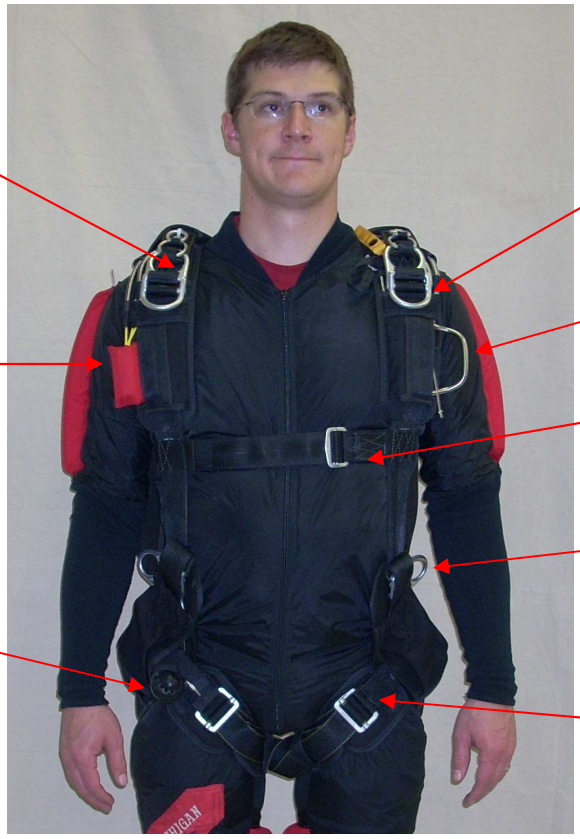
- The bag for the main canopy is designed to lift straight off of the rig, greatly reducing the chance of line twists.

- With four standard rubber band locking stows closing the bag, the canopy stays in the bag until staged line release, virtually eliminating hard openings.

- The hook knife and air sickness bag are easily accessible to the instructor on the back of the student harness.

- Magnetic riser covers hold the risers securely while maintaining consistent force to open.

- The Positive Opening Drogue Riser automatically prevents the drogue release handle from being pulled prior to drogue throw.


Main Container Harness 3-Ring System
Upper Student Attachment Ring
Reserve Ripcord Handle
Main Canopy Release Handle
Chest Strap
Lower Student Attachment Ring
Right Side (Primary) Drogue Release Hacky
Leg Strap


Reserve Pin Cover Flap
Main Pin Cover Flap
Reserve Pilot Chute Cap
Left Side (Secondary) Drogue Release Hacky
Drogue in Pouch



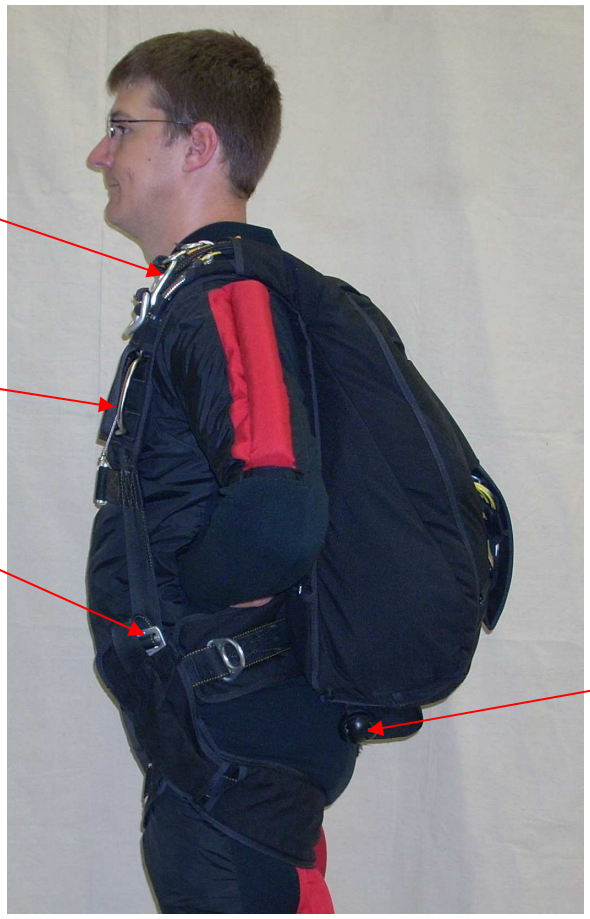
Upper Student Attachment Ring

Main Canopy Release Handle

Adjustable Main Lift Webbing Hardware

Drogue Handle

Right Hand (Primary) Drogue Release Hacky



Main Container Harness 3-Ring System

Reserve Ripcord Handle

Main Lift Webbing Adjustment Ring

Left Hand (Secondary) Drogue Release Hacky

Chapter 2

Dual Harness/Container Assembly Specifications

2.1 Main Container Harness Specs:

- Harness is tested under **TSO C23D**.
- Main Lift Webbing, Type 7 Mil-W-4088 Tensile Strength, 6000 lbs.
- Leg Straps and Laterals, Type 7 Mil-W-4088 Tensile Strength, 6000 lbs.
- Chest Strap, Doubled Type 8 Mil-W-4088 Tensile Strength, 4000 lbs.
- Reserve Risers, Type 13 Mil-W-4088 Tensile Strength, 7000 lbs.
- Main Harness Riser Ring, No.10 Proof Load , 5000 lbs.
- Upper Student Harness Attachment Ring, Angled "D" Ring, Tensile Strength, 5000 lbs.
- Adjustable Hip Ring, 555-2 Ring.
- Leg Strap Hardware, PS 22040-1 Tensile Strength, 2500 lbs.
- Chest Strap Hardware, PS 70101-1
- Lower Student Attachment Ring, RW 8
- Large Ring Main Risers, Type 7 Mil-W-4088, Tensile Strength, 6000 lbs.

2.2 Main Container Assembly Specs:

- Reserve Container and all pertaining parts are tested under **TSO C23D**.
- Automatic Activation Device (AAD) with the Control Unit in the Reserve Top Cover Flap.
- 1000 Denier Cordura lined w/ 1/4" Para-pack nylon backed black foam.
- Outboard Reserve and Cutaway Handles.
- 0# Stainless Steel Grommets.
- All Stainless Steel Housings
- .040 Nylon Stiffeners
- .062 Aluminum Reserve Floor Plate
- 500 Denier Cordura Anti-Line Twist Main Deployment Bag.
- 600 lbs. Dacron Locking Loop for Main and Reserve Control Toggles.
- 1" Nylon Main Steering Toggles, Tensile Strength, 4000 lbs.
- 1" Type 17 Nylon Reserve Toggles, Mil-W-4088 Tensile Strength, 2500 lbs.
- Stainless Steel Reserve Ripcord Handle.
- Left Riser Reserve Static Line (RSL).

2.3 Student Harness Specs:

- Student Harness is **TSO C23D**
- Main Lift Webbing, Type 7 Mil-W-4088 Tensile Strength, 6000 lbs.
- Leg Straps , Type 7 Mil-W-4088 Tensile Strength, 6000 lbs.
- Lower Attachment Straps, Type 8 Mil-W-4088 Tensile Strength, 4000 lbs.
- Diagonals, Chest Strap, Belly Band, Back Strap and Butt Strap, Doubled Type 8 Mil-W-4088, Tensile Strength, 4000 lbs.
- Upper Attachment Butterfly Snaps, PS 22042-1 Tensile Strength 5000 lbs
- MLW Adjustable Slider, PS 70114-1 Tensile Strength 2500 lbs.
- MLW Solid Adapter, No.44A9360, Tensile Strength 1000 lbs.
- Large Articulating Hip Junction Ring, C5010.
- Adjustable Leg Strap, Chest Strap and Belly Band Hardware, PS 22040 Tensile Strength 2500 lbs.
- Adjustable Diagonal, Back Strap, and Butt Strap Hardware, PS 70114-1 Tensile Strength 2500 lbs.
- Lower Attachment - Adjustable Quick Ejector Snaps, PS 22018 Tensile Strength 2500 lbs.
- Back Pad and Leg Pads 1000 Denier Cordura w/ 1/4" white foam.
- 3/4" Binding Tape, Mil-T-5038 Tensile Strength 400 lbs.
- 1" Type 4 Support Tape, Mil-T-5038 Tensile Strength 1000 lbs.
- 5 cord Nylon Harness Thread, Tensile Strength 40 lbs.
- "E" Nylon Thread, No.69 Tensile Strength 8.5 lbs.

2.4 Dual Harness / Container Assembly Specs:

The **Wings Dual Harness/ Container System** is built under the **TSO C23D**.

The Maximum Combined Weight shall be **550 lbs. (249.5 kg.)** at 1**95 KEAS** (361.1 km/h).

Note: Actual Maximum Combined Weight with the complete system is the lowest rated weight for the components (main and reserve canopies) used.

The **Wings Dual Harness /Container System** weights 45-60 lbs. fully packed.

2.5 Drogue Pilot Chute Specs:

- Drogue Riser, Type 8 Mil-W-4088 Tensile Strength 4000 lbs. with standard 3-Ring Drogue Release System.
- Dual Release Handles; Right and Left Hacky Sacks. 2000 lb Specra line.
- Drogue Kill Line, 2000 lbs. Spectra line.
- Drogue Bridle, 13' 6" x 1 1/2" Type 4, Mil-T-5038 Tensile Strength 1500 lbs.
- F-111 Drogue Pilot Chute Fabric.
- 1000 Denier Drogue Soft Handle.

Chapter 3

Inspection Processes

3.1 Dual Harness / Container System

- Main Lift Web
  - Fold-over is present and sewn.
  - Harness stitching 3 and 4 point stitching is intact, no broken stitches.
  - Selvage edge is intact.
  - Webbing is free of wear and abrasions.
  - Velcro for Main Release and Reserve Ripcord is correct and in place.
  - Main Release and Ripcord Housings are in place and secured.
  - Chest Strap fold-over is present and sewn.
  - TSO Label present and info correct.
  - Symmetrical (adjustable)

- Laterals
  - Harness stitching present and correct.

- Leg Straps/ Leg Pads
  - Fold-over is present and sewn.
  - Leg pads have reinforcing bar tacks.
  - Harness stitching is present and correct.

- Reserve Container
  - Grommets secure without burrs or sharp edges.
  - Binding tape is secure and sewn correctly.
  - AAD pocket and window sewn in place for AAD set-up.
  - Floor Plate sewn in place.
  - RSL Ring in place.

- Reserve Risers
  - Symmetrical
  - Harness stitching present and correct.
  - Toggles and Velcro in place.
  - Guide rings present, free of wear, no abrasions

- Reserve Free-Bag and Pilot-Chute
  - Grommets secure without burrs or sharp edges.
  - Bridle bar tacked.
  - Spring crimped.
  - Cap and snaps present and secure, TSO label present.
  - Free bag size matches container.
  - Velcro and pocket secure, TSO label present.

- Reserve Ripcord
  - Handle is correct shape and smooth.
  - No broken strands of cable.
  - Straight pin.
  - Ball & shank in place.

- Reserve Static-Line (RSL)
  - Bartacks are present.
  - No corrosion or wear.
  - Mini ring in shape and lanyard.

- Main Container
  - Binding tape, present and no stitches missing.
  - Closing loop retainer present.
  - Grommets, free of burrs, sharp edges.
  - Housings are secure and no sharp edges.
  - Drogue pocket, no holes or rips.
  - Drogue release handles, clean and free moving.

- Main Risers
  - Ring shape
  - No corrosion or wear.
  - Harness stitching is present and correct.
  - Bartacks are present.
  - Velcro, hook is secured.
  - Grommets are secure w/o burrs or sharp edges.
  - T-IIA loops are present.
  - Steering line locking loops are present.
  - Snap shackle RSL present, in good working order, and correctly routed.

- Other Hardware
  - No corrosion or wear.
  - In correct shape.

- Main Deployment Bag and Deployment Option
  - Deployment bag is correct size. Grommets have no burrs or sharp edges.
  - Drogue bridle has secured release pin.
  - Main drogue releases are clean, free-moving in channel.
  - Main parachute release handle is clean, cables move free in housings.

3.2 Reserve Parachute

- Links should be:
  - Clean of corrosion, debris and without cracks or visible damage.
  - No sharp or raw edges.
  - Free moving barrel, which should be able to tighten 2 ¾ turns from first engagement of the barrel without resistance.

- Rapide Link Covers
  - Covers should be firmly seated on top of links.
  - Covers tacked in place to prevent slippage.

- Lines
  - No excessive fraying or damage to lines.
  - Continuity is correct.
  - Bartacks sewn correctly on each line.
  - Each line is without twists and correctly installed from link to parachute, passing through the correct slider grommet.

- Slider
  - Grommets are seated correctly w/o burrs or damage.
  - Slider is without holes, burns, or other damage.

- Bottom Skin
  - Inspect each cell for any tears, fraying or other damage.
  - Seams and attachment points stitched correctly and evenly.

- Ribs
  - Cross ports without damage.
  - Stitching correct on seams.
  - Reinforcing tape present on loaded ribs.
  - No other damage on entire rib section.

- Top Skin
  - Seams are sewn correctly.
  - Leading edge bar tacks are in place.
  - Control line attachment points are reinforced.

- Stabilizers
  - Slider stops are present and secured.
  - Lines bar tacked to lower edge of stabilizer.
  - Slack is present in stabilizer when line is taut.

3.3 Main Parachute

- Links should be:
  - Clean of corrosion, debris and without cracks or visible damage.
  - No sharp or raw edges.
  - Free moving barrel, which should be able to tighten 2 ¾ turns from first engagement of the barrel without resistance.

- Rapide Link Covers
  - Covers should be firmly seated on top of links.
  - Covers tacked in place to prevent slippage.

- Lines
  - No excessive fraying or damage to lines.
  - Continuity is correct.
  - Bar tacks sewn correctly on each line.
  - Each line is without twists and correctly installed from link to parachute, passing through correct slider grommet.

- Slider
  - Slider is without holes, burns or other damage.
  - Reinforcement tape in place and secure.
  - Grommets seated correctly without burrs or damage.

- Bottom Skin
  - Inspect each cell for any tears, fraying or other damage.
  - Seams and attachment points stitched correctly and evenly.

- Ribs
  - Cross ports without damage.
  - Stitching correct on seams.
  - Reinforcing tape present on loaded ribs.
  - No other damage on entire rib section.

- Top Skin
  - Seams are sewn correctly.
  - Leading edge bar tacks are in place.
  - Control line attachment points are reinforced.

- Stabilizers
  - Slider stops are present and secured.
  - Lines bar tacked to lower edge of stabilizer.
  - Slack is present in stabilizer when line is taut.

3.4 Student Harness

- Main Lift Webbing
  - Harness stitching 3 and 4 point stitching is intact, no broken stitches.
  - Selvage edge is intact.
  - 2 fold-overs are present and sewn.
  - Webbing is free of wear and abrasions.
  - Solid adjusters are present, free of nicks, dents and burrs.
  - Solid adapters are present, free of nicks, dents and burrs.
  - Hip junction ring is sewn with 4 point, intact, no broken stitches.
  - Elastic keepers are present and in good shape.

- Upper Attachment Points
  - Two (2) 3 point stitching is intact, no broken stitches.
  - Two (2) butterfly snaps present, springs in good working order.

- Floating Chest Strap
  - Chest strap fold-over is present and sewn.
  - Chest strap floats freely for adjustments.
  - Hardware present, free of nicks and burrs.
  - Elastic present and in good shape.

- Belly-band
  - Hardware present and free of nicks and burrs.
  - Fold-over is present and sewn.
  - Elastic present and in good shape.

- Leg Straps
  - Leg strap fold-overs are present and sewn.
  - Hardware present and free of nicks and burrs.
  - Padding present and slides to adjust freely.
  - 3 point stitching present, no broken stitches.
  - Two (2) webbing retainer loops present on small pads.
  - Elastics present and in good shape.

- Rear Diagonals
  - Two (2) upper 3 point stitching present and intact, no broken stitches.
  - Two (2) solid adjusters present, free of nicks and burrs.
  - 2 diagonal adjuster fold-overs present and sewn.
  - Elastics present and in good shape.

- "T" Strap
  - Solid adapter present, free of nicks and burrs.
  - Strap fold-over is present and sewn.
  - 3 point stitching is present and intact, no broken stitches.
  - Elastic present and in good shape.

- Back Strap
  - Back strap fold-over is present and sewn.
  - Adjuster hardware is present, free of nicks and burrs.
  - Elastic present and in good shape.

- Student Lower Attachment Straps
  - Student lower attachment straps have fold-overs and are sewn.
  - 3 point stitching present and intact, no broken stitches.
  - Two (2) adjustable quick ejector snaps present, springs in good working order.
  - Heavy elastics present and in good shape.
  - NO "cheater strap" quick release tabs on quick ejector snaps.

- Back Pad and Yoke
  - Back pad stitching is present, no broken stitches.
  - Bar tacks present, no broken stitches.
  - Air sickness bag pocket present, air sickness bag in place.
  - Knife pocket present, knife in place.

- TSO Label
  - Present and information is correct.

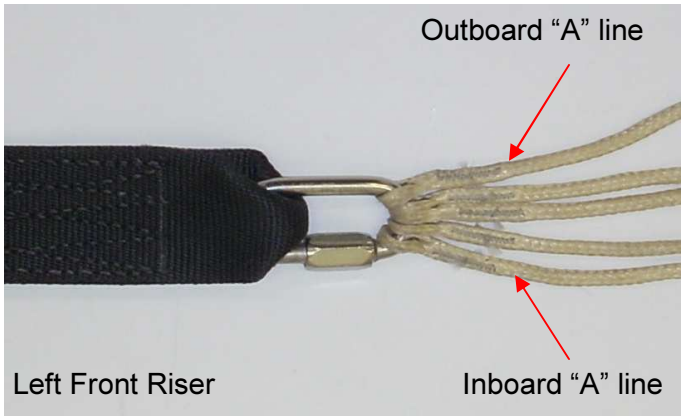
Chapter 4

Assembly Instructions

4.1 Assembly of Reserve Canopy.

After inspecting the Parachute and the Wings Dual Harness/Container System, hang or lay the parachute out on the ground with the nose section on the ground and the dual harness/ container system oriented face down.

Check to see that the type-12 bumpers are above the links. See following instructions on pg. 2 to install them if needed.

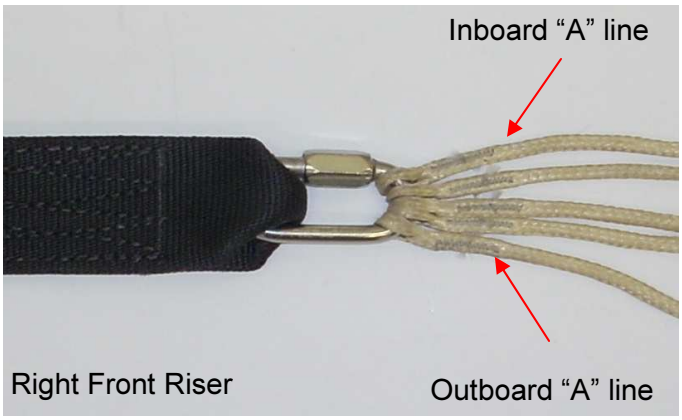


Begin the assembly process by ensuring that all lines are connected to the links correctly with the outboard A-lines on the outside of the link and the center A-line towards the inside of the link, the longer side of the link towards the riser.

Once the continuity of the lines is set, ensure the slider is correctly oriented; the slider should be longer span-wise than chord-wise, with the reinforcing tape of the slider on the side facing the reserve parachute.

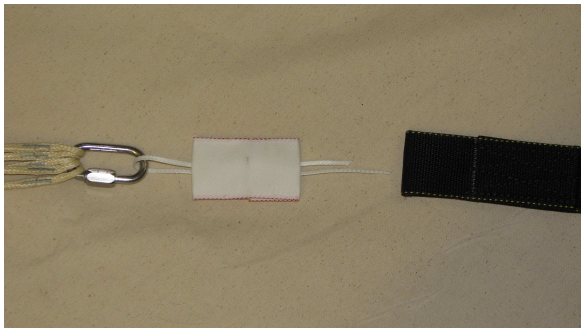
Fold the ends of the risers to narrow the top section. Maintain line continuity and place the link of the right front line-set onto the end of the right front riser. Tighten the barrel finger tight and then an additional ¼ turn with a small wrench until the link is tight. Pull the bumper down and secure as per the instructions on page 2 of this chapter.

Repeat this step for the left front riser.

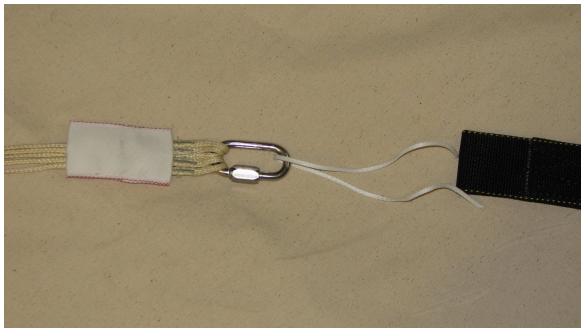


Repeat these steps for the two rear risers, ensuring that the outboard "C" line is on the link first.

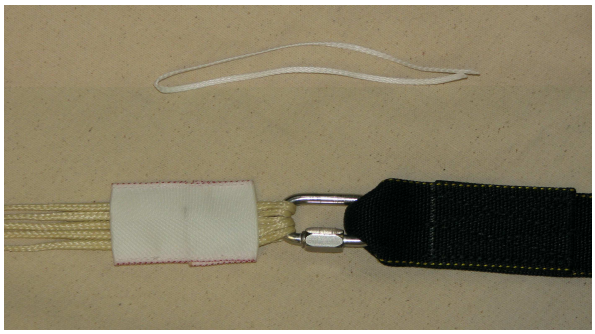
4.1.1 Installing the Bumpers.



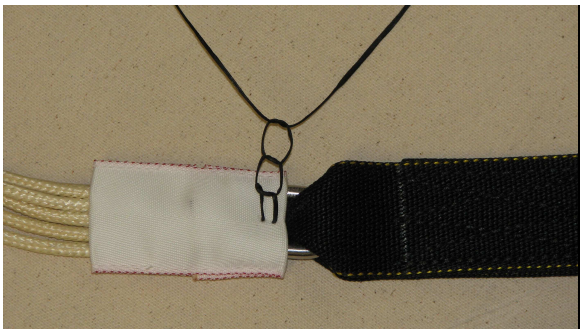
With the line group correctly assembled onto the link, run a short piece of line through the closed link and the center of the bumper.



Pull the link through the bumper without twisting or turning the link.



Fold the top of the riser and install the link. Tighten the barrel of the link. Ensure continuity of the line group.

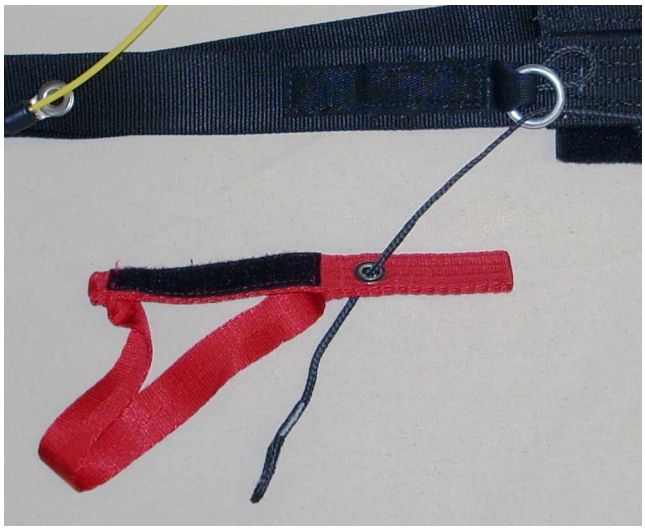


Cinch the bumper over the link and tack into place. The tacking should go through both sides of the bumper and include a surgeon's knot and locking knot. Once tight, cut the loose ends of the tacking thread.

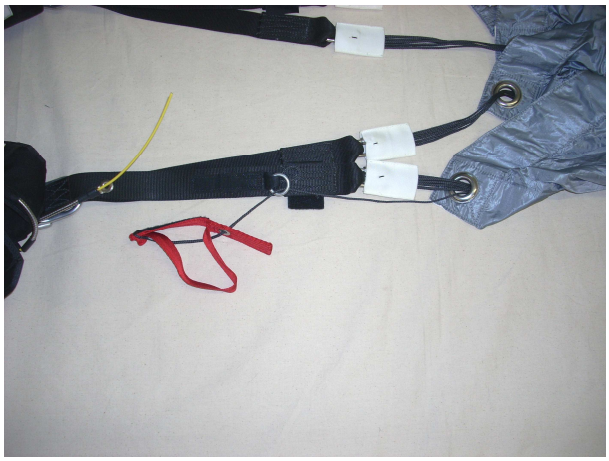
4.1.2 Installing the Toggle onto the Control Lines.

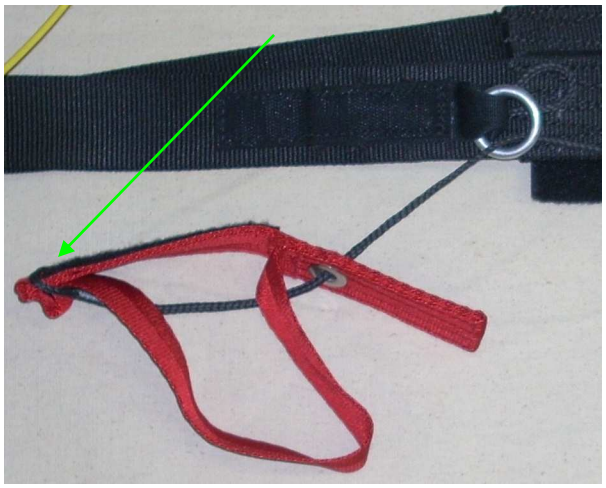
Once the reserve parachute is assembled onto the reserve risers, feed the control line through **ONLY** the appropriate slider grommet and guide ring on the reserve riser and **NOT** through the Dacron locking loop.



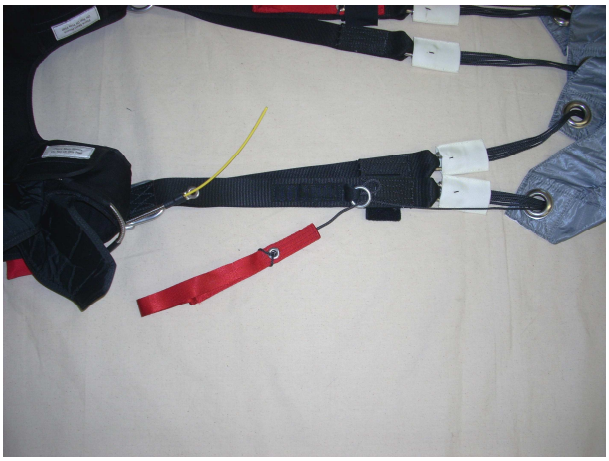


Feed the control line through the rear of the toggle.





Pass the loop of the control line over the bottom of the toggle.



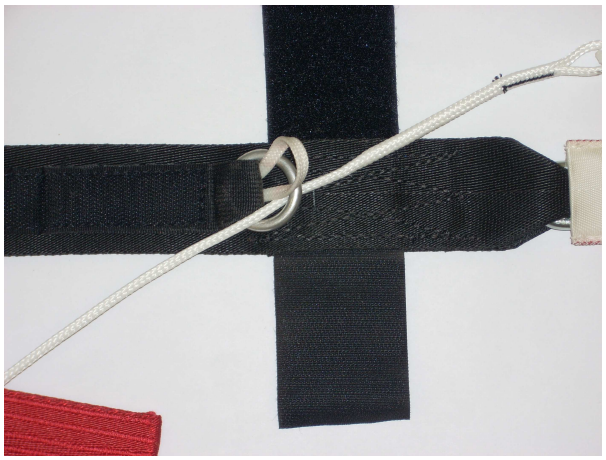
Tighten the loop up to the grommet.

Repeat for the other toggle.

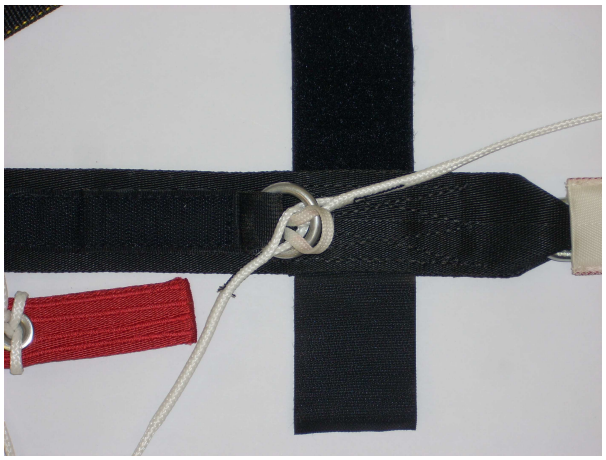
The parachute brakes are now ready to be set.

4.1.3 Setting the Reserve Canopy Brakes.

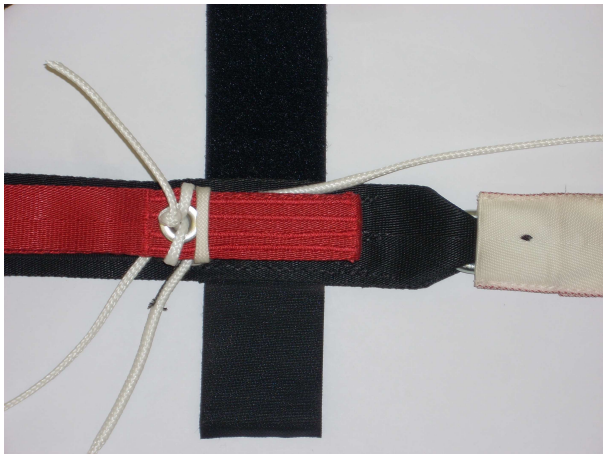
After assembling the toggles correctly, pull the control line so that the "cat's eye" of the control line is just below the guide ring located on the riser.



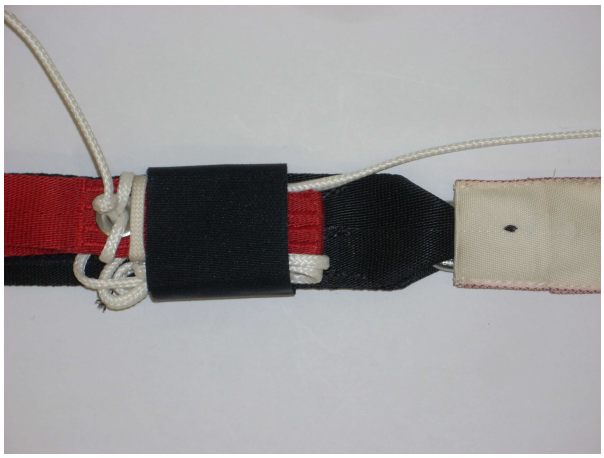
The control line should pass only through the guide ring and **NOT** the Dacron loop located on the riser.



Pull the Dacron locking loop through the guide ring and "cat's eye" of the control line.



Insert the toggle into the Dacron locking loop, ensuring the guide ring and "cat's eye" are underneath the toggle and the brake setting is below the guide ring.



Mate the Velcro of the riser and the toggle.

"S"-fold the excess control line next to the toggle tip.

Wrap and secure the Velcro around the toggle tip.

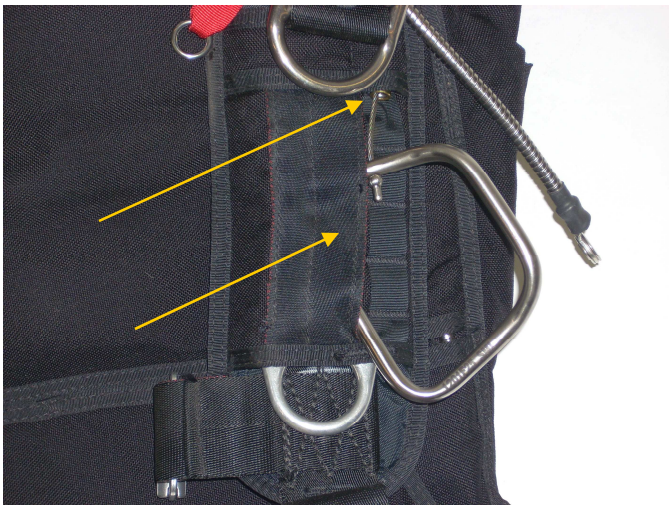
Repeat steps for the other brake.

4.2 Assemble the Reserve Static-Line. (RSL)



Mate the pile Velcro of the RSL with the hook Velcro under the RSL channel of the left side reserve riser. Start at the lower end of the channel and proceed to the top.

Close cover when Velcro has been mated and RSL has been installed.



Install the cable of the reserve ripcord handle into the reserve ripcord housing on the left side main lift webbing.

Install the reserve ripcord handle into the reserve ripcord pocket.



Pass the ripcord cable through the first guide ring.





Pass the ripcord cable through the middle ring of the RSL then through the second guide ring on the container.

Installation is complete.

4.3 Installing the Automatic Activation Device. (AAD)

Read the AAD owner's manual and become familiar with the different components of the unit and details of its use.

Insert the processing unit into the spandex pocket located on the bottom wall of the reserve container.

Route the release unit under the reserve floor plate and through the slot and elastic housing. Stow the excess cable in the spandex pouch.

Route the control unit through the channel next to the floor plate. Once threaded through this channel, insert the control unit into the reserve top flap pocket location.

Once secured in the spandex pocket, the display should be clearly visible through the clear plastic window.

Stow the excess cable in the channel or spandex pocket.

Close the Velcro pocket on the spandex pouch.

Installation is complete.

Control unit in reserve top flap.





Processing Unit



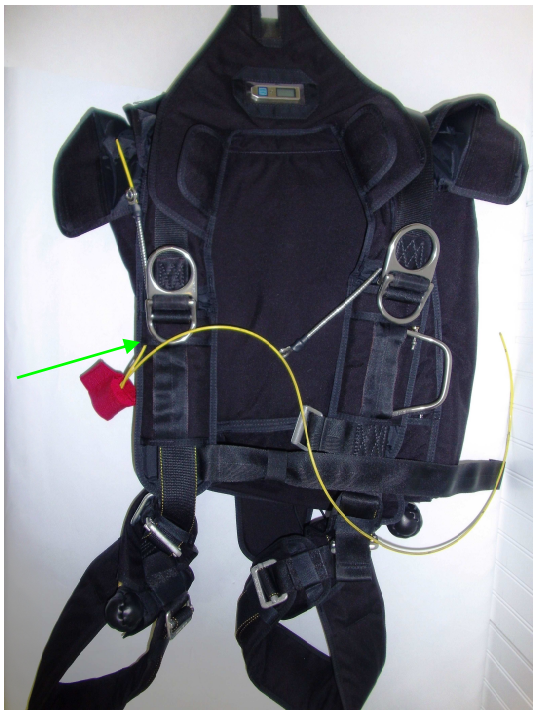
Release Unit



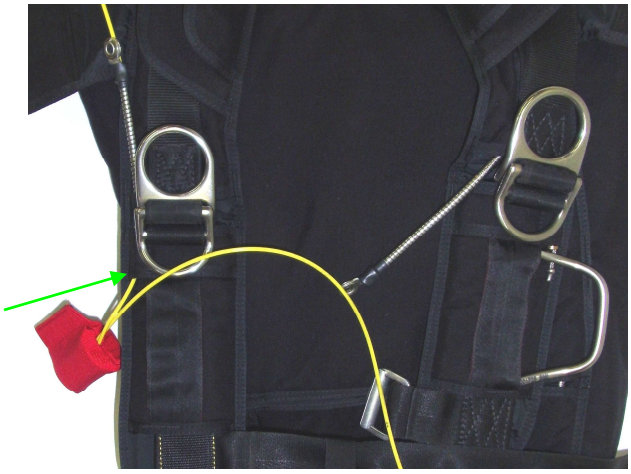
Control Unit

4.4 Installation of the Main Canopy Release Handle.

Inspect the ends of the yellow cables of the release handle for sharp edges. Ends should be smooth so as to not snag the Type IIA line loop of the risers.



Begin by feeding the shortest yellow cable into the short cutaway housing.





Feed the other yellow cable into the other cutaway housing.



Mate the hook Velcro of the main canopy release handle to the pile Velcro in the pocket on the right main lift webbing.

4.5 Installation of the Main Canopy Steering Toggles.

Before installing the main steering toggles, check that the line continuity is correct.

Depending on the make and model of the main canopy, it will have one or two sets of steering lines.

If your canopy is equipped with two sets of steering lines, the outside set controls the outside of the tail and is attached to the yellow steering toggle. The inside set gives the tandem pilot greater flare power and is attached to the black flare toggles.

You have the choice to set up your Wings Tandem with either a single steering toggle, or dual steering/flare toggles.

Follow these instructions to set-up the Wings Tandem main parachute with a <u>single</u> main steering toggle.



Pull the steering lines through the two mini rings at the top of the rear riser.

Be sure to keep the inner set to the inside ring and the outer set to the outside ring.

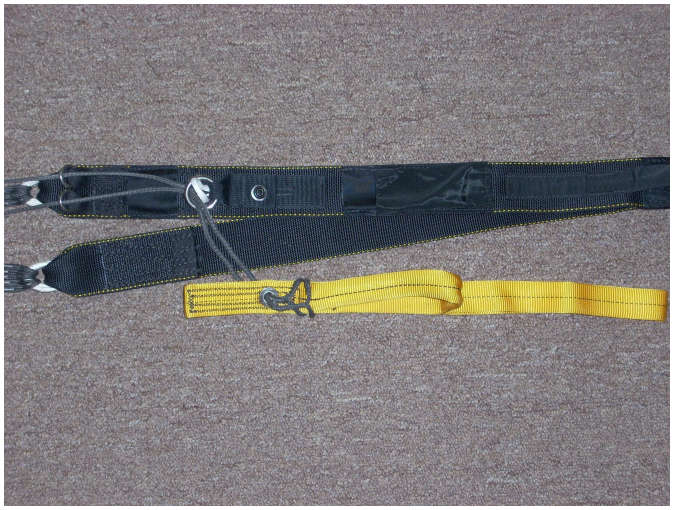
Pass both steering lines through the guide ring <u>only</u>, **DO NOT PASS THEM THROUGH THE SPECTRA LOOP!**

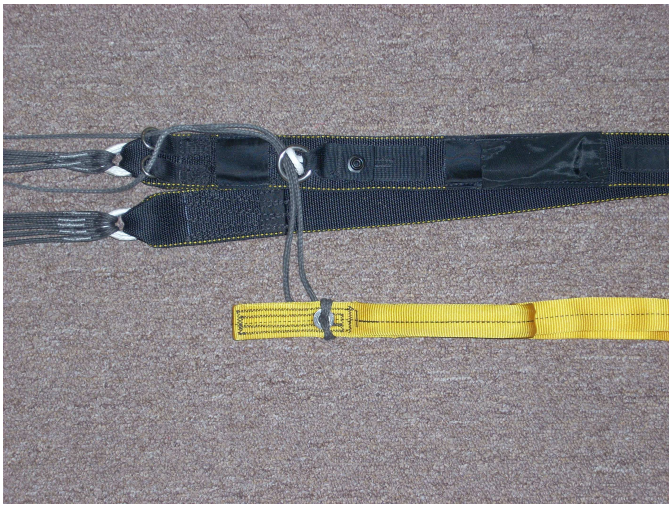


Feed both steering lines from the back side of the main steering toggle through the grommet.



Pass the tail end of the steering toggle through both loops of the steering lines.



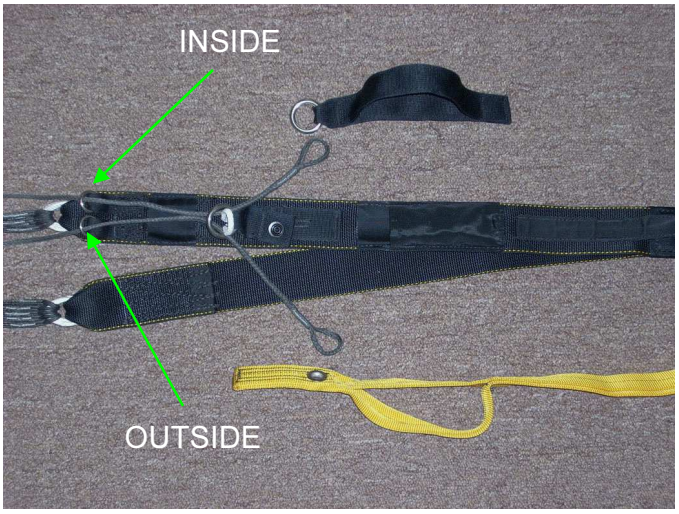


Tighten the knot formed.

Repeat the other riser.

Installation is complete for single steering toggle.

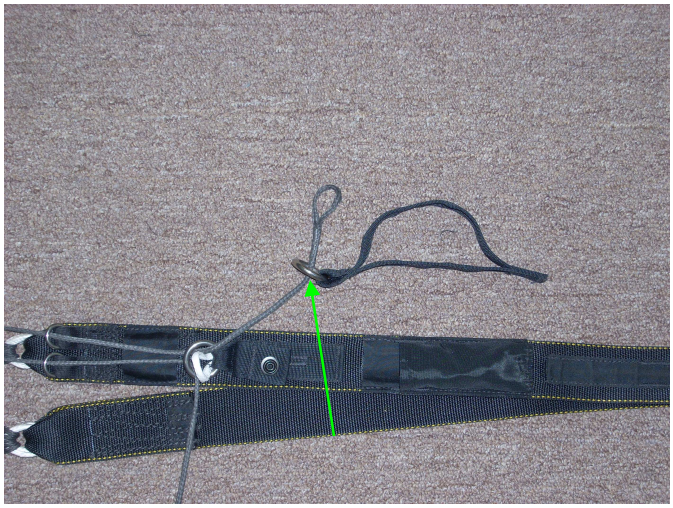
Follow these instructions to set-up the Wings Tandem main parachute with <u>Dual Toggle</u> main steering toggles.



Begin by pulling the steering lines through the two mini rings at the top of the rear riser.

Be sure to keep the inner set to the inside ring and the outer set to the outside ring.

Pass both steering lines through the guide ring <u>only</u>, **DO NOT PASS THEM THROUGH THE SPECTRA LOOP!**



Feed the inner steering line through the ring from the back side of the flare toggle.



Pass the tail of the flare toggle through the steering line loop as shown.



Continue to pass the toggle through the loop and tighten the knot formed.



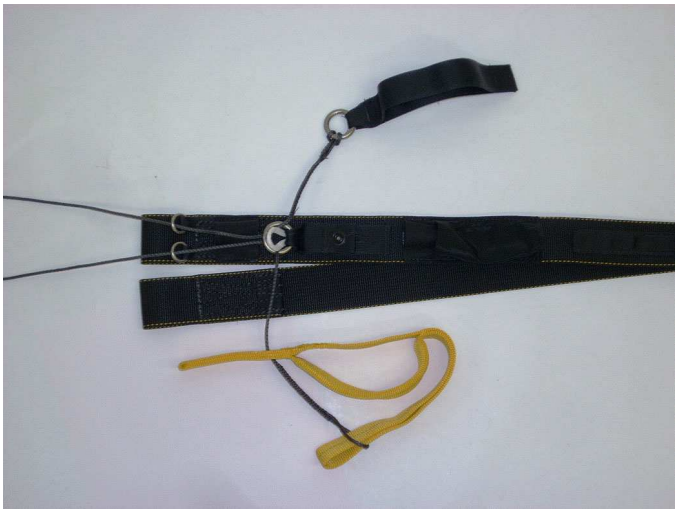
Feed the outer steering line from the back side of the main steering toggle through the grommet.



Tighten the knot formed.

Repeat on the other riser and toggles.

Installation of Dual Toggle main steering toggles is complete.



Pass the tail end of the main steering toggle through the loop of the steering line.

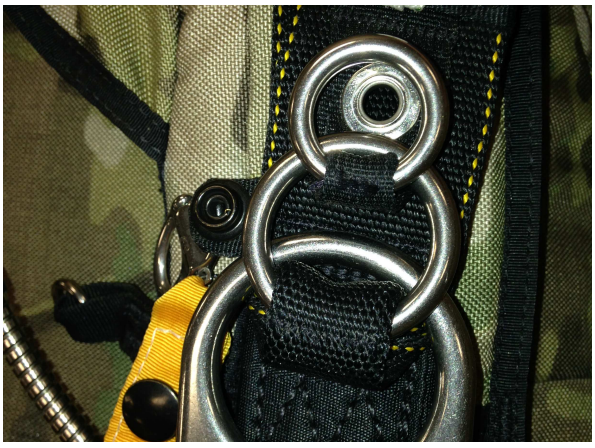
4.6 Installation of the Main Risers.

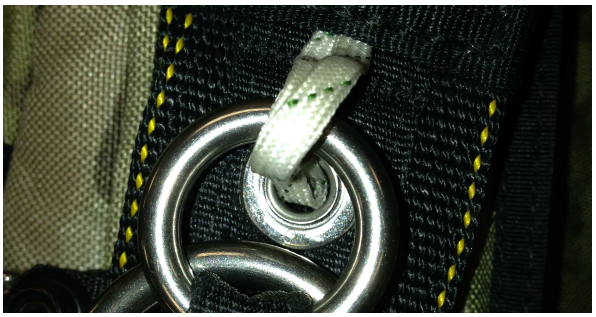
The **WINGS** Dual Harness/ Dual Parachute Tandem uses the 3-ring system to attach the main canopy to the harness. The Reserve Static Line (RSL) connects the left riser to the left side of the harness.

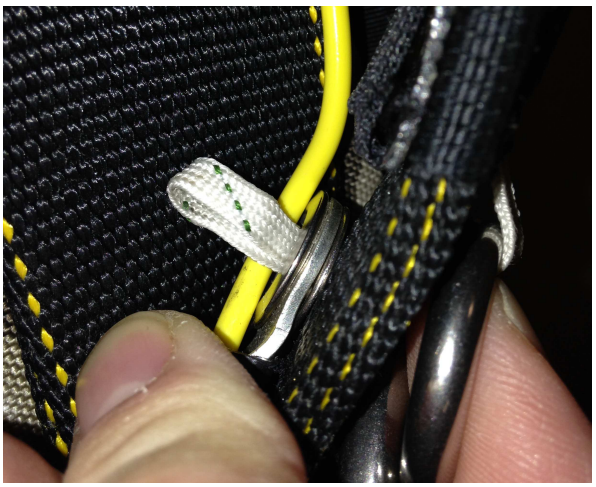
Begin by placing the middle ring of the riser through the big ring of the harness as shown below.

Pull the middle ring up. Rout the little ring **ONLY** through the middle ring and pull up. The little ring should line up with the riser grommet.

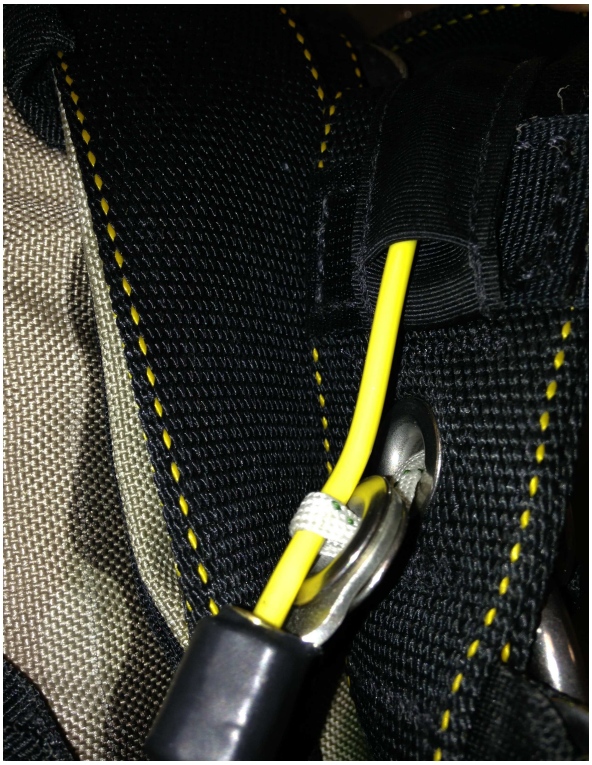




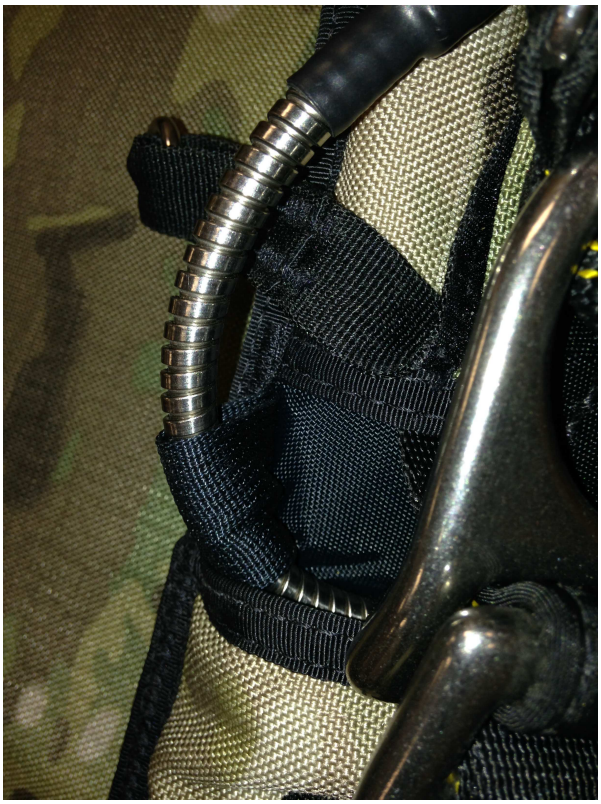




Place the type-II riser loop around the little ring and through the grommet as shown above.

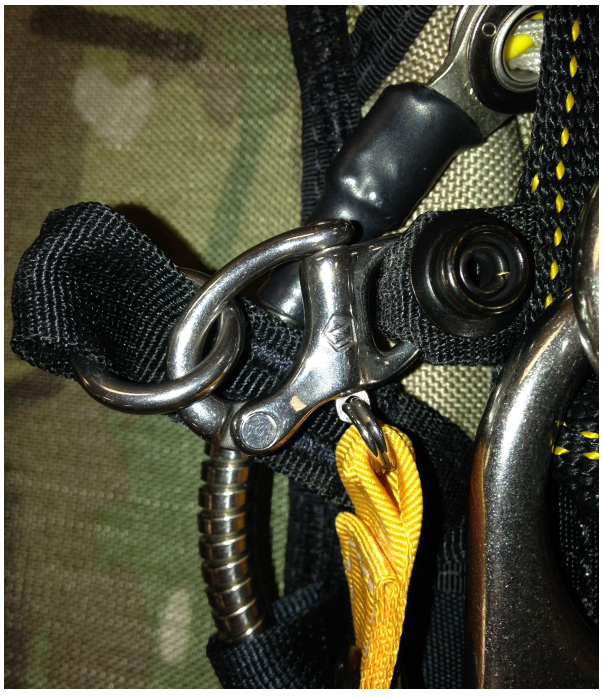


Route the yellow cutaway cable through the loop and into the channel on the back of the riser as shown above.



Make sure the left riser (with the RSL attachment) is routed so that the cable housing end is on the INNER portion of the harness. There should be NO cable housing accessible on the outer portion of the harness.

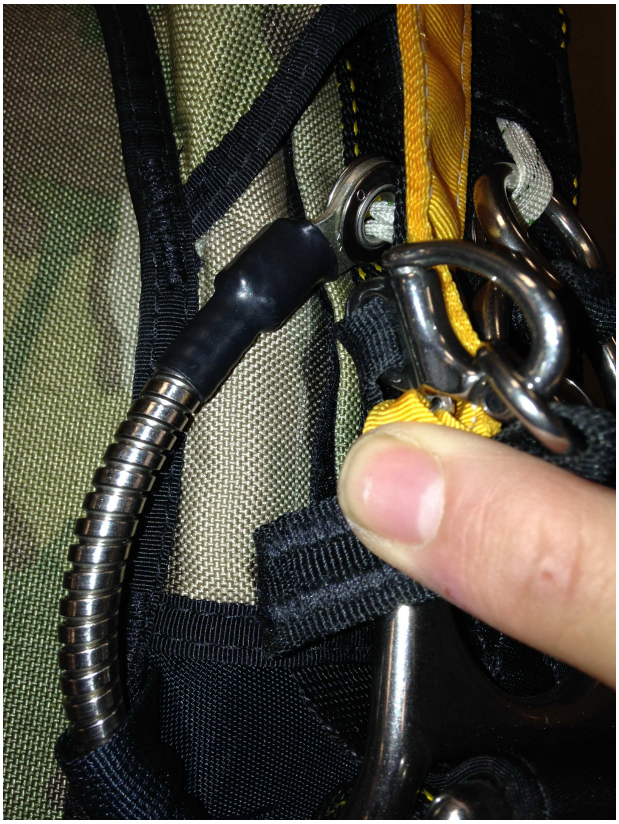
Place the ring at the end of the RSL into the shackle of the RSL snap on the harness and close the shackle.

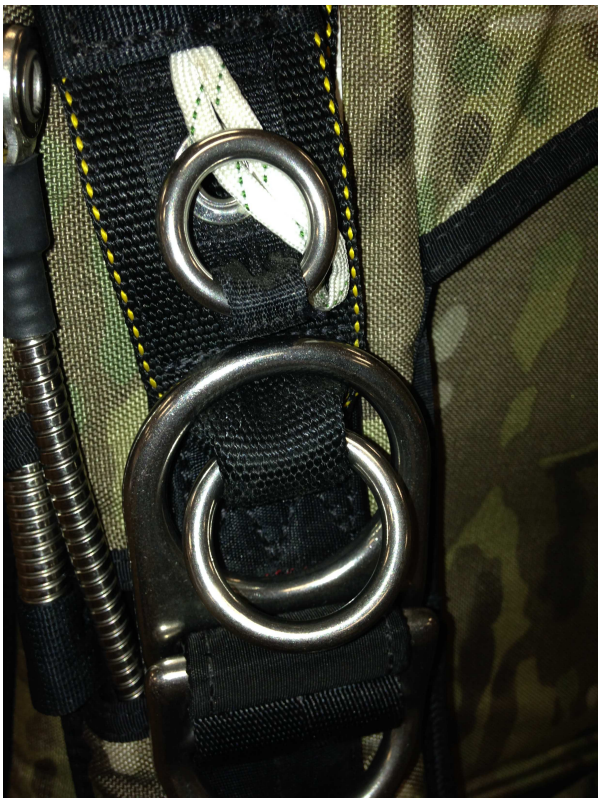




Close the snap of the yellow RSL tab to the snap on the riser. Route the yellow tab up as shown above.

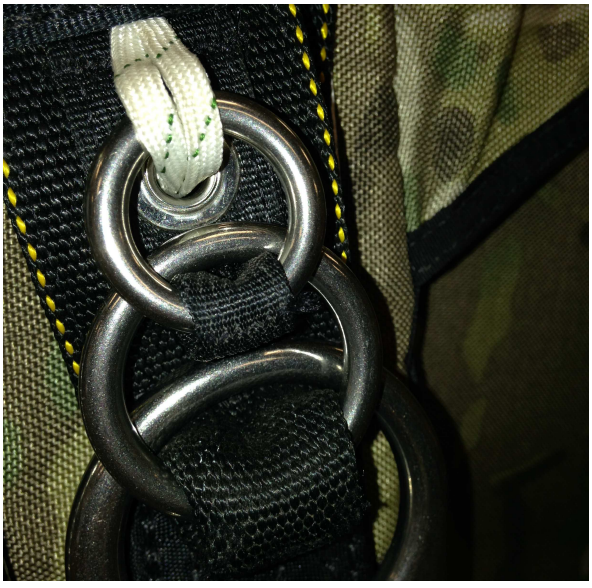
Note that the cable housing is clear of the RSL assembly, as shown below.

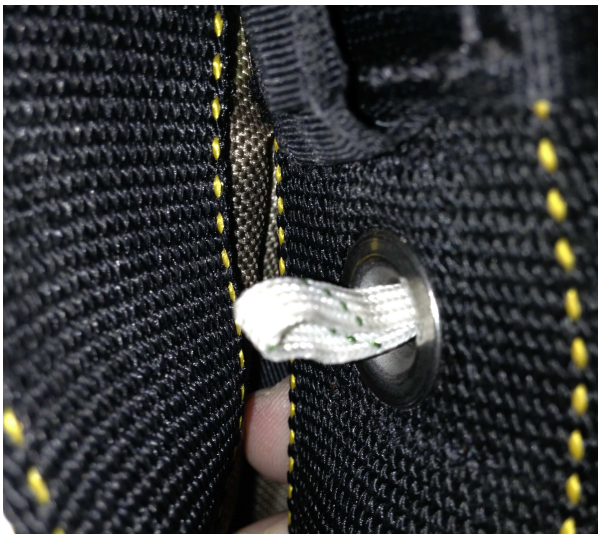


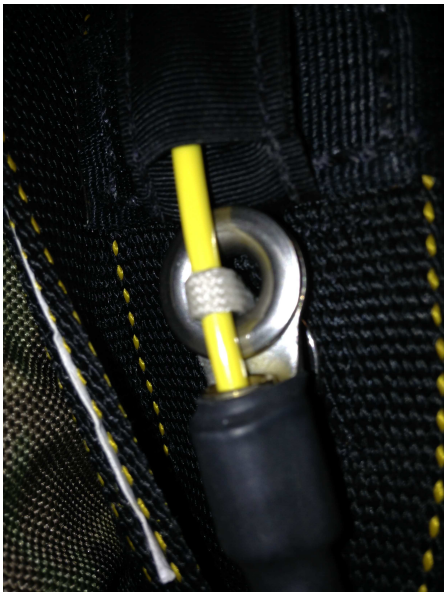


Assemble the right riser in much the same manner. Place the middle ring of the riser into the big ring of the harness as shown above.

Place the little ring through the middle ring ONLY and run the Type-II loop through the little ring and riser grommet.





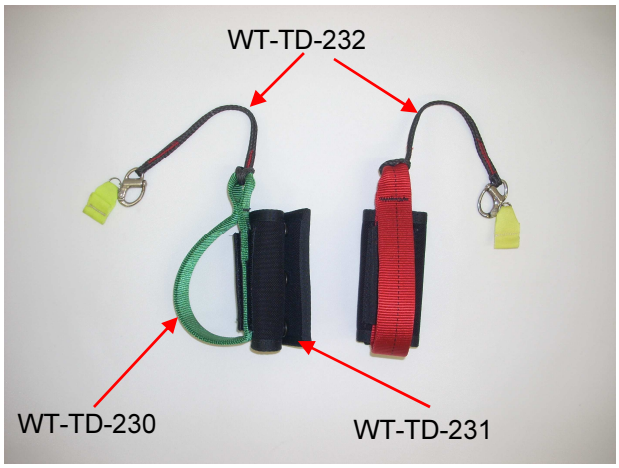


Place the yellow cutaway cable through the Type-II loop and into the channel on the riser as shown above.

The risers are now assembled.

4.7 Installation of the Optional Examiner's Handles.

The **WINGS** Dual Harness/ Dual Parachute Tandem has the option of tandem examiner's handles on the passenger harness. These optional and removable handles allow the examiner to cutaway the main parachute and to deploy the reserve parachute in the event of an emergency.



Pictured above are the tandem examiner's cutaway handle and reserve handle **(WT-TD-230),** handle pockets **(WT-TD-231)** and handle lanyards **(WT-TD-232).** These handles are interchangeable and may be used for either the cutaway handle or the reserve ripcord handle.

Handle colors should match the colors of the corresponding handles on the main container, but may be chosen by the user.

The handles are held in place with Velcro while the pockets are secured to the passenger harness with snaps.

A lanyard of HMA 1750# line connects the examiner's handle to the emergency handle and has a snap shackle for easy attachment to and easy release from the emergency handle.

Follow these Instructions for installing the examiner's handles to the passenger harness.



Lay the handle pocket **(WT-TD-231)** beside the passenger harness as shown above. The Velcro on the pocket will be facing up.



Lift the webbing away from the passenger harness as shown above.

Do Not Place the handle pocket around the main lift webbing.



Wrap the handle pocket around the web-bing and snap the three snaps together.



Mate the Velcro of the examiner's handle to the Velcro of the handle pocket.



Close the Velcro covering of the handle pocket over the examiner's handle.

Repeat these procedures for the other handle and pocket.







Close the Velcro covering of the handle pocket over the examiner's handle.

Chapter 5

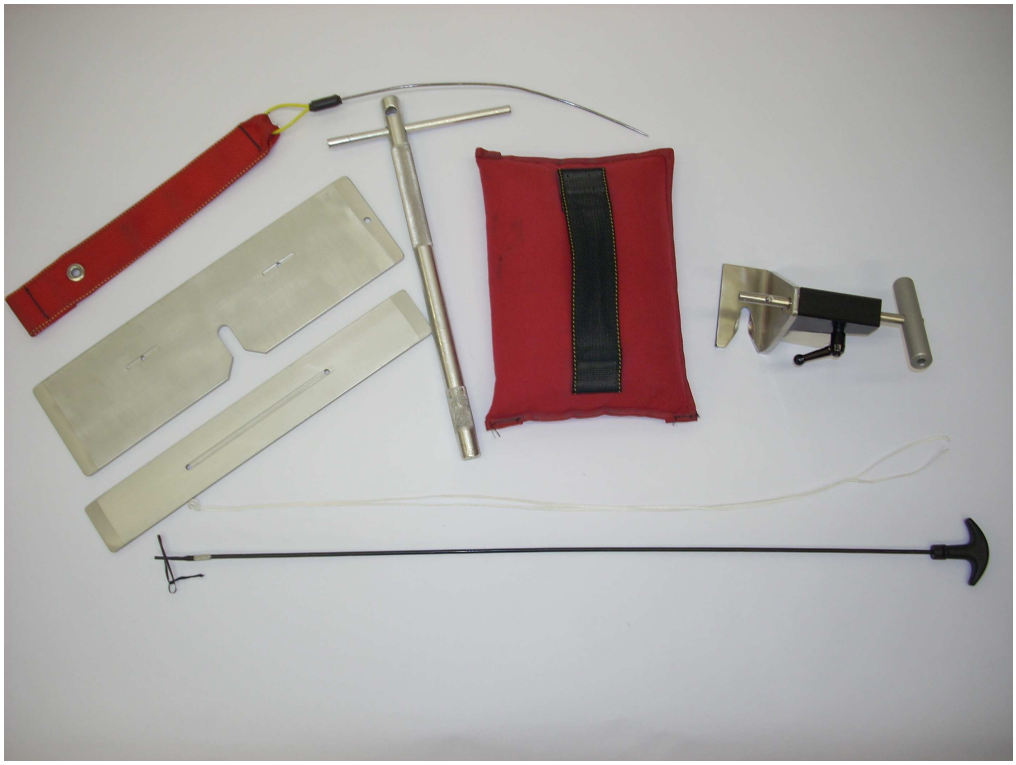
Tools

5.1 Packing Tools Checklist.

Use this page to record which tools are used during the packing of your Wings Tandem Dual Harness/ Container System. Mark which tools, and how many were used for packing and document all tools after work is complete.

Tool used:	**Pre-packing**	**Post-packing**
Packing paddle	____ used	____ used
Shot bag	____ used	____ used
.22 Gun cleaning rod	____ used	____ used
Pull up cord	____ used	____ used
Leverage device	____ used	____ used
Temporary pin	____ used	____ used
Mechanical Tension Device	____ used	____ used
Closing plate	____ used	____ used
Additional tools:		
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used
_____	____ used	____ used

5.2 Recommended Packing Tools



SHOT BAG

MECHANICAL TENSION DEVICE

PACKING PADDLE

TENSION PLATE

TEMPORARY PIN

.22 GUN CLEANING ROD

SCREW DRIVER

SCISSORS

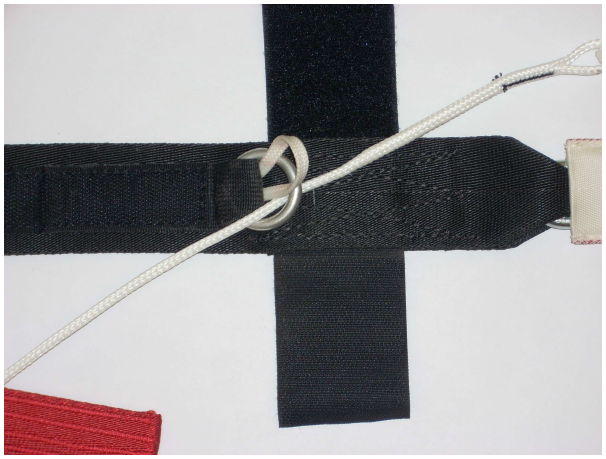
PULL-UP CORD

Chapter 6

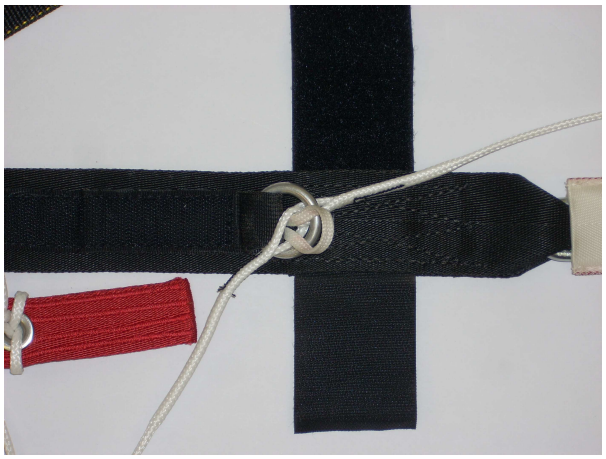
Reserve Packing

6.1 Setting the Reserve Brakes.

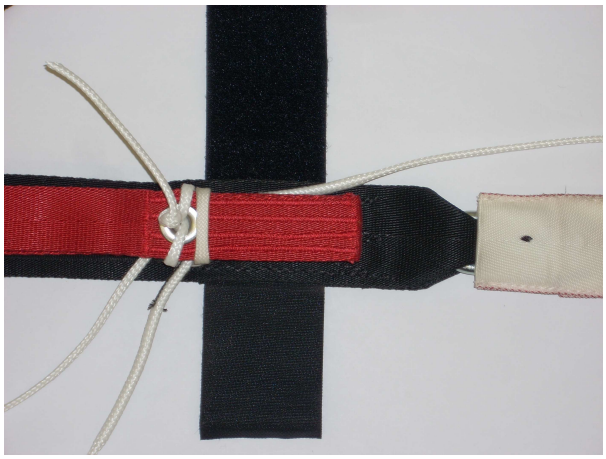
After assembling the toggles correctly, pull the control line so that the "cat's eye" of the control line is just below the guide ring located on the riser.



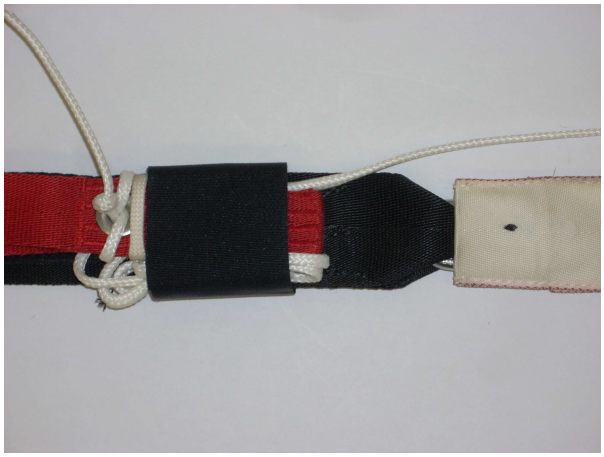
The control line should pass only through the guide ring and **NOT** the Dacron loop located on the riser.



Pull the Dacron locking loop through the guide ring and "cat's eye" of the control line.



Insert the toggle into the Dacron locking loop, ensuring the guide ring and "cat's eye" are underneath the toggle and the brake setting is below the guide ring.



Mate the Velcro of the riser and the toggle.

"S"-fold the excess control line next to the toggle tip.

Wrap and secure the Velcro around the toggle tip.

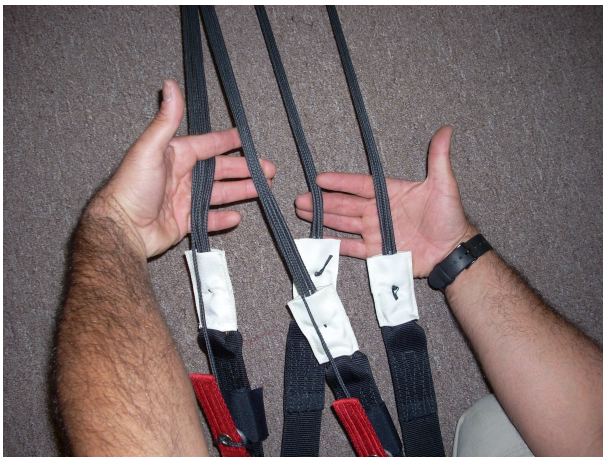
Repeat steps for the other brake.

6.2 Flat Pack Method of the Reserve Parachute.

BEFORE PROCEEDING: NOTE THE MAXIMUM OPERATING WEIGHT OF THE RESERVE CANOPY AND MARK ON THE DATA CARD!



Place the slider at the connector links.



Grasp the rear line and control line groups in the **LEFT** hand and the front line groups in the **RIGHT** hand.

Walk towards the parachute leaving the slider at the risers and separating the line groups as you go.

Once at the stabilizer edge, shake the parachute from side to side.

While maintaining control of the line groups, lay out the parachute in front of you and away from the harness/container.

Maintaining line tension will help in later steps.



Walk to the top of the canopy and:
Count and flake out the cells leading edges.
Count and flake out the B-line seams.
Count and flake out the C-line seams.
Count and flake out the D-line seams.
Count and flake out the control lines and the remainder of the trailing edge of the canopy.



Fold the leading edge under the A-line group.



Grasp the B-line group under slight tension and fold over the A-line group.



Grasp the C-line group under slight tension and fold over the B-line group.



Grasp the D-line group under slight tension and fold over the C-line group.



Pull out the left four (4) cells of the nose towards the left.

Pull out the right four (4) cells of the nose towards the right.

Flake the control lines onto the center of the canopy, splitting the groups and corresponding trailing edge into half.

Bring the slider up from the connector links until it is touching the slider stops and quarter the slider between the slider stops.



Flake the tail of the parachute on top of itself. This step will involve folding half cells between the control lines and whole cells on the remainder of the trailing edge.



Pull tail down carefully to just above slider and cocoon the parachute by wrapping the tail around the flaked cells.

DO **NOT** include the nose in this cocoon. The cocoon should be roughly the same width as the free bag.



Carefully squeeze out any trapped air.



"S"-fold the four (4) nose cells under the corresponding side of the parachute.



"S"-fold lower portion of canopy up to the trailing edge of the parachute and place under the trailing edge.



Place the Free-bag under the canopy.



"S" -fold the canopy on top of itself.



Fold the canopy back over itself.



Tuck the canopy into the corners of the free-bag.



Use the free-bag bridle to hold the safety stow in place.





"S"-fold the canopy over onto itself once again.



Smooth out and make sure that the canopy is no wider than the free-bag.



Follow the center seam to the end.



Roll the center material to the depth of the free-bag. Place your knee on to hold in place.



Straighten and smooth out the "ear" formed after following the center seam.



Grasp "ear" and "S"-fold it on top of itself.





Place into the free-bag.

Repeat the other side "ear".



Fold the free-bag over the canopy in order to close with the safety stow.



Use two line bites of 1 1/2" - 2" (4-5 cm) to close and secure the free-bag.



Stow the rest of the reserve parachute lines into the pocket on the free-bag.



Alternate back and forth until lines are into the pocket and reserve risers are to the free-bag.





Open up the reserve container. Check to be sure that the reserve static line (RSL) is installed correctly. If using ***Reserve Boost*** be sure that you are using a ***Reserve Boost*** RSL and that the reserve ripcord cable passes through the middle ring of the RSL.



Carefully lift the free-bag and flip over to the bottom of the reserve container.

Check to be sure that the AAD cutter is installed correctly and that the closing loop goes through the cutter.



Thread a pull-up cord through the closing loop and the center grommet of the free-bag.

IF USING ***RESERVE BOOST***
GO TO PAGE 19 NOW!



Route the free-bag bridle under the left side flap of the reserve container. Then close the side flaps with the bridle coming out of the bottom.



"S"-fold the bridle into 8"-10" (20-25 cm) folds leaving 3' (.9m) of bridle remaining.



Tuck “S”-folded bridle under side flaps. “S”-fold the remaining bridle at right angle to the tucked-in bridle.



Thread the pull-up cord through the reserve pilot chute and center the pilot chute over the side flap grommets.



Compress the pilot chute and secure with a temporary pin.



Make sure that the top closing flap is under the retaining tape of the top pin cover flap.

Close and secure the top closing flap with a temporary pin.



Close the bottom flap and secure with the reserve ripcord pin.

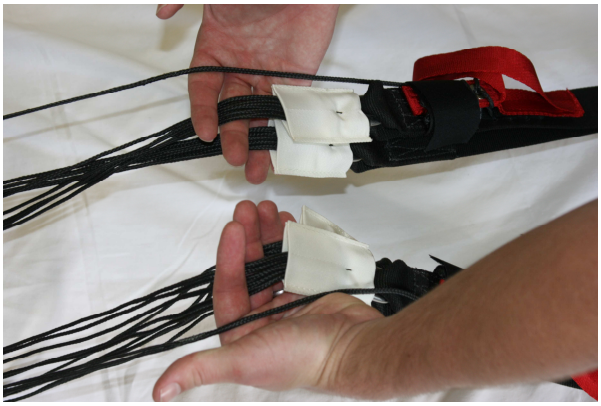
Follow all applicable rules for documenting and sealing the reserve container.

RECOUNT THE TOOLS USED DURING THE PACKING!

6.3 PRO-Pack Method of the Reserve Parachute.

BEFORE PROCEEDING: NOTE THE MAXIMUM OPERATING WEIGHT OF THE RESERVE CANOPY AND MARK ON THE DATA CARD!

Follow the instructions for stowing the reserve riser brake toggles on page **1 of Chapter 6**.



With no twists in the risers, place the left front riser line group between the middle and ring finger of the **LEFT** hand.

Place the left rear riser group between the middle and fore finger of the same hand.

Place the control line between the forefinger and the thumb.

Repeat for the opposite hand and line groups.

The slider should be between your body and the parachute.

Walk towards the parachute between the line groups, moving the slider up the lines with you and separate the line groups in your hands.

Upon reaching the parachute, check that the control lines are not twisted around any other line groups.

If so, restart this step or perform another continuity check.

Step outside of the lines, group the lines together in one hand and place this group over your shoulder.

For these instructions, the parachute is over the left shoulder. Switch orientation if using the right shoulder.

With the parachute in the correct orientation (nose towards the container, tail away from the container) start counting the nine leading edge cells out.

Start by slightly turning the parachute over your shoulder, resting the right outside cell against your body.



Count each cell and grasp this group.

Push the nose through the center of the parachute and pull it briskly back out.
Place the tip of the leading edge between your knees and hold the material in place.



Starting with the A-line group, count the five right cells between the A- and B- line attachment points and flake the material away from the center of the parachute.



Count the five right cells between the B- and C- line attachment points and flake the material away from the center of the parachute.



Count and flake the five right cells between the C- and D- lines.

Count and flake the five right cells between the D- lines and the control lines.

Repeat this process on the other side of the canopy.

Separate the nose, one half on the side, center cell in the middle and second half on the other side.



Raise the canopy so that it is parallel to the floor and gently lay it on the floor.



Pull the slider down and away from the slider stops. Flake the nose cells on one side of the canopy.



On the outside folds, smooth out the material between the A-B lines.



Fold the A-B panels in half to narrow the pack job for the free-bag.

Do **Not** Include the **nose** in these folds. Repeat for B-C, C-D panels.



Flake the tail of the parachute on top of itself.



After one side is flaked and smoothed out, repeat the other side.



Pull tail down carefully to just above slider and cocoon the parachute by wrapping the tail around the flaked cells.

DO **NOT** include the nose in this cocoon. The cocoon should roughly be the same width as the free bag.



Carefully squeeze out any trapped air.



"S"-fold the four nose cells under the corresponding side of the parachute.



"S"-fold lower portion of canopy up to the trailing edge of the parachute and place under the trailing edge.



Place the free-bag under the canopy.



"S" -fold the canopy on top of itself.



Fold the canopy back over itself.



Tuck the canopy into the corners of the free-bag.



Use the free-bag bridle to hold the safety stow in place.





"S"-fold the canopy over onto itself once again.



Smooth out and make sure that the canopy is no wider than the free-bag.



Follow the center seam to the end.



Roll the center material to the depth of the free-bag. Place your knee on to hold in place.



Straighten and smooth out the "ear" formed after following the center seam.



Grasp "ear" and "S"-fold it on top of itself.





Place into the free-bag.

Repeat the other side "ear".



Fold the free-bag over the canopy in order to close with the safety stow.



Use two line bites of 1 1/2" - 2" (4-5 cm) to close and secure the free-bag.



Begin to stow the rest of the reserve parachute lines into the pocket on the free-bag.



Alternate back and forth until lines are into the pocket and reserve risers are to the free-bag.





Open up the reserve container. Check to be sure that the reserve static line (RSL) is installed correctly. If using ***Reserve Boost*** be sure that you are using a ***Reserve Boost*** RSL and that the reserve ripcord cable passes through the middle ring of the RSL.



Carefully lift the free-bag and flip over to the bottom of the reserve container.

Check to be sure that the AAD cutter is installed correctly and that the closing loop goes through the cutter.



Thread a pull-up cord through the closing loop and the center grommet of the free-bag.

IF USING ***RESERVE BOOST***
GO TO PAGE 19 NOW!



Route the free-bag bridle under the left side flap of the reserve container. Then close the side flaps with the bridle coming out of the bottom.



"S"-fold the bridle into 8"-10" (20-25 cm) folds leaving 3' (.9m) of bridle remaining.



Tuck "S"-folded bridle under side flaps. "S"-fold the remaining bridle at right angle to the tucked-in bridle.



Thread the pull-up cord through the reserve pilot chute and center the pilot chute over the side flap grommets.



Compress the pilot chute and secure with a temporary pin.



Make sure that the top closing flap is under the retaining tape of the top pin cover flap.

Close and secure the top closing flap with a temporary pin.



Close the bottom flap and secure with the reserve ripcord pin.

Follow all applicable rules for documenting and sealing the reserve container.

COUNT THE TOOLS USED IN PACKING!

6.4 Instructions for packing the Reserve Parachute using the *Reserve Boost* RSL.

First, be certain that the reserve ripcord cable and the ***Reserve Boost*** RSL are installed properly before continuing.

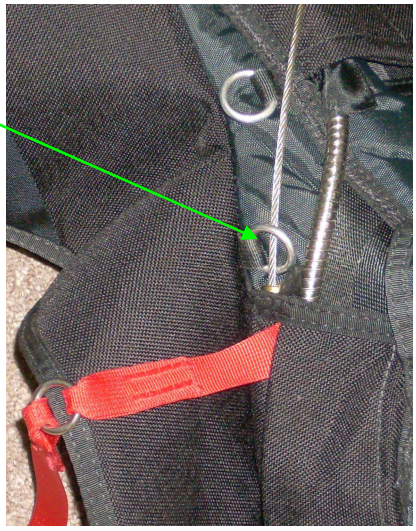
Follow these instructions:



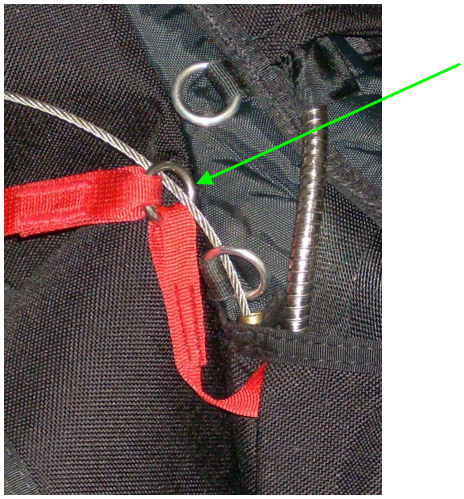
Mate the pile Velcro of the **Reserve Boost** RSL with the hook Velcro under the left side of the shoulder yoke.



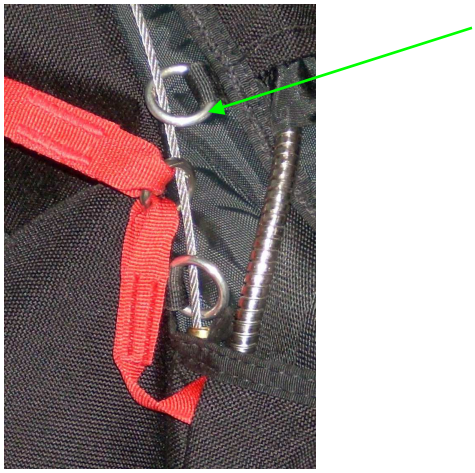
Close the cover of the RSL channel. Be sure there is enough lanyard to connect the ring to the clasp on the main risers. Extra lanyard can be left at the top end of the channel.



Feed the reserve ripcord cable through the first guide ring on the container.



Feed the reserve ripcord cable through the center ring of the RSL.



Feed the reserve ripcord cable through the second guide ring of the container.

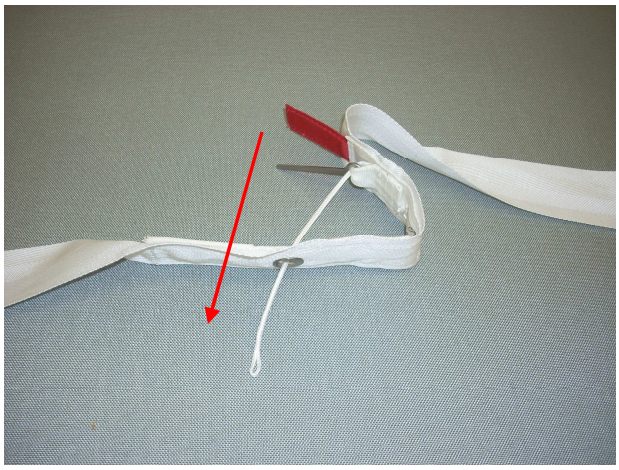
Next, place the reserve free bag into the reserve container. Route the free bag bridle down the left side of the reserve container.



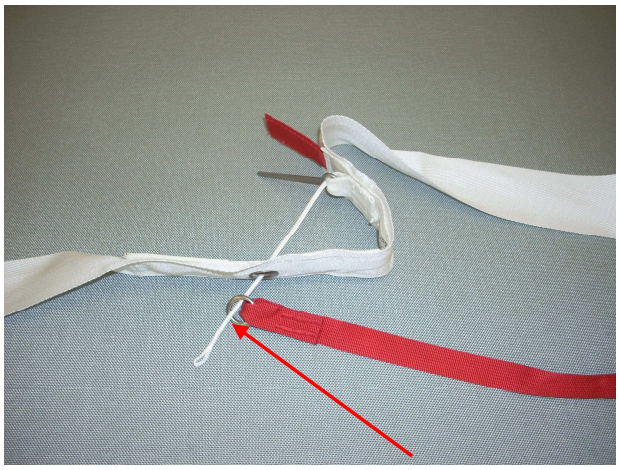
"S"-fold the bridle into 6"-8" (15-20 cm) folds across the bottom of the free bag to the **Reserve Boost** modification.



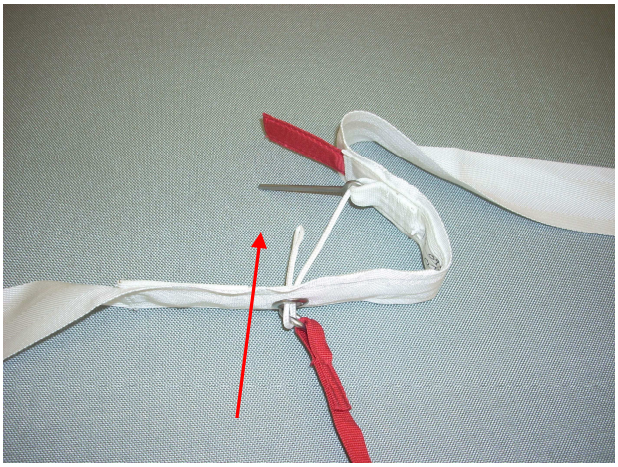
Bring the bridle back up towards the top of the Reserve Container with the ***Reserve Boost*** modification laid on top of the free bag left of center.



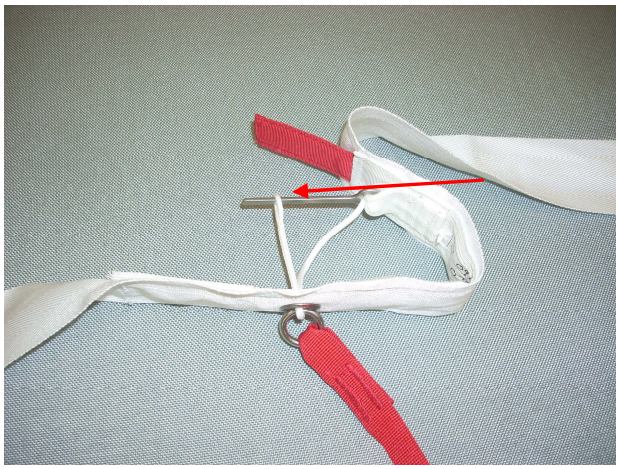
"Arm" ***Reserve Boost*** at this time by feeding the Spectra line loop down through the grommet.



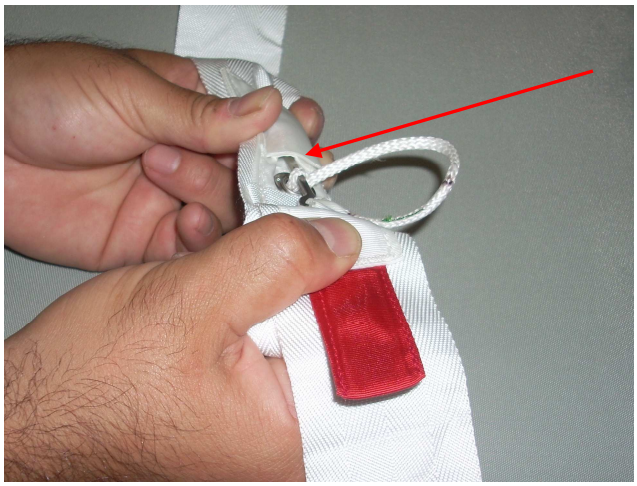
Pass the Spectra line through the mini ring of the ***Reserve Boost*** RSL.

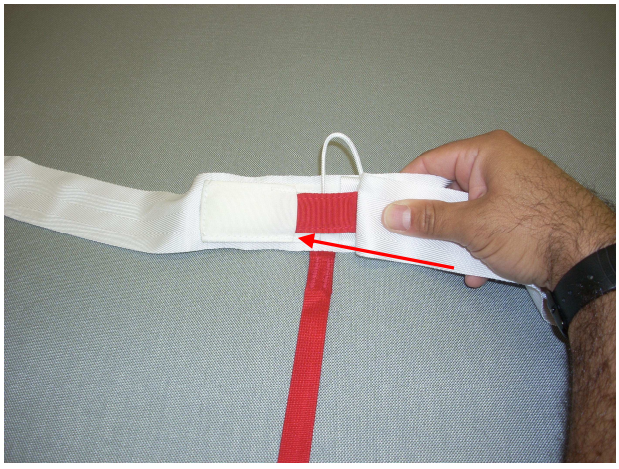


Loop the Spectra line back up through the grommet of the bridle.

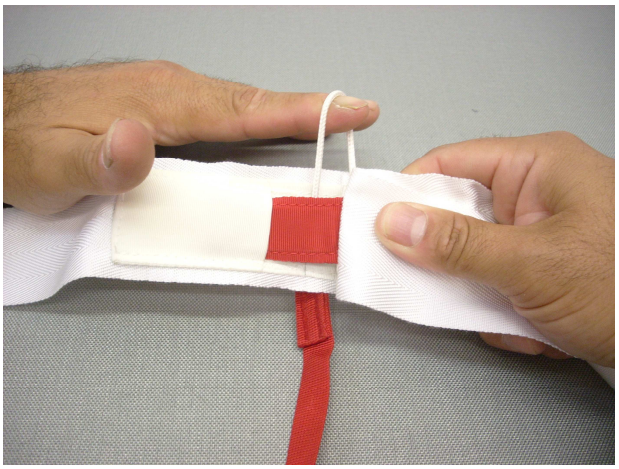


Slide the long pin through the loop then stow into the channel under the tuck tab flap. Be certain that it is in it's own channel.

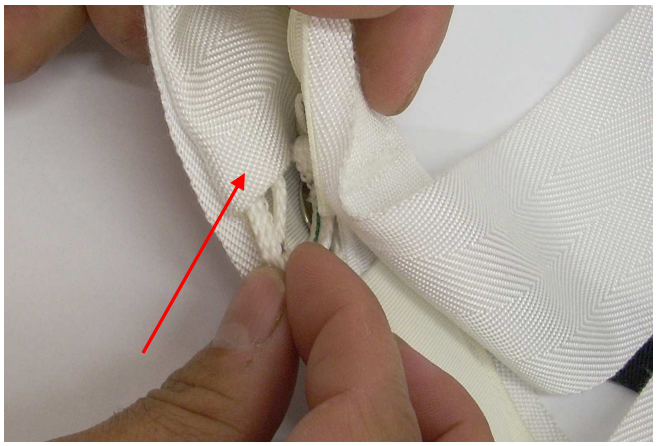




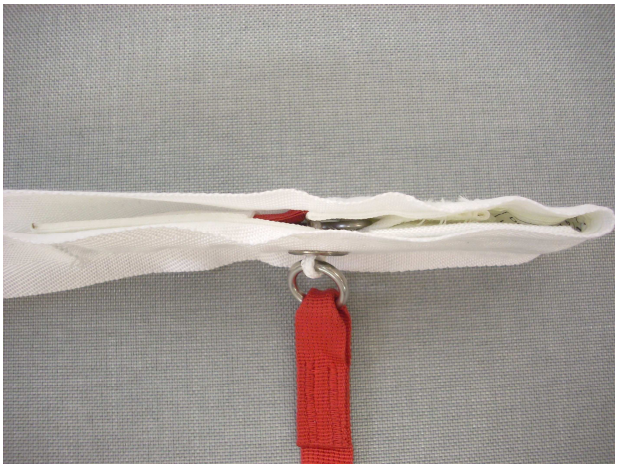
Tuck the stiffened T-III tab into the tuck channel on top of the long pin channel.



Take up the slack of the Spectra line loop .



Stow the Spectra line loop into the looped polyester sleeve opposite the long pin channel.



Should look like this.



Tuck any excess RSL into the channel pocket on the top left side of the free bag.

Reserve Boost is armed. Continue to close the reserve container.



Close the side flaps. Secure with a temporary pin.



"S"-fold the remaining bridle at a right angle to the tucked bridle.



Thread the pull-up cord through the reserve pilot chute and center over the side flap grommets.



While compressing the pilot chute be sure to keep all of the pilot chute material **folded into the spring** and secure with a temporary pin.



Make sure the top closing flap is under the retaining tape of the top pin cover flap. Close and secure with a temporary pin.



Close and secure the bottom closing flap with the reserve ripcord pin.



Follow all applicable rules for documenting and sealing the reserve container.

COUNT THE TOOLS USED DURING PACKING!

Chapter 7

Main Parachute Packing

7.1 Stowing the Main Steering Toggles, Dual Steering/Flare Toggles.

Follow these instructions when using the main steering toggles with "flaring toggle".

The Wings Tandem Dual Harness/Container System allows use of main canopies from a variety of manufacturers. Most require packing with the brakes set in half brakes; some do not. Refer to the canopy manufacturer to determine what method your canopy needs.

Wings Tandem also gives the user the option of either using a single toggle (all brake lines on each side lead to one steering toggle) or dual toggles (each side has a steering toggle that leads to the outside brake lines and a flare toggle that leads to the inner lines.)

The single toggle setup's advantage is simplicity. Dual toggles allow less toggle pressure during most of the canopy flight by using the steering toggles until entering landing pattern altitude.

The following instructions are for using the dual toggles.



In these instructions, we use red to show the steering line and black for the flare line. Your canopy may have different colors.



If your canopy is packed with the brakes set, begin by pulling the two brake lines down through the large keeper ring until you come to the cat's eye finger traps on the brake lines.



Run the white riser loop through the large keeper ring on the riser and place it in the finger trap of the steering line.



Then stack the flare line on top of the steering line. This assures that you will "pop" both lines when you free the toggles after opening.



With the brake lines pulled out of the way to the sides, put the white riser loop through the ring of the flare toggle. Attach the flare toggle to the snap on the riser.



Place the bottom of the flare toggle into the smaller pouch. The flare toggle is now secure.



Insert the top of the steering toggle through the white riser loop and into the top toggle keeper.



Tuck the remainder of the main steering toggle into the lower keeper. Slide the removable elastic up as shown above.



Stow the excess brake line in the elastic on the back as shown. Repeat the steps for the other riser.



Some main canopies are packed to open in full flight. These are not packed in half brakes, and do not have the cat's eye finger trap. There will be no excess brake line to stow. Use the following directions to pack these types of canopies while using the dual toggles.



Attach the flare toggle to the snap on the riser. Tuck the bottom of the flare toggle into the smaller pouch as shown. The flare toggle is now secure.



Insert the top of the steering toggle into the top toggle keeper.

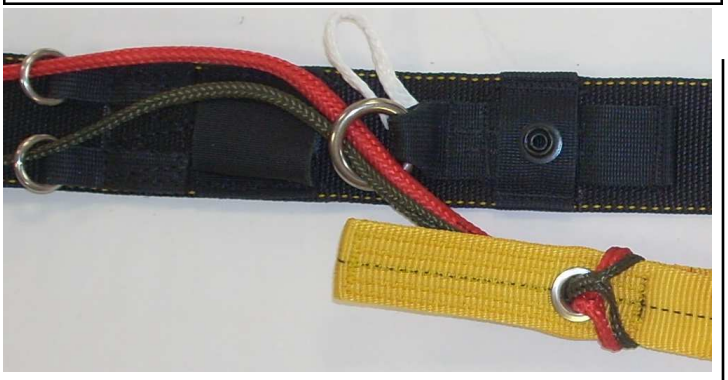


Tuck the remainder of the main steering toggle into the lower keeper. Slide the removable elastic up as shown above. Note: the white riser loop is not used when packing a canopy that is not packed in half brakes.

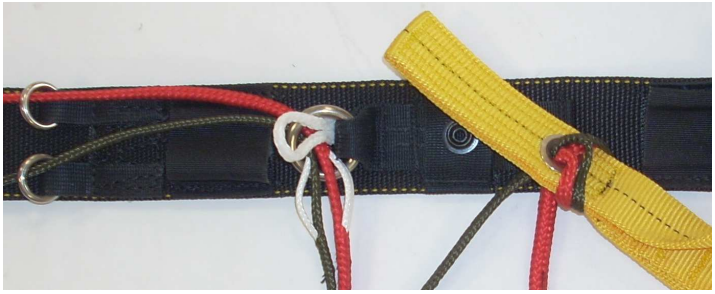
Repeat the steps for the other riser.

7.2 Stowing the Main Steering Toggles Single Steering Toggle.

Follow these instructions when using only a <u>Single</u> Main Steering Toggle.



If your tandem main canopy has separate brake lines for dual steering/flare toggles and you wish to use a single toggle, attach both the steering and the flare lines to the yellow steering toggle. See 4.5, "Installation of the Main Canopy Steering Toggle."



If your canopy is packed with the brakes set, pull the brake lines down through the large keeper ring until you come to the cat's eye finger traps on the brake lines. Run the white riser loop through the large keeper ring on the riser.



Place the white riser loop in the steering and flare lines.



Insert the top of the steering toggle through the white riser loop and into the top toggle keeper.



Tuck the remainder of the main steering toggle into the lower keeper. Slide the removable elastic up as shown above.

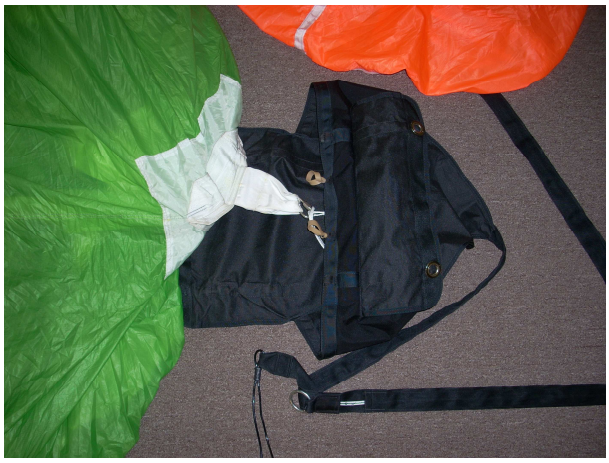


Stow the excess brake line in the elastic on the back as shown. Repeat the steps for the other riser.

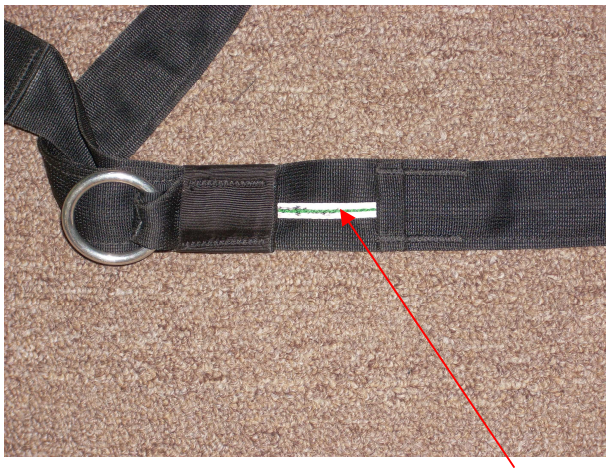


If your canopy is not packed in brakes, insert the top of the steering toggle into the top toggle keeper, and tuck the remainder of the toggle into the lower keeper. Slide the removable elastic up as shown above. The white riser loop is not used.

7.3 Arming the Drogue.

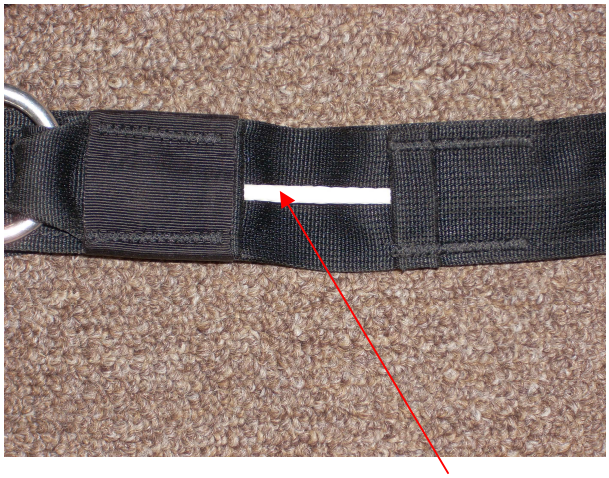


Remove any twist in the drogue bridle or center lines and place main deployment bag close to the drogue attachment point of the main parachute on the top skin.



Extend the drogue bridle until it is at full extension, the center-line is tight, the bridle window shows a **green line** and there is no excess center-line between the bag and the main parachute.

The drogue is now armed.



CAUTION: THIS WHITE LINE INDICATES THAT THE DROGUE IS **NOT** ARMED!!

7.4 Flat Pack Method of the Main Canopy.

Read and follow the instructions for stowing the main steering toggles in **Chapter 7.1 or 7.2.**



Grasp the rear line and control line groups in the **LEFT** hand and the front line groups in the **RIGHT** hand.

Walk towards the parachute, leaving the slider at the top of the risers, separating the line groups as you go.

Once at the stabilizer edge, shake the parachute from side to side.

While maintaining control of the line groups, lay out the parachute in front of you and away from the harness/container assembly.

Maintaining line tension will help in later steps.



Walk to the top of the canopy and:
Count and flake out the cells leading edges.
Count and flake out the B-line seams.
Count and flake out the C-line seams.
Count and flake out the D-line seams.
Count and flake out the control lines and the remainder of the trailing edge of the canopy.



With tension on the A-line groups, fold the leading edge under the A-line group.



With tension on the A- and B-line groups, fold the B- line section on top of the A-lines.



With tension on the B- and C-line groups, fold the C- line section on top of the B-lines.



With tension on the C- and D-line groups, fold the D- line section on top of the C-lines.



Place the control line group on top of the line groups.

Follow the instructions in Chp.7 for stowing the Main Steering Toggles, appropriate for your canopy.



Separate the tail section, place the right control lines and material on the right side of the pack job, and the left control lines and material on the left side of the pack job.

Bring the slider up to the slider stops and quarter the slider.

Fold the material between the control lines out and away from the center of the pack job.



While keeping the control lines in the center of the pack job, begin wrapping the tail around the canopy. Make sure to include the slider.



Compress the air out of the parachute and continue cocooning the canopy until it is slightly wider than the deployment bag.



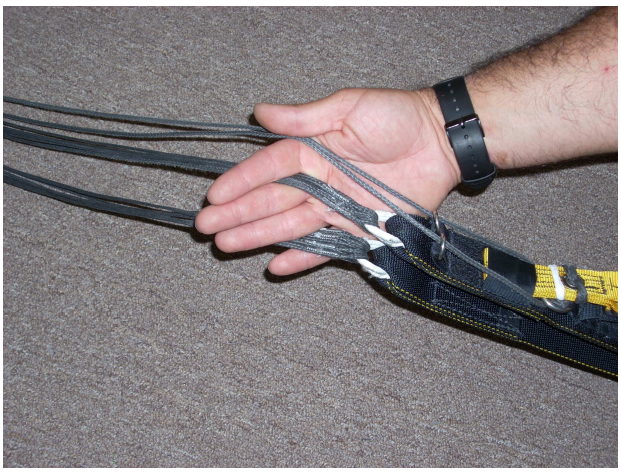
Start "S"-folding the parachute. The first "S"-fold should be approximately 1/3 of the canopy material.



Fold the remaining material on top of the first "S"-fold.
Follow the instructions in Chp.7.6 for placing into the deployment bag.

7.5 PRO-Pack Method of the Main Canopy.

Read and follow the instructions for stowing the Main Steering Toggles in **Chapter 7.1 or 7.2, as appropriate for your canopy.**



With no twists in the risers, place the right front riser line group between the little and ring finger of the **RIGHT** hand.

Place the right rear riser group between the middle and fore finger of the same hand.

Place the control line between the forefinger and the thumb.

Repeat for the opposite hand and line groups.

The slider should be between your body and the parachute.

Walk towards the parachute between the line groups, moving the slider up the lines with you and separate the line groups in your hands.

Upon reaching the parachute, check that the control lines are not twisted around any other line groups.

If so, restart this step or perform another continuity check.

Step outside of the lines, group the lines together in one hand and place this group over your shoulder.

For these instructions, the parachute is over the left shoulder. Switch orientation if using the right shoulder.

With the parachute in the correct orientation (nose towards the container, tail away from the container) start counting the 9 leading edge cells out.

Start by slightly turning the parachute over your shoulder, resting the right outside cell against your body.



Count each cell and grasp this group.

Push the nose through the center of the parachute and pull it briskly back out.
Place the tip of the leading edge between your knees and hold the material in place.



Starting with the A-line group, count the 5 right cells between the A- and B- line attachment points and flake the material away from the center of the parachute.



Count the 5 right cells between the B- and C- line attachment points and flake the material away from the center of the parachute.



Count and flake the 5 right cells between the C- and D- lines.



Count and flake the 5 right cells between the D- lines and the control lines / tail.

Repeat this process on the other side of the canopy.

Separate the nose, one half on the side, center cell in the middle and second half on the other side.

Quarter the slider by placing the section between the B-C attachment points away from the center of the parachute and separating the front and rear portions in a similar position.



Slowly wrap the tail around the line groups. Roll the tail carefully. Be sure not to disturb the canopy. Keep the roll tight and make enough turns until the top skin appears tight and able to hold the cocoon shape.



Gently lay the canopy on the floor. Keep the lines tight and do not disturb the pack job.
Carefully lay on the canopy to remove as much excess air out of it as possible.

Do not allow the canopy to bellow out.
After tightening the cocoon to the width of the deployment bag, start to "S"-fold the parachute.



The first "S"-fold should be approximately 1/3 of the canopy material.



Fold the remaining material on top of the first "S"-fold.

7.6 Inserting the Canopy into the Deployment Bag.

The Wings Tandem deployment bag uses an anti-line dump design that prevents the canopy from escaping the bag before the lines are at full extension. This prevents both hard openings and greatly reduces malfunctions.

The bag uses two closing flaps held closed by four locking stows.

Either tandem rubber bands or standard rubber bands may be used to stow the lines. The important thing to keep in mind is to keep control of the line bites. Take as many wraps as needed to keep control of the lines.

To insert the canopy into the deployment bag, place one corner of the canopy stack into the deployment bag, then insert the other corner. Bring the lines up through the center of the canopy and out of the deployment bag.



With the lines from the center of the folded canopy, stow the first two bites of line through the center grommets.



Bring the sub-flap up and over the stowed lines.



Stow the next two bites of line in the remaining grommets.



Continue stowing the lines, alternating back and forth, until approximately 12" remain.

7.7 Closing the Main Container.



With the main parachute secured in the deployment bag, open the main container and remove any debris.

Carefully lift the deployment bag up and over the container. Do NOT twist the lines.

Set the bag into the main container with the lines towards the bottom end of the main container.



Lay the main risers on top of the reserve risers and cover them with the magnetic cover flap.



Close the tuck flap over and into the cover flap as shown.



With the bridle placed at the top right corner, close the **bottom flap** over the D-bag and pass the closing loop through the grommet of the main bottom flap.



Pass the elastic loop through the top grommet and the pull-up cord through the bottom grommet of the **top closing flap**.



Close the **right side flap**.



Close the **left side flap**. Use one of the plastic covered cables to secure the loop.



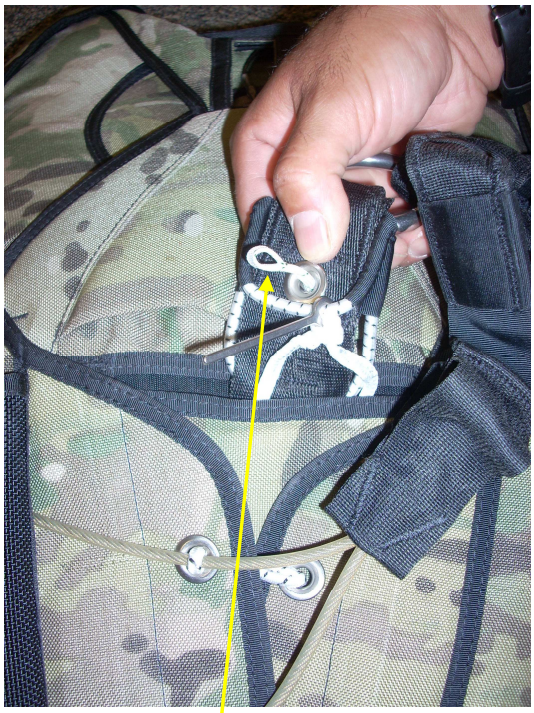
With the white elastic loop through the right then the left side flap pass the other plastic covered cable through the elastic loop.

Tuck the excess of both of the cables under the left side flap.

7.9 Assemble the 3-Ring Drogue Release System.



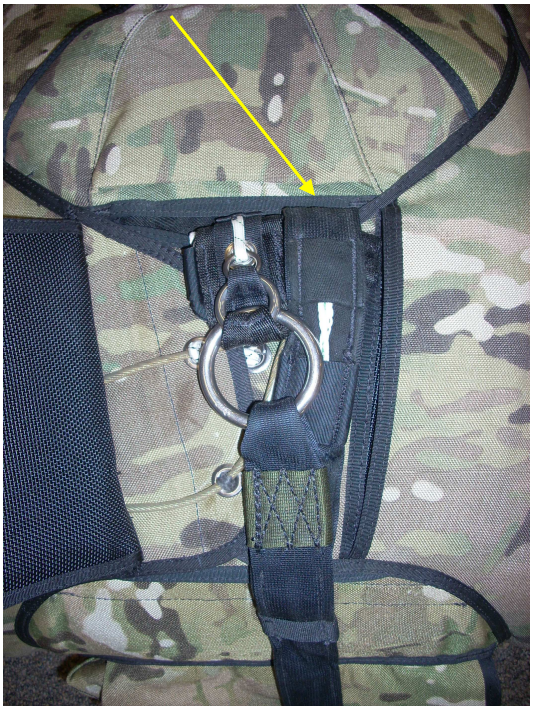
Assemble the 3-rings.



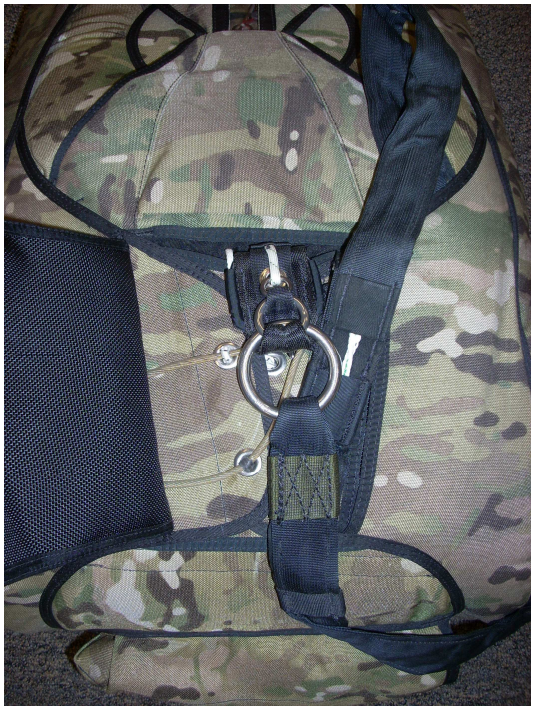
Pass the T-IIA loop through **only** the smallest ring, then through the grommet.



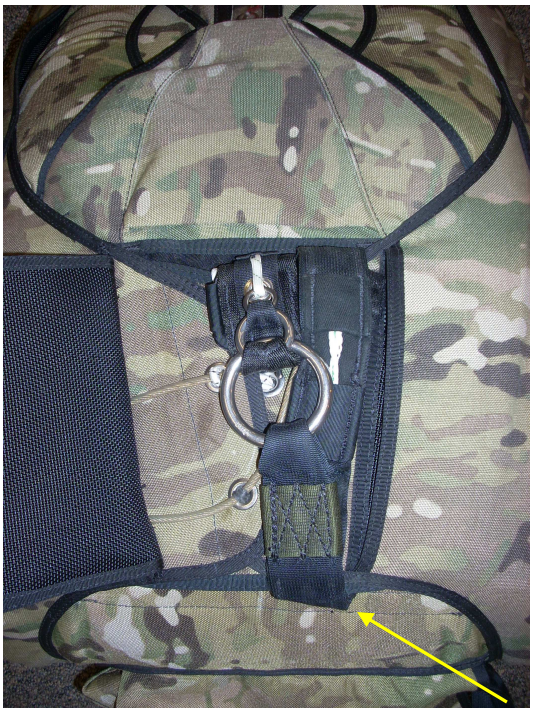
Secure the loop with the straight pin and tuck the pin end under the tape as shown.



Tuck the drogue bridle under the top right side flap.



Should look like this.



Tuck the drogue bridle under the bottom of the right side flap.



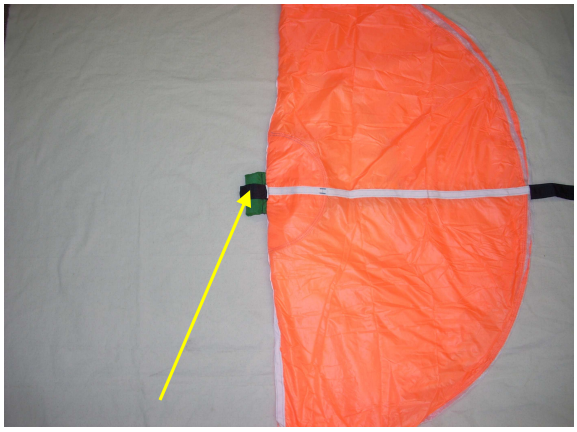
Close the pin cover flap.

Note: If the pin cover flap does not seat properly and comes loose, this is an indication that the closing loop is too long. If you see this, open the container, shorten the closing loop and re-close.

7.10 Stowing the Drogue into the Pouch.



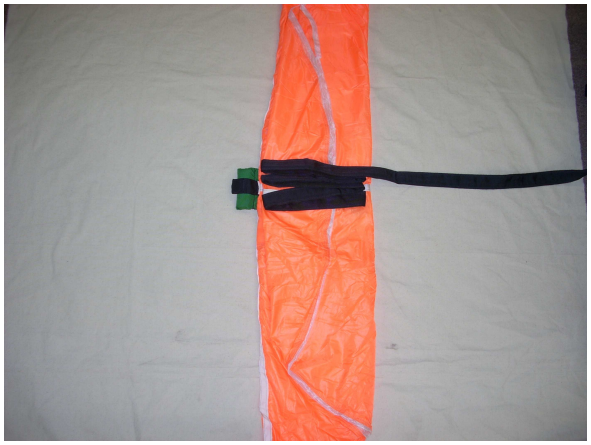
With no twist in the bridle, lay the drogue out flat on its top, mesh side up, handle down.



Fold the drogue in half with the bridle exiting the bottom of the curved side and the magnet facing up.



"S"-fold the drogue into thirds over the center.



"S"-fold the bridle on top of the folds.



Fold the drogue into 1/3's to the middle of the drogue.



Fold the drogue over the "S"-folded bridle.



Place the drogueinto the pouch.



Tuck the T-III tab w/magnet into the pocket of the drogue pouch.



The **Wings Tandem** is now ready for use.

Chapter 8

Donning the Student Harness

Begin by loosening all of the adjustable straps.



Help the student step into the leg straps and position the harness onto the student's shoulders.



Align the main lift webbing straight down from the shoulders to the hips. Fasten the chest strap and belly band.



Position the adjusted chest strap so that the attached shoulder pads fit comfortably.



Position the hip rings over the front of the hip bone, keeping the rings well forward.



Position the adjustable leg pads.



Snug the leg straps, making sure that the excess strap is even.

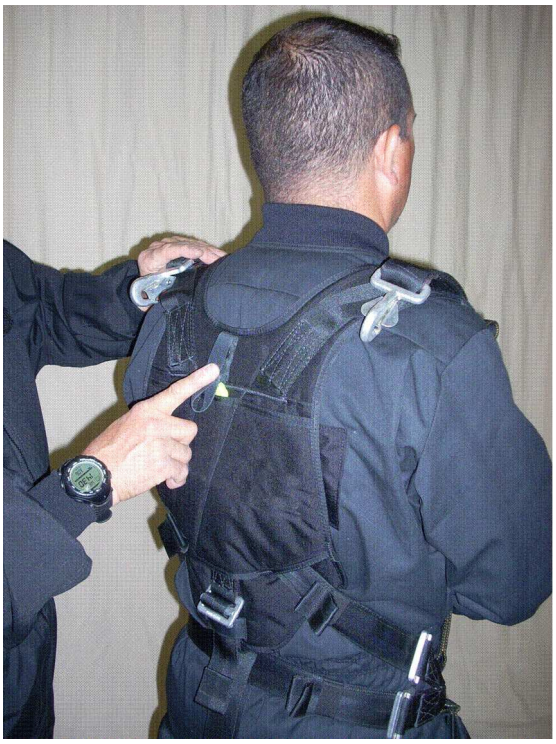


Take the slack out of the back strap. Make sure that it sits above the buttocks.

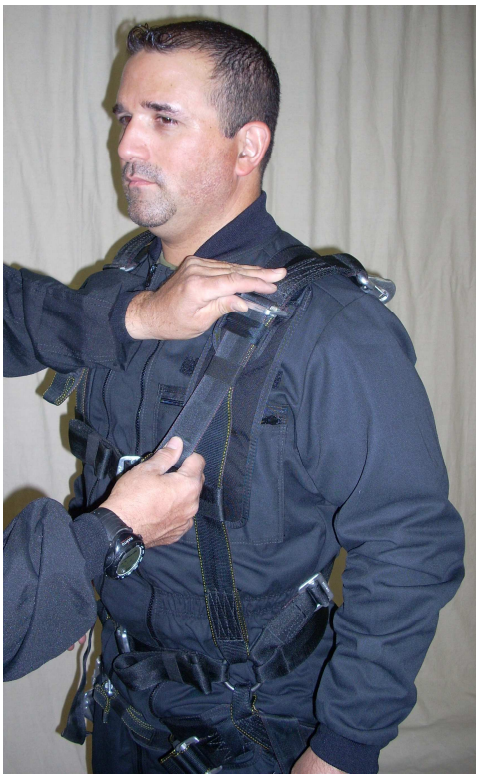
The back strap and the belly band should work together to fit like a belt.



Place the top friction adapter forward over the student's clavicle.



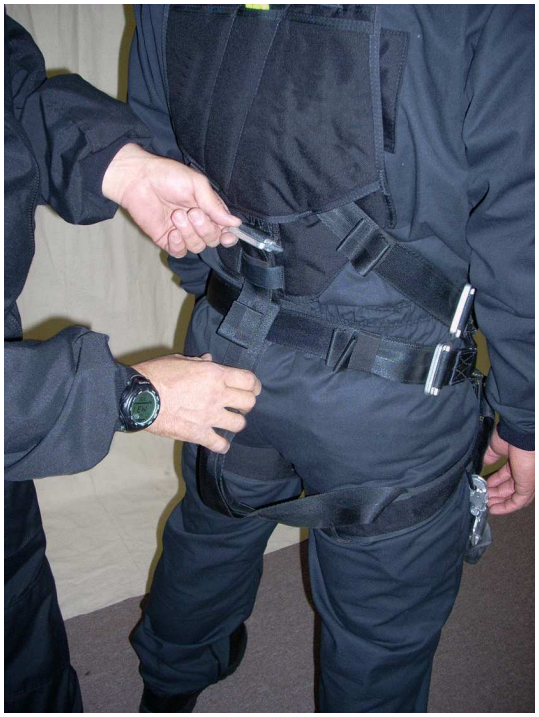
Confirm that the harness yoke sets just below the back of the neck.



Take out the slack from the main lift webbing.



Take out the slack from the back laterals.



Make sure the "T" strap is loose enough to allow the student to lift his/her legs for landing.



Check the fit by lifting the harness at the shoulders. You should be able to lift it no more than one inch.

Stow all excess straps.



The properly fitted student harness. Note the hook knife in its pouch on the back of the student harness. A hook knife should always be carried on every tandem sky-dive.



Chapter 9

Donning the Wings Tandem Main Container/Harness

IMPORTANT: Inspect the complete system before donning the Wings Tandem.

9.1 Donning the Wings Tandem Main Container/Harness



Begin by loosening all of the adjustable straps.

Place container onto the shoulders.

Step into the leg straps, or if applicable, snap the B-12 quick ejector snaps. Be sure that the leg straps have no twists in them.

Tighten the leg straps.

Adjust the main lift webbing to fit snugly.

Thread the chest strap through the friction adapter. Pull the chest strap snug and stow the excess in the elastic keeper.

Stow all excess straps in the elastic keepers.

Be certain that all handles are properly seated and accessible.

9.2 Connecting the Student to the Parachutist in Command



Hook the lower attachment snaps of the student harness to the lower attachment rings of the dual harness / container system.



Pull the adjustable straps of the lower connectors snug.

Stow the excess straps.



Attach the upper attachment butterfly snaps of the student harness to the upper attachment rings of the dual harness/ container system.

Pull out any slack on student main lift web.

Stow the excess straps with the elastics.



Check handles, attachment points and student harness before exit.

Ready to Skydive!

9.3 Examiner Emergency Handles.

Follow these Instructions when using the Examiner's Emergency Handles.

Prior to donning the harness/container or student harness, attach the examiner emergency handles. Place the pockets on the student harness, as shown in Chapter 4, page 15.

Attach the snap shackle of the examiner's emergency cutaway handle to the yellow cables of the main cutaway handle.

Attach the snap shackle of the examiner's ripcord handle to the stainless steel cable of the reserve ripcord handle.

Place the emergency handles in the top attachment point of the harness/container. Instruct the parachutist in command to keep control of the handles.

During hook-up, pause the standard hook-up procedure just before attaching the top hooks. One side at a time, the parachutist in command hands one handle to the examiner, then attaches the top attachment point. The examiner places the handle into the pocket, then visually assures the emergency handle line is clear. Once the emergency handle is in place, repeat for the other side.

When both emergency handles are in place and secure, and the top attachments are fastened, continue the standard hook-up procedure.

Check <u>all</u> handles, attachment points and the passenger harness before exit.

Chapter 10

Operation of the Wings Dual Harness / Container System

This manual offers only an overview of operating the Wings Tandem. For complete guidance, see the Wings Tandem Operations Manual available from the factory, or for free download at WingsTandem.com

10.1 Deploying the Drogue.

The drogue is easily deployed in much the same way as throwing a pilot chute on a solo rig. Reach with the right hand back towards the bottom of the main container, grab the soft handle and pull out with a swift and smooth motion. Release the drogue handle as soon as you reach arm extension.

10.2 Drogue Release.

After the drogue has been deployed and **ONLY** after it has been deployed, the main parachute is able to be deployed.

This is accomplished by reaching to the right hip, grabbing the main drogue release handle, or the **right** hacky handle and pulling it to full extension (about 6"-8"). Since the right hacky handle is retractable it is not necessary to hold onto the handle after use.

The main parachute may also be deployed by pulling the secondary drogue release handle, or the **left** hacky handle. The left hacky handle is also retractable and should be pulled 6"-8" to release the drogue. Release the hacky after pulling it.

10.3 Main Parachute Release.

In the event of the main parachute not deploying properly, it may be preferable to release or "cutaway" the main parachute.

The main parachute release handle comes in two styles: a "pillow" style, and a "loop" style. Both use Velcro to secure it to the main lift webbing pocket.

A cutaway is accomplished by pulling the main parachute release handle, which is located on the right main lift webbing below the 3-ring release assembly.

The handle should be grasped firmly in the right hand and peeled out and upward to separate the Velcro. In a swift and smooth motion, immediately pull the handle down and away from the body to arm's length.

10.4 Reserve Parachute Deployment.

There are two styles of reserve ripcord handles: a stainless steel metal "D" ring, and a loop style. All are secured with Velcro. To deploy the reserve parachute, locate the reserve parachute ripcord handle on the left main lift webbing.

The reserve ripcord handle should be grasped firmly in the left hand with the thumb hooked inside the loop, and peeled out and upward to separate the Velcro. In a swift and smooth motion, immediately pull the handle down and away from the body to arm's length.

10.5 Operating the Examiner Main Cutaway Handle.

The **examiner's cutaway handle** is used if the examiner needs to perform the cutaway procedure.

This is accomplished by pulling the examiner's cutaway handle located on the Student harness **RIGHT** upper attachment webbing.

The handle should be grasped firmly in the right hand and peeled out and upward to separate the Velcro. In a swift and smooth motion, immediately pull the handle down and away from the body to arm's length.

10.6 Operating the Examiner Reserve Ripcord Handle.

The **Examiner Reserve Ripcord Handle** is used if the examiner must perform the reserve parachute deployment procedure.

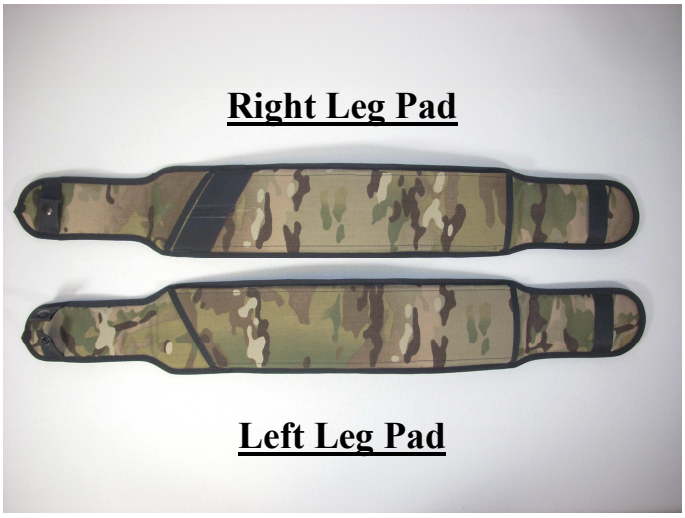
This is accomplished by pulling the examiner's reserve ripcord handle located on the student harness **Left** upper attachment webbing.

The handle should be grasped firmly in the left hand with the thumb hooked in the loop, and peeled out and upward to separate the Velcro. In a swift and smooth motion, immediately pull the handle down and away from the body to arm's length.

Chapter 11

Replacement Parts

11.1 Replacing the Ballistic Reinforced Leg Pads.



The **Wings Tandem** Harness/Container has Replaceable Ballistic Reinforced Leg Pads. **(WT-TD-100-50)**



Shown above is the **Left Leg Pad**.

Begin to replace the leg pads by unfastening the snap button and removing the leg strap from the friction adapter.



Remove the elastic keeper from the leg strap.

Strip the leg pad from the leg strap webbing.

Install the new Ballistic Reinforced Leg Pads.



Feed the leg strap webbing into the new leg pad.



Locate the inner webbing guide at the top of the leg pad, (the end with the button snap).



Pass the leg strap webbing through the guide loop.



Continue to pass the leg strap through the padding and out the other side.



Pass the leg strap webbing through the guide loop.



Be sure to mate the hook Velcro of the leg strap with the pile Velcro attached to the guide loop.



Slide an elastic keeper onto the leg strap.



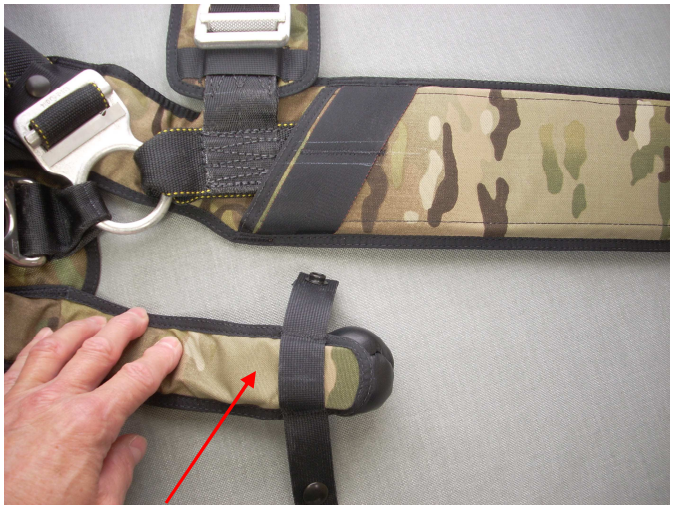
Next, snug-up the webbing, it should allow the pad to come together with the small leg pad.

Close the button snap at the top of the leg pad. It will be wrapped around the main lift webbing.



Pass the leg strap through the friction adapter.

Repeat for the **right leg pad**.



After replacing the right leg pad attach the **right side drogue release handle** and channel to the right leg pad.



Pass the elastic with snap under the tape closest to the small leg pad.



Mate the snaps and tuck under the tape. Installation is complete.

11.2 Replacing the 3-Ring Drogue Riser. (WT-TD-100-60)



Wings Tandem has a replaceable 3-ring drogue riser. **(WT-TD-100-60)**

It is attached to the large ring of the internal diagonal/lateral webbing with a lark's head knot.

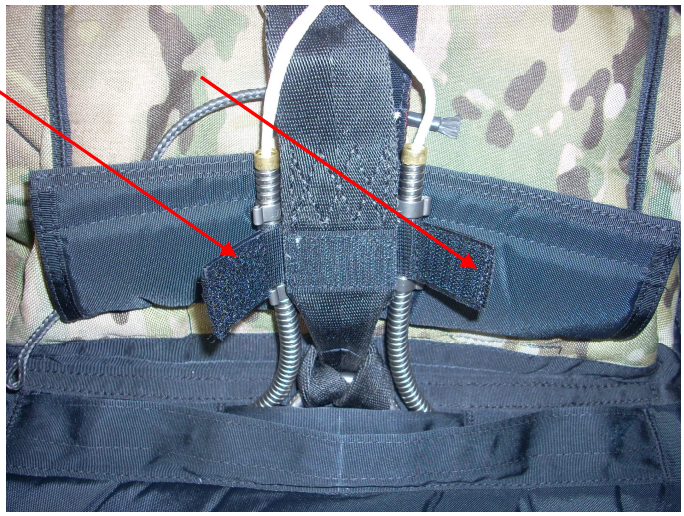


To replace the 3-ring drogue riser, open the pocket on the bottom of the reserve container.

Reach into the pocket and pull out the 3-ring drogue riser.



Pictured above is the back side of the 3-ring drogue riser with the right and left side drogue release housings and release lanyards.



Open the Velcro tabs to release the 3-ring riser.



Bring the knot of the elastic out from between the riser webbing.

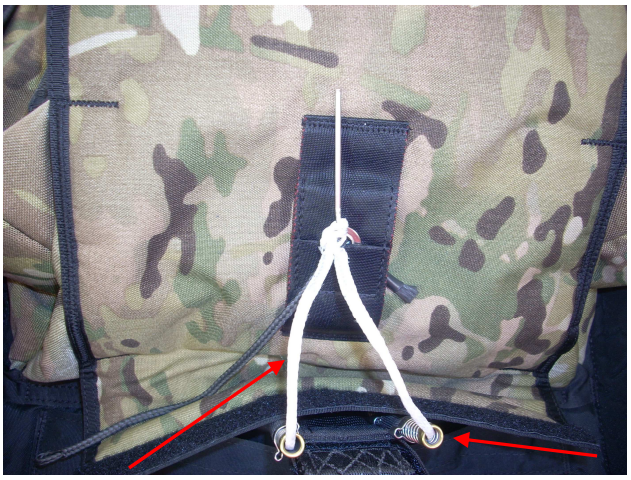


Untie the elastic knot.

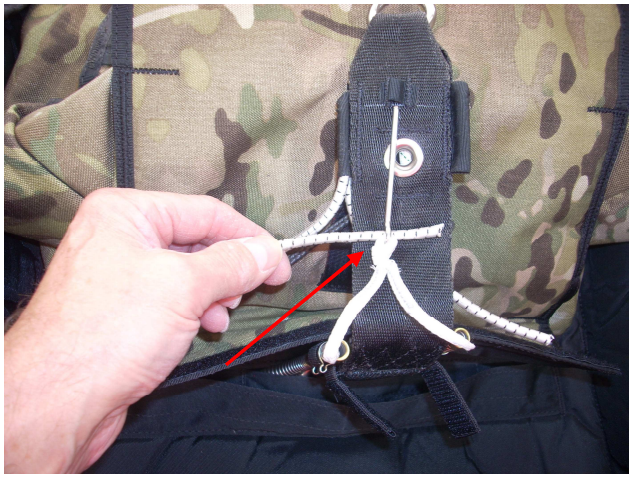




Completely remove the elastic from the channels on the sides of the riser.



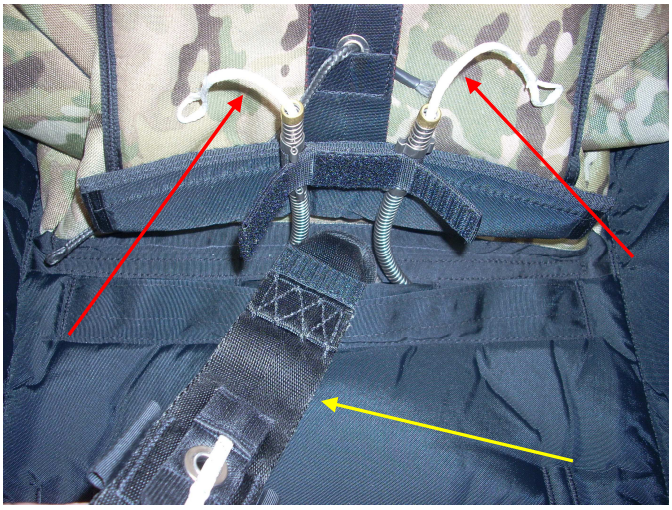
Shown above are the right and left release lanyards and housings.



Remove the elastic from the straight pin.



Remove the straight pin by loosing the knot and backing it out of the loops of the release lanyards.



The drogue riser and release lanyards separated.



Pass the 3-ring drogue riser back through the lark's head knot.





The 3-ring drogue riser removed.

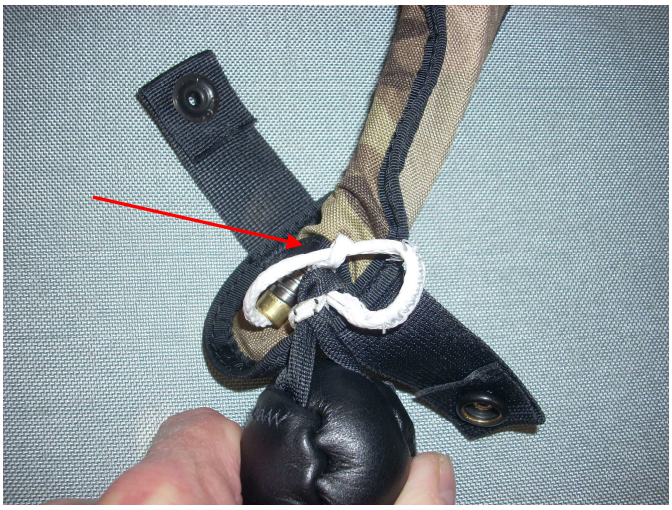
11.3 Removing the Drogue Release Lanyards



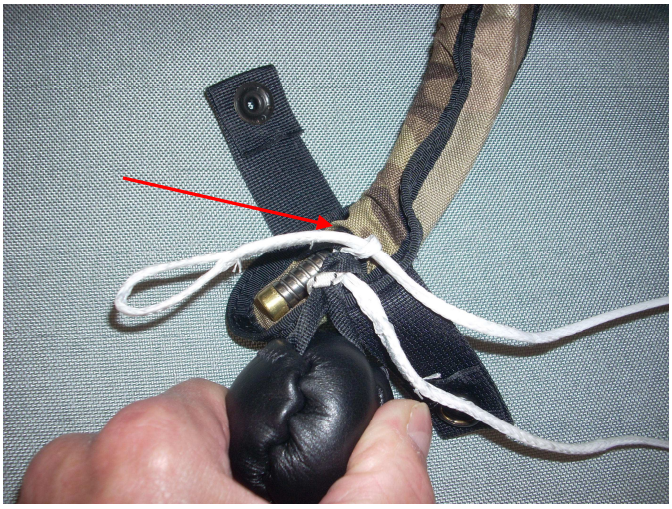
Unsnap the **right side** drogue release handle from the right leg strap.



Pull the **right side** release hacky to find the right release lanyard attachment knot.



Loosen the knot and begin to remove the lanyard.

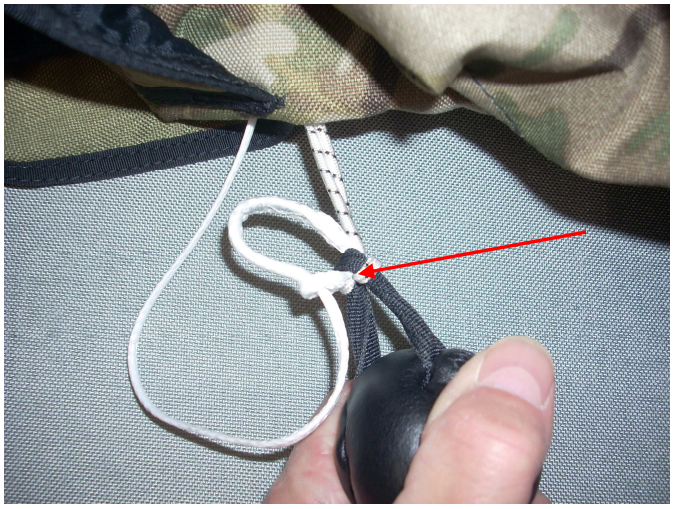


Continue to remove the release lanyard.





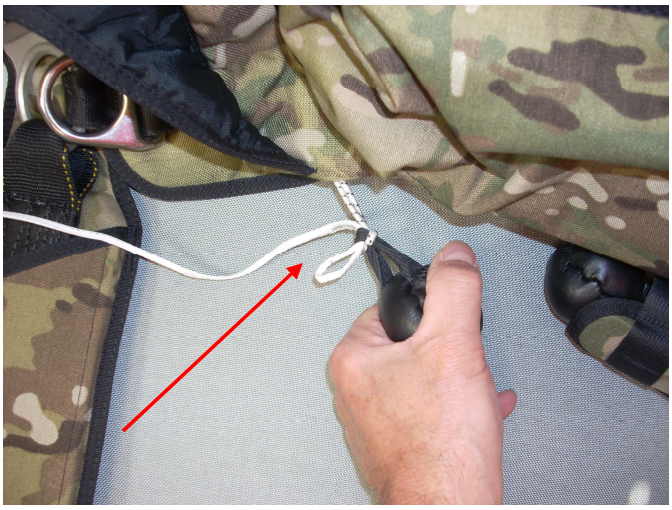
The right release lanyard removed.



Pull the **left-side** release hacky and loosen the knot.



After loosening the knot, remove the left side release lanyard.



Continue to remove the lanyard.



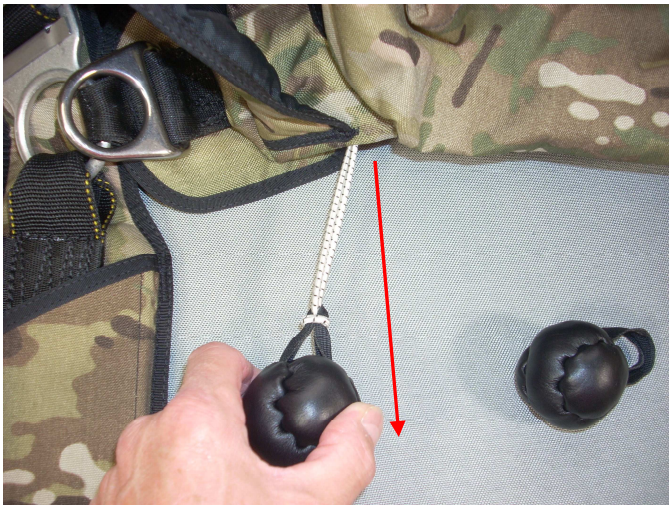
The left side release lanyard removed.

11.4 Removing the Retractable Hacky Connector Loop

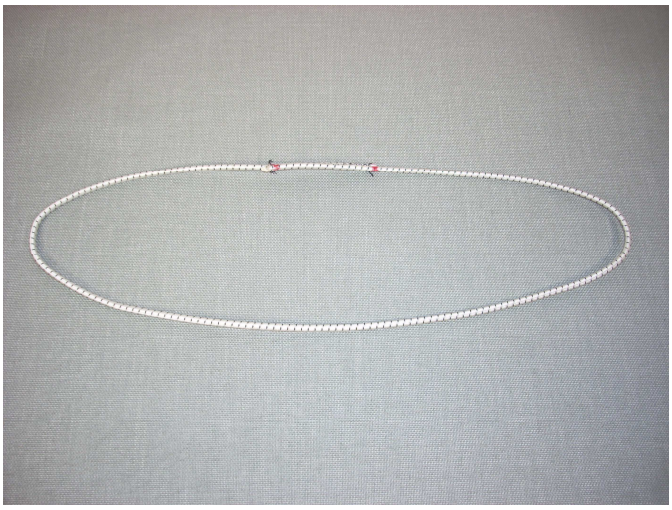


With the right release lanyard removed, stretch the retractable hacky elastic over the right hacky handle.





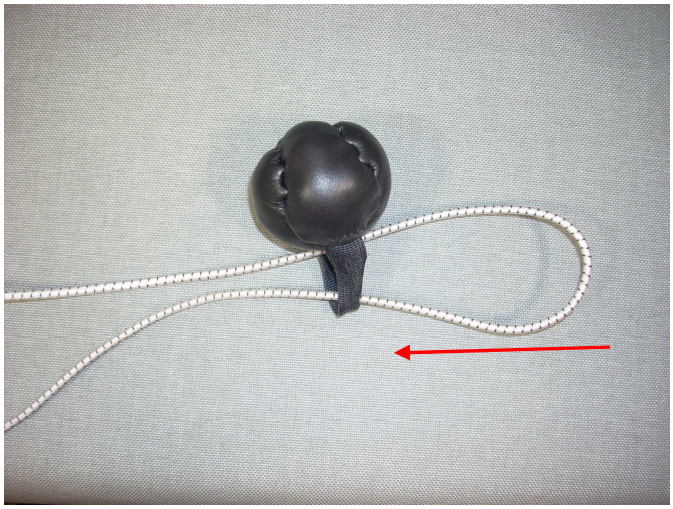
Remove the left side release hacky with the retractable connector loop.



Pictured above is the retractable hacky connector loop.

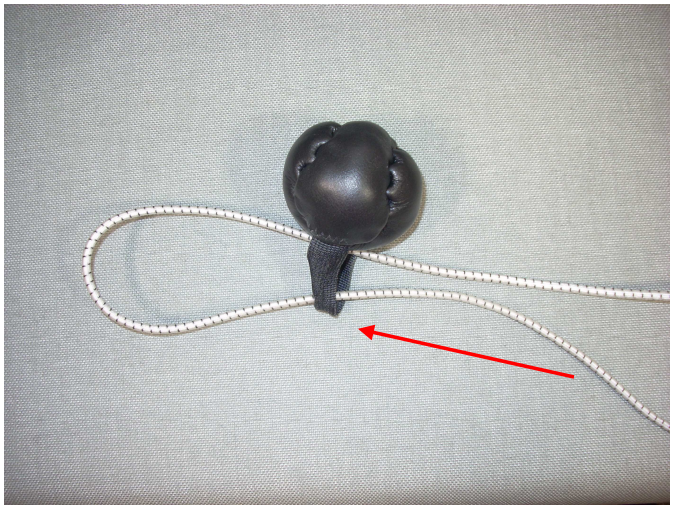


Loosen the knot and remove the hacky connector loop.

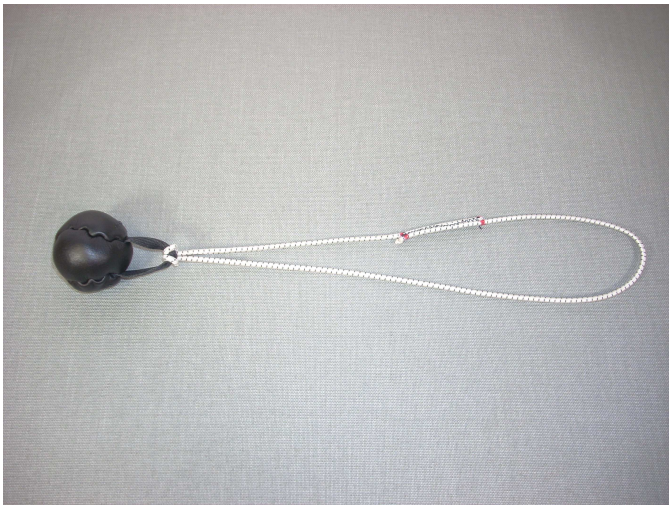


Continue to remove the hacky connector Loop.

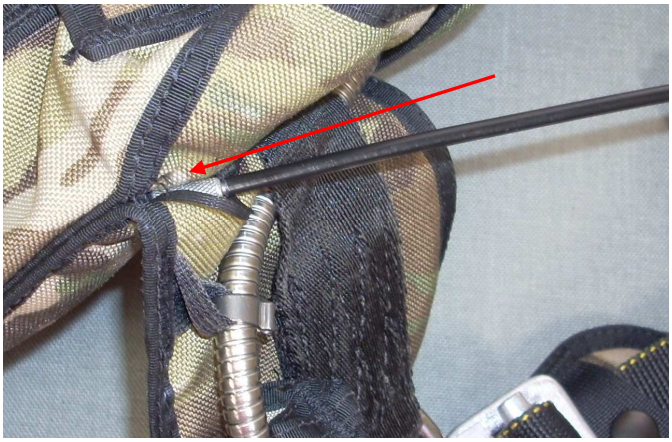
11.5 Replacing the Retractable Hacky



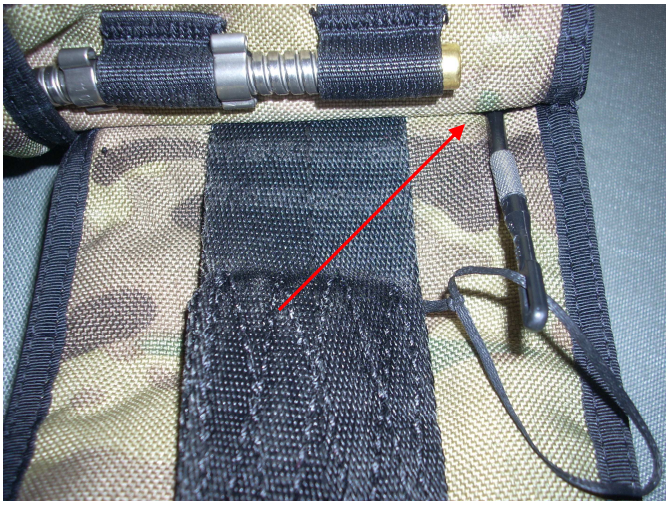
Pass the retractable hacky connector loop through the loop of either drogue release hacky handle. Both hacky handles are the same.



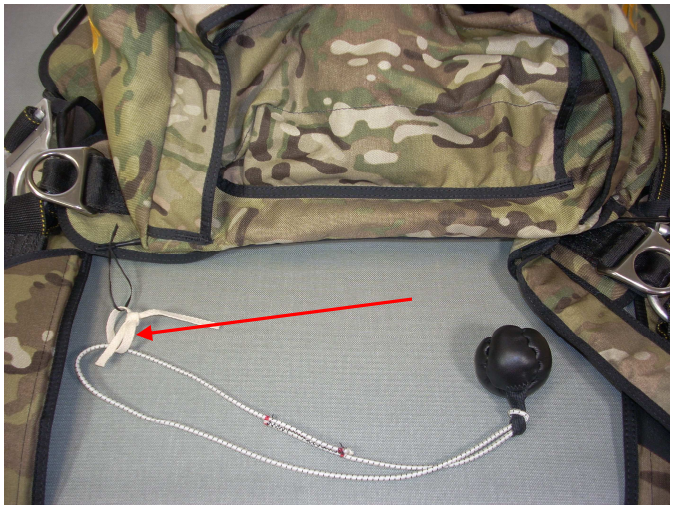
Tighten the knot formed.



Insert a .22 rifle cleaning rod into the opening on the right side of the main container.



Rod should emerge here between the back pad and the main container.



Secure the **left side** hacky handle and retractable connector loop to the rifle rod.

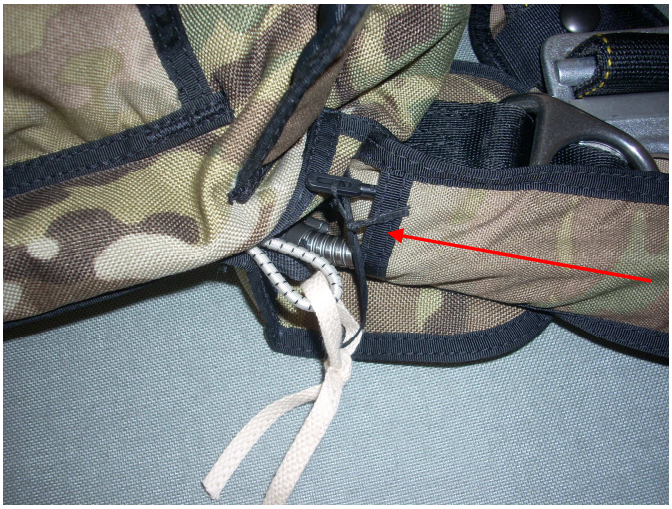


Pull the hacky handle and the connector loop through the container.

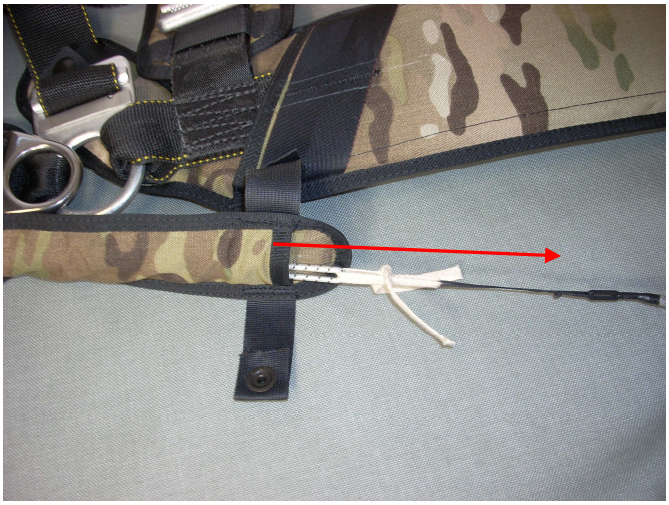


Should look like this.

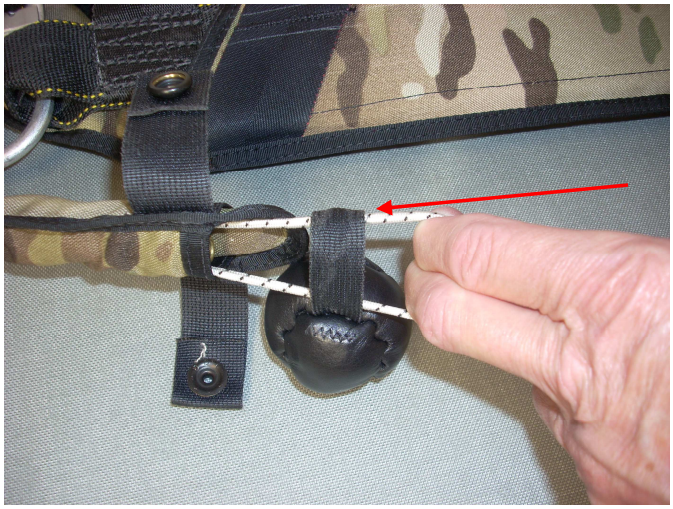




Insert a .22 rifle cleaning rod into the opening on the right side of the handle sleeve. Attach the retractable connector loop to the cleaning rod.



Pull the loop through the handle sleeve.



Slip the hacky handle over the retractable connector loop.

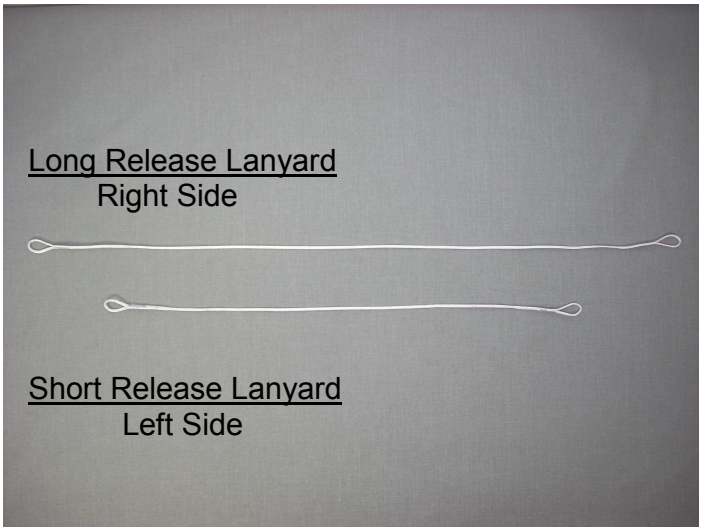


Slip the elastic loop over the hacky handle.



Should look like this.

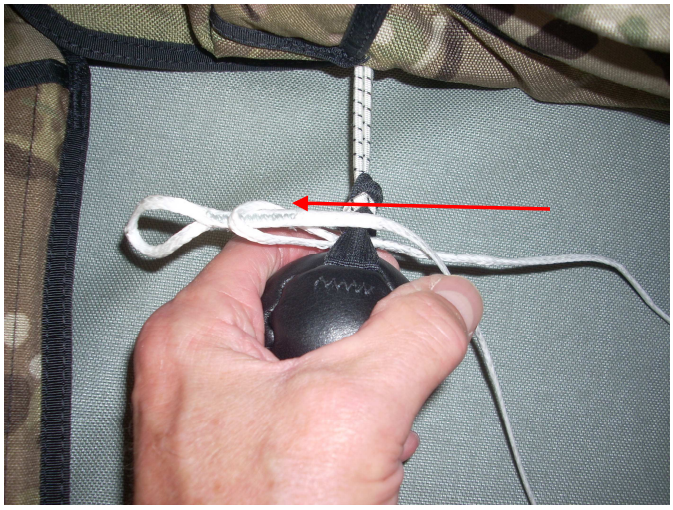
11.6 Replacing the Right and Left Drogue Release Lanyards



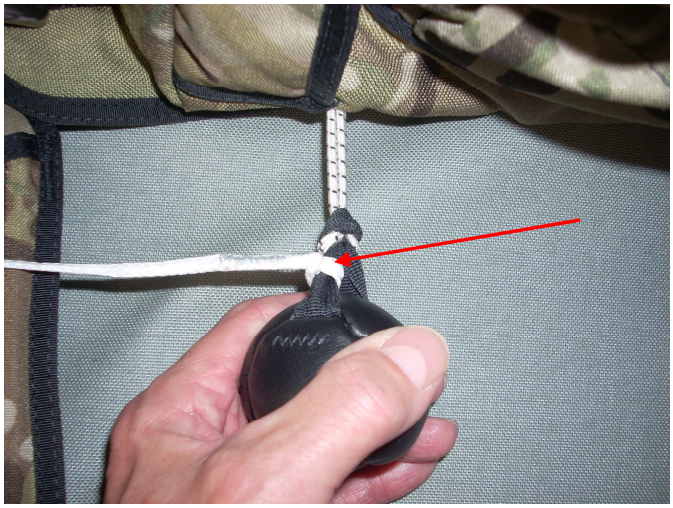
Pictured above are the right and left drogue release lanyards.



To replace the **left side** drogue release lanyard, pull the left side hacky handle and pass the short release lanyard through the Type 4 loop as shown.



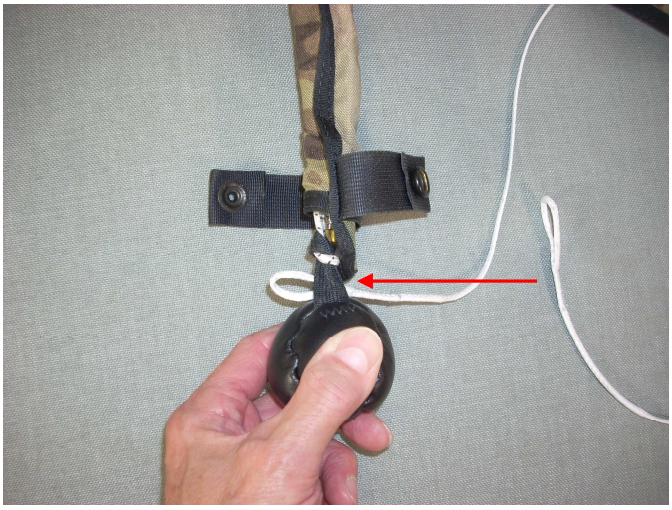
Pass the tail of the short lanyard through the loop of the short lanyard.



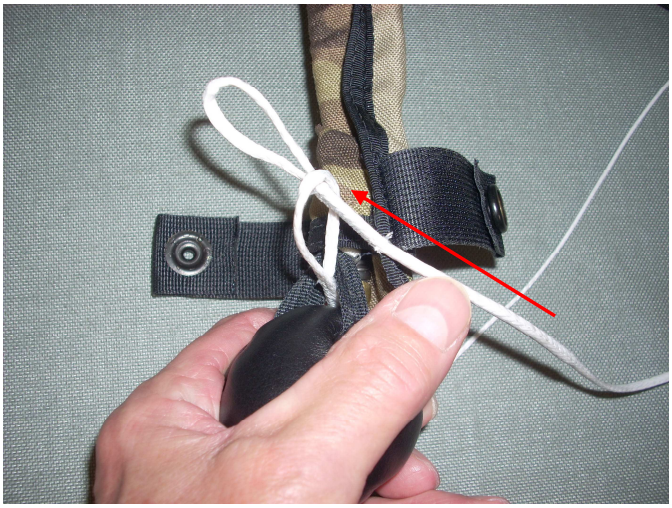
Tighten the knot formed.



Insert the tail of the short lanyard into the housing on the left side of the main container.



Begin to replace the **right side** drogue release lanyard by stretching the right side hacky handle and passing the long release lanyard through the Type 4 loop as shown.



Pass the tail of the long release lanyard through the loop of the long lanyard.



Tighten the knot formed.



Insert the right release lanyard into the housing at the end of the handle channel.

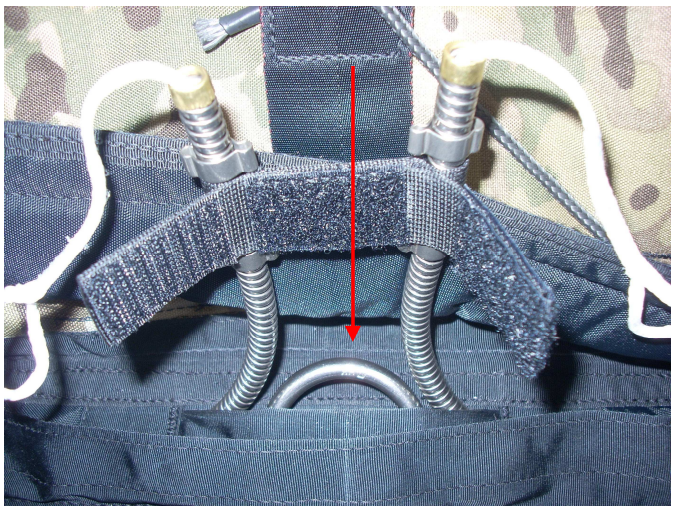


Replacement of the right and left drogue release lanyards complete.

11.7 Replacing the Drogue 3-Ring Riser (WT-TD-100-60)



Pictured above is the drogue 3-ring riser. **(WT-TD-100-60)**



Note the large ring of the internal lateral/ diagonal harness used to attach the drogue 3-ring riser.



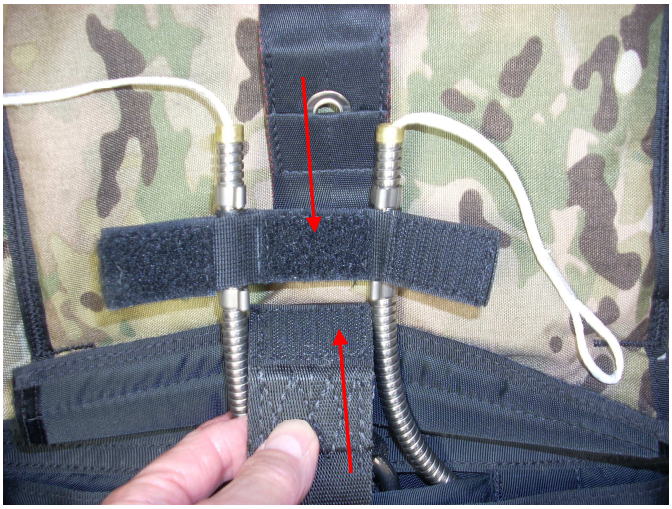
With the Type IIA loop and mini ring facing up, pass the loop end of the 3-ring riser through the large ring of the internal harness.



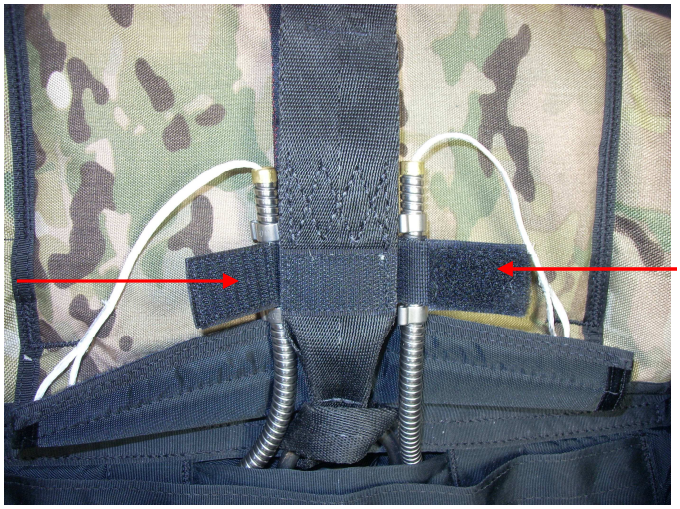
Pass the 3-Ring riser through the loop on the end of the riser.



Tighten the knot formed.



Mate the hook Velcro on the 3-ring drogue riser to the pile Velcro on the release housings.





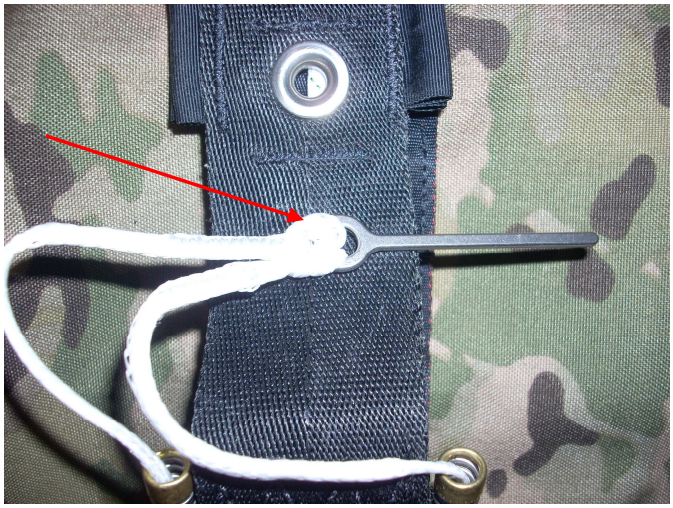
Mate the pile Velcro tab to the hook Velcro of the 3-ring riser, then the hook Velcro tab to the pile Velcro tab.



Pass the Two (2) release lanyards through the eye of the straight pin.

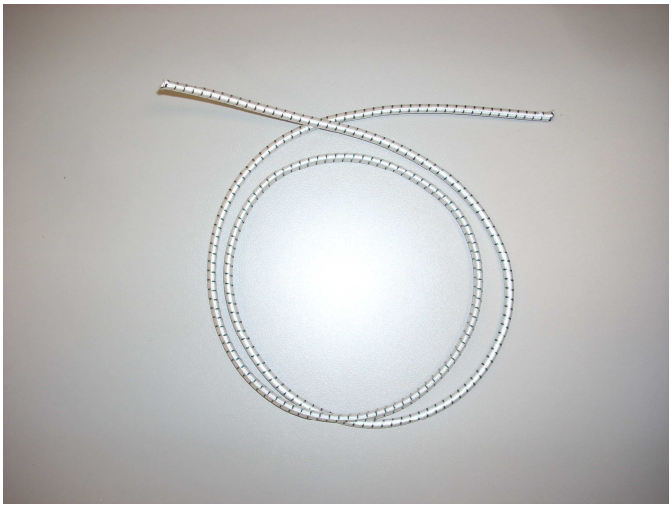


Pass the straight pin through the loops of the release lanyards.

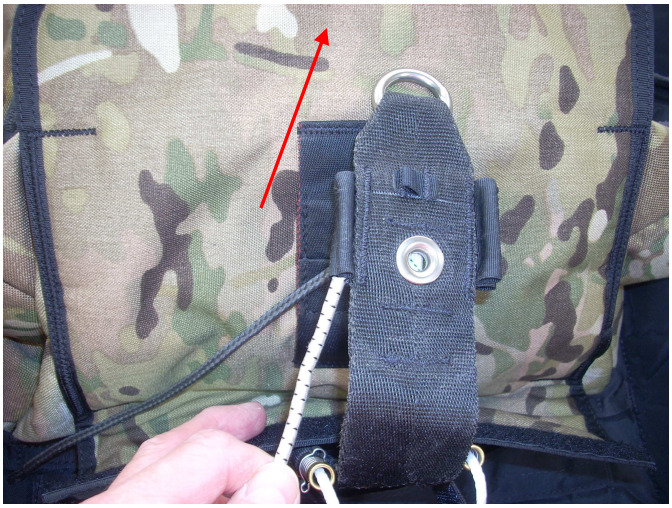


Tighten the knot formed.

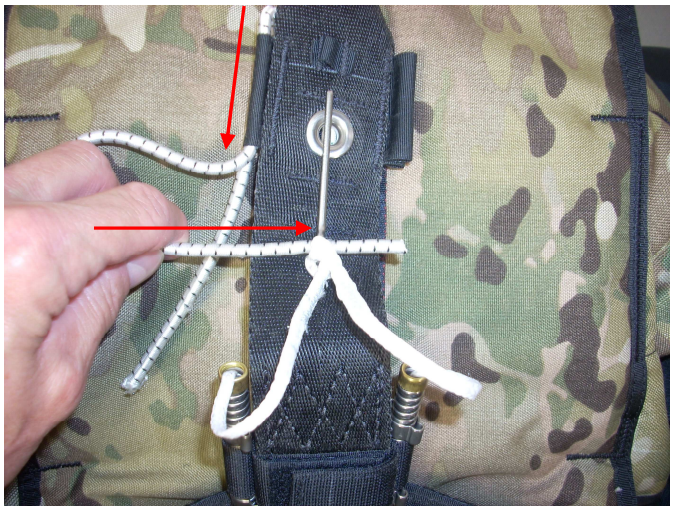
11.8 Replacing the Drogue Release Pin Elastic



Pictured above is the replaceable drogue release pin elastic.



Insert the elastic into the back channel on the 3-ring drogue riser.



Loop the elastic up and into the front channel.

Pass the elastic through the eye of the straight pin.



Insert the elastic into the front channel of the drogue 3-ring riser.



Loop the elastic up and into the back channel.



Pass the tail end of the elastic between the riser webbing and tie a knot. Trim to about 2" (5 cm).



Tuck the knot between the riser webbing.



Pass the 3-ring drogue riser between the pocket and the reserve container.

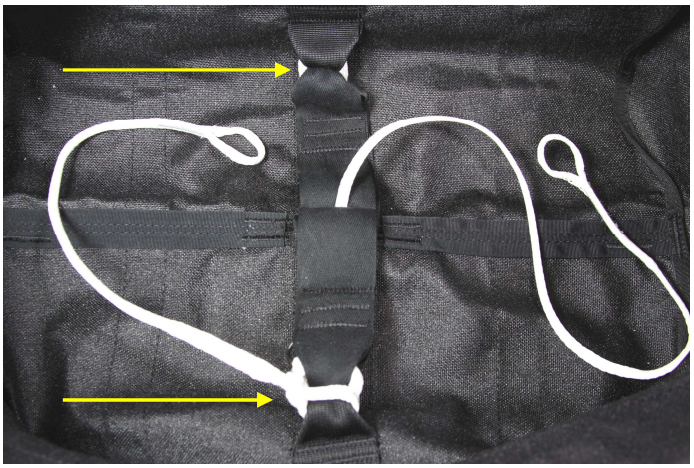




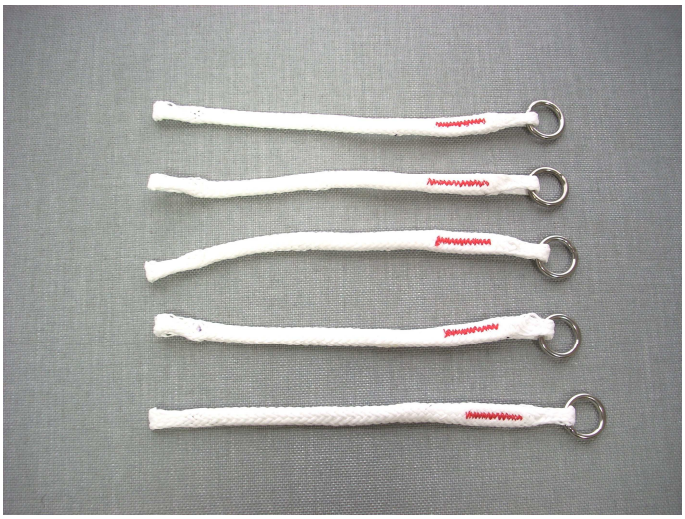
Mate the Velcro of the pocket.

Follow the Instructions on page 3 to reattach the right side drogue release handle.

11.9 Replacing the Drogue Bridle/ Deployment Bag

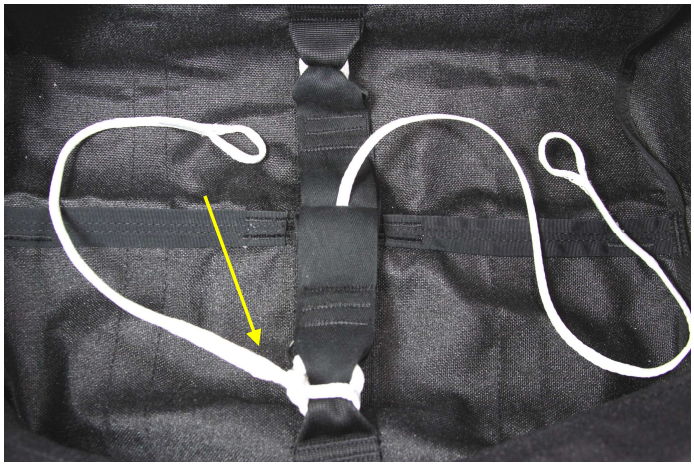


Wings Tandem allows for quick and easy replacement of the drogue bridle and deployment bag by using three (3) 2000# Spectra line soft links.



Part No. **WT-TD-100-80**
Soft Links, 2000# Spectra Line

Pictured above are the 2000 lbs. Spectra line connectors for the drogue bridle to deployment bag assembly.

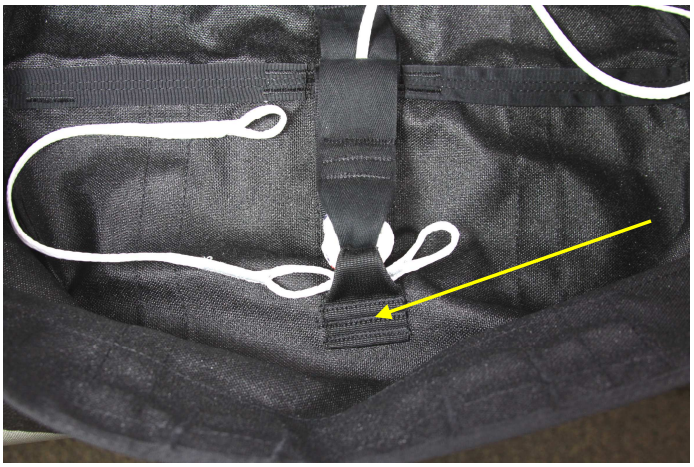


To replace either the drogue bridle or the deployment bag, first remove the safety line.

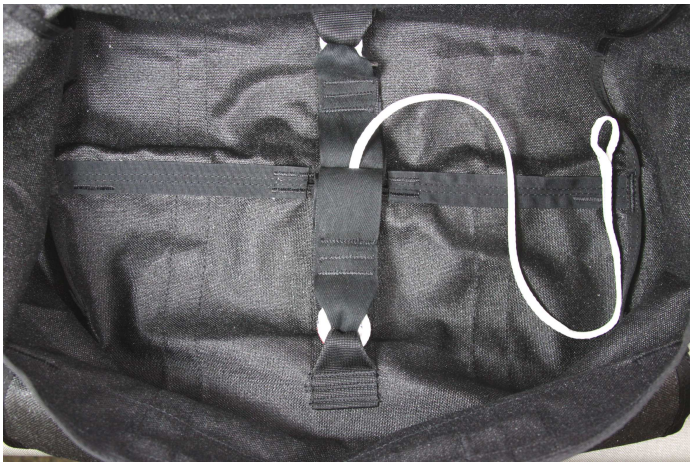


Loosen the knot and back the safety line out of the loop.

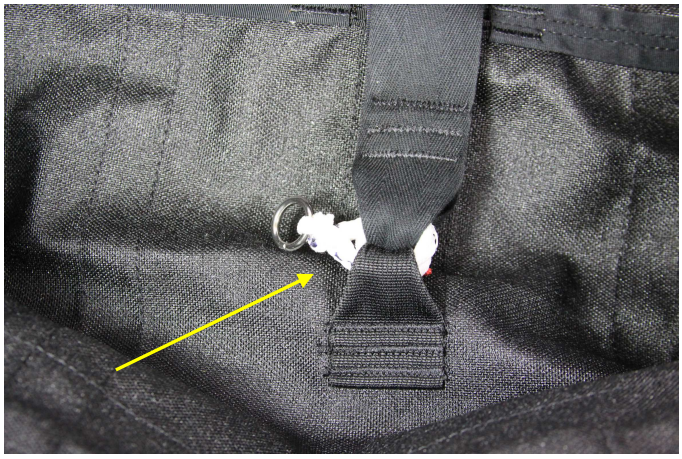




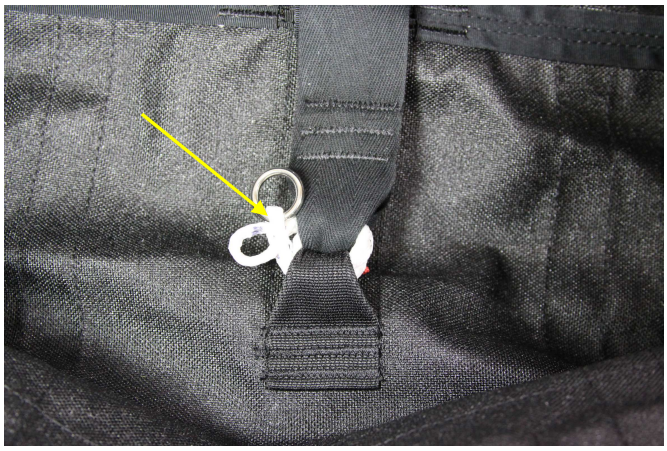
Remove the safety line.



The safety line removed.



Twist the soft link so that the stainless steel mini ring is exposed from under the loop of the deployment bag.



Slide the loop of the soft link over the mini ring and pull the soft link from the loop.

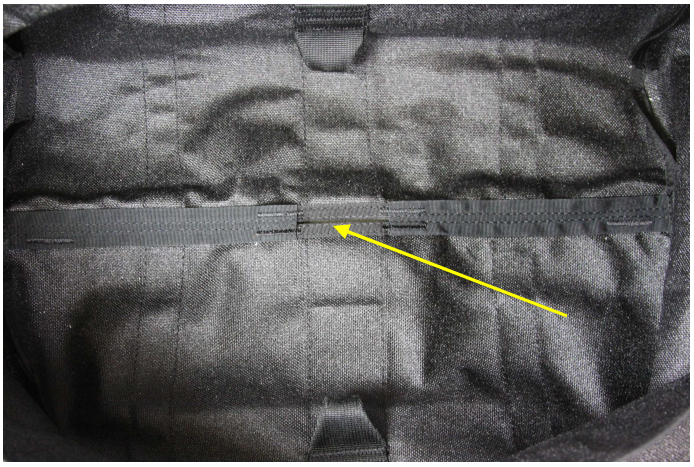


Open the soft link completely.

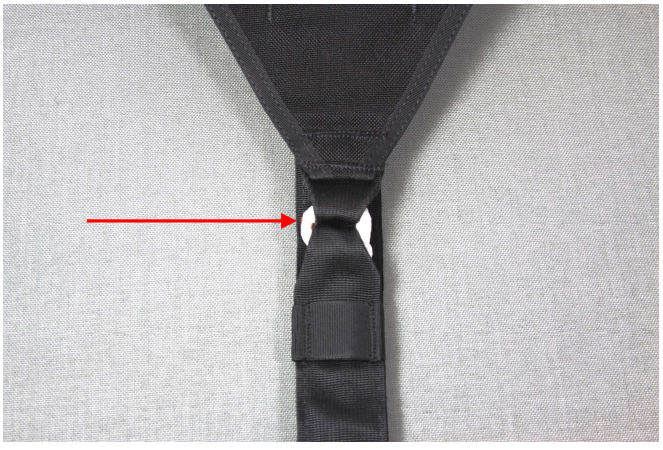


Completely remove the soft link.

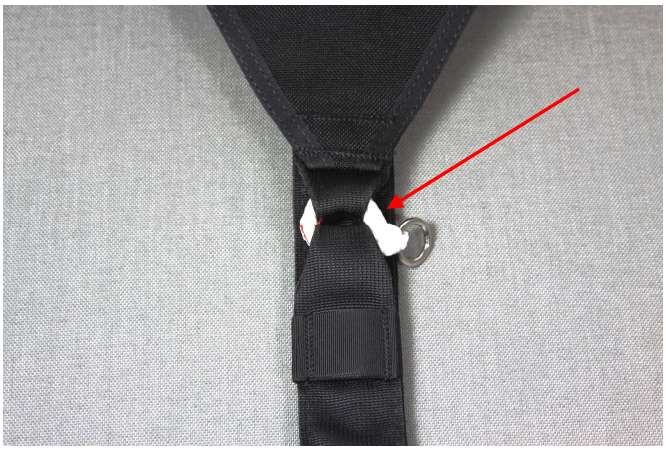
Remove the other soft link the same way.



Remove the drogue bridle through the slot.



Note the bridle and deployment bag soft link connector.



Twist the soft link so that the stainless steel mini ring is exposed from under the loop of the deployment bag and bridle.

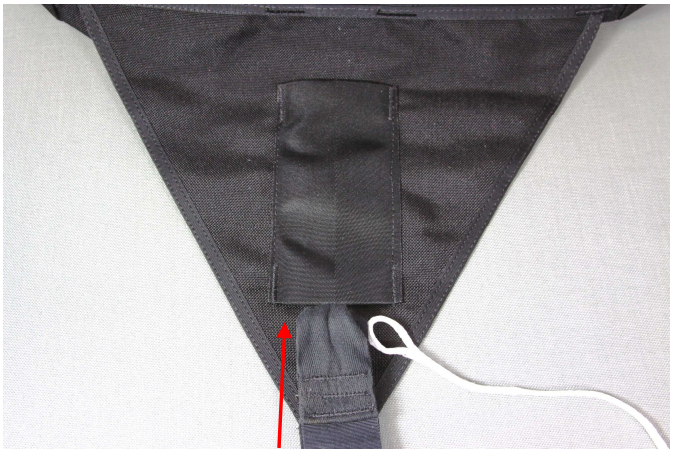


Follow previous instructions for removing soft link.



The drogue bridle removed from the deployment bag.

11.10 Replacing the Soft Links of the Drogue Bridle /Deployment Bag.



Insert the drogue bridle into the channel on the triangle of the deployment bag.

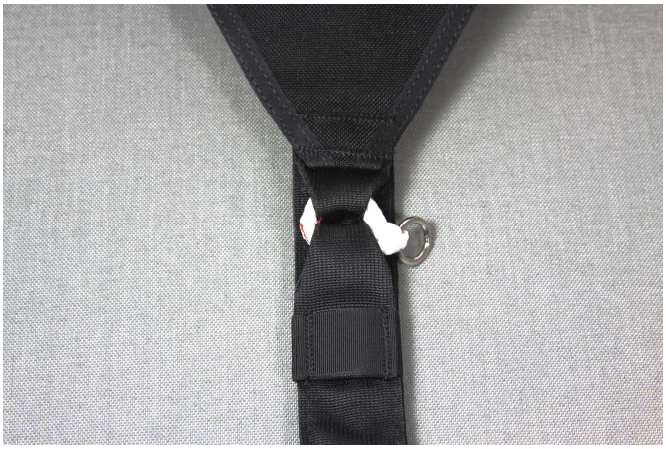


Insert the drogue bridle into the slot on the bottom of the deployment bag.





Pass a soft link through the loops of the drogue bridle and the deployment bag.



Follow previous instructions for replacing soft links.



The drogue bridle and the deployment bag replaced.



The drogue bridle through the slot on the bottom of the deployment bag.

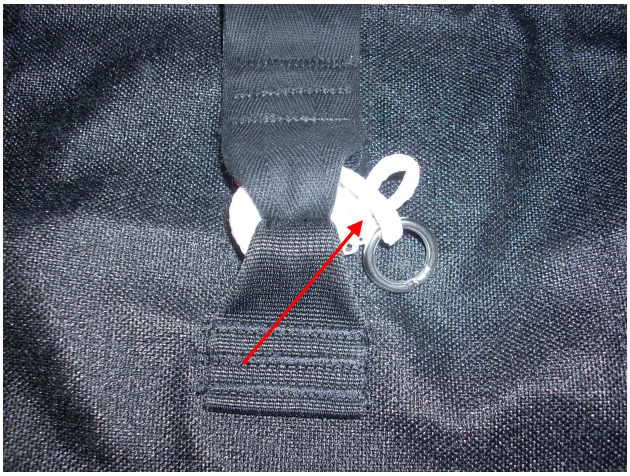


With the drogue bridle inserted into the deployment bag, pass a soft link between the loop of the deployment bag and the loop of the drogue bridle .

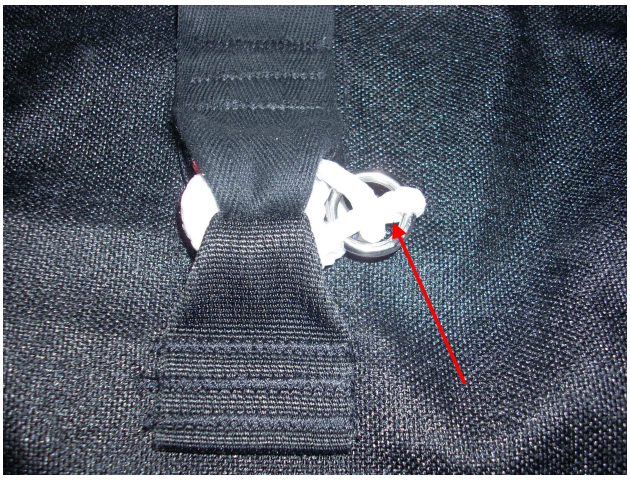


Pass the soft link twice through the loops.





Pass the tail loop through the loop under the mini ring.



Slip the mini ring through the tail loop.

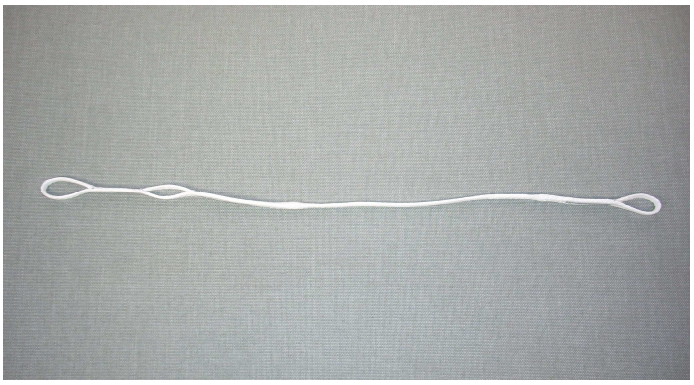


Tighten the knot formed.

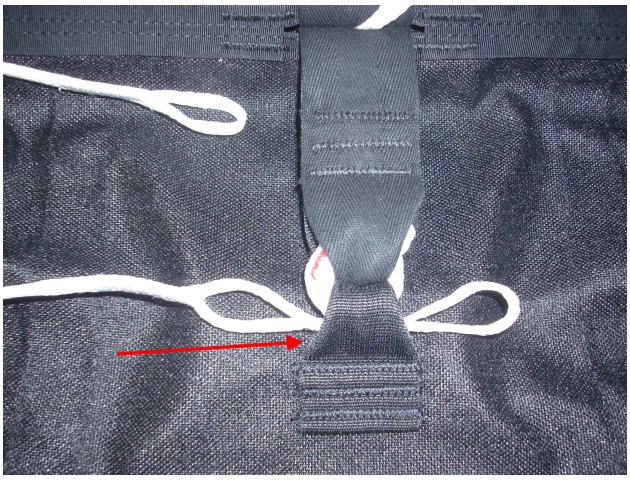


Tuck the mini ring under the loop.

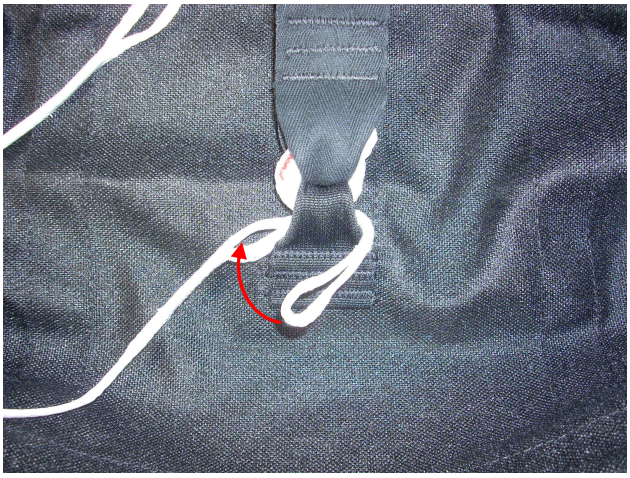
Repeat these steps for the other loops of the deployment bag and drogue bridle.

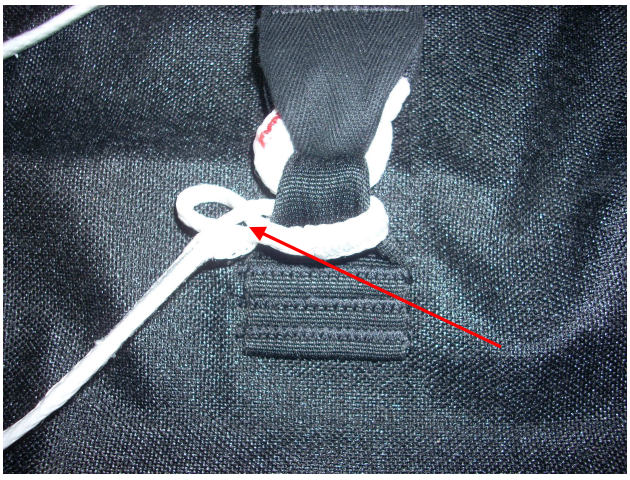


Above is the deployment bag safety line.



To install, pass the end of the safety line with the double loops through either of the loops of the deployment bag.

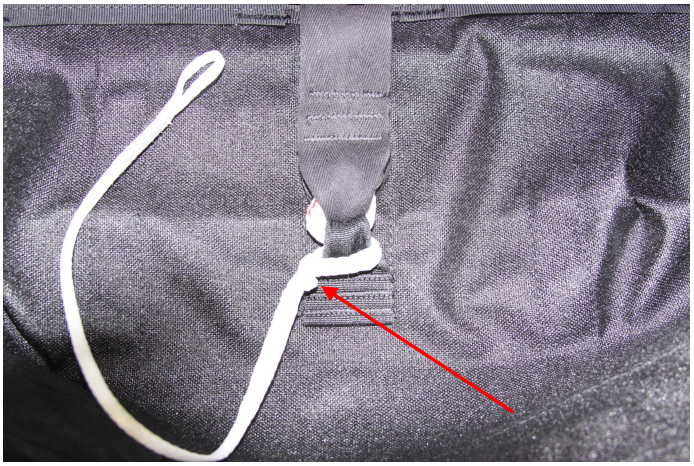




Pass the end of the safety line through the near loop of the double looped safety line.



Pass the tail through the end loop of the safety line.



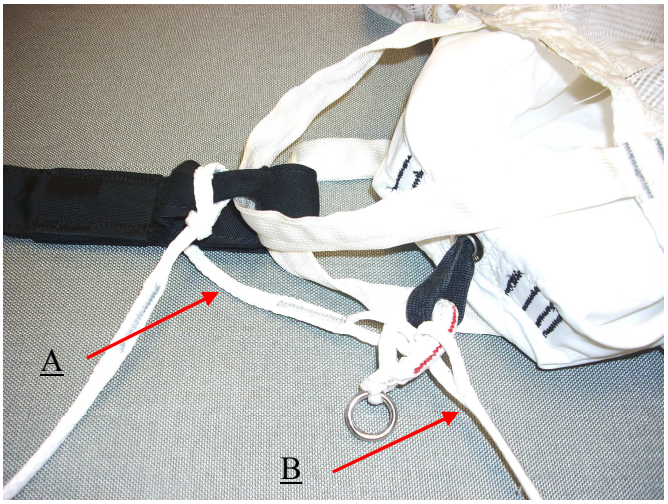
Tighten the knot formed.

Installation of the deployment bag safety line is complete.

11.11 Replacing the Drogue Kill-line and Center Line.

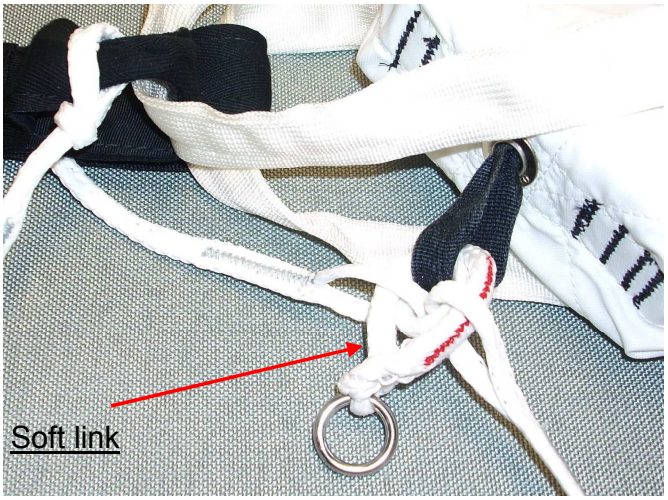
The Drogue Kill Line (A) **(WT-TD-100-46)** and Center Line (B) **(WT-TD-100-48)** on the Wings Tandem are replaceable.

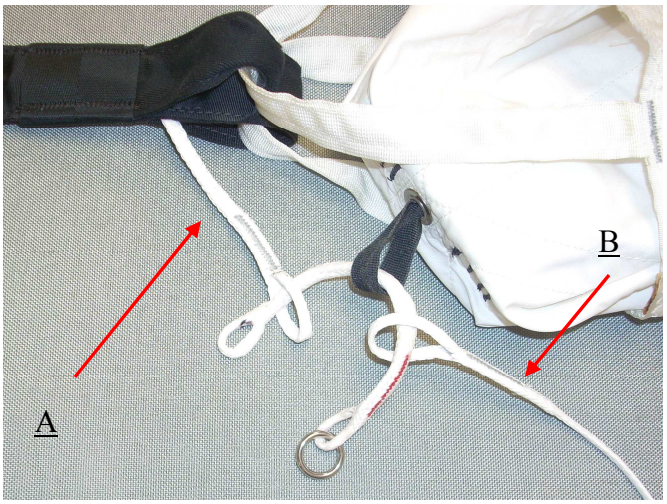
Both are made of #2000 Spectra line.



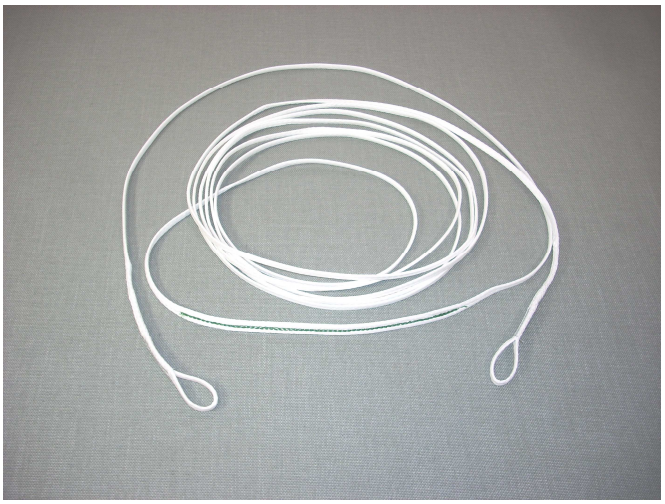
Pictured above are the **(A)** kill-line and **(B)** center line.

Both are attached to the drogue with a soft link. Using any other type of link will cause premature wear.





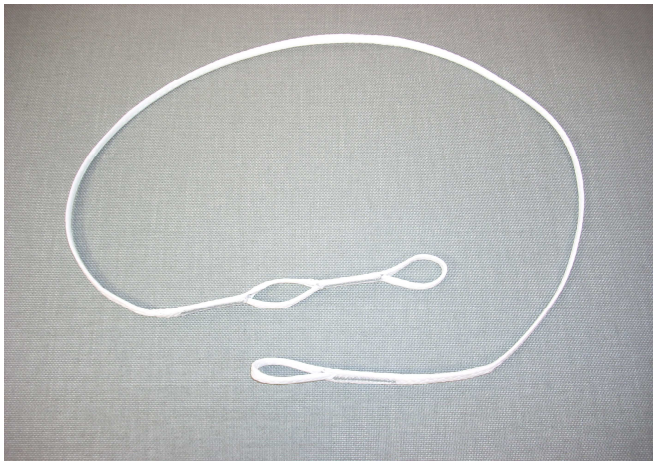
To replace either or both, begin by opening the Soft Link on the under-side of the drogue.



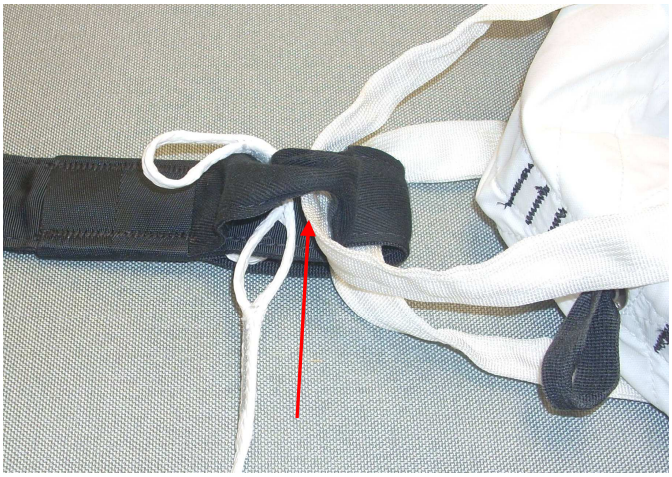
To replace the **drogue kill line:**

A long rod may be used to pull the new line through the bridle, or the new line may be tied to the old line and pulled through the bridle.

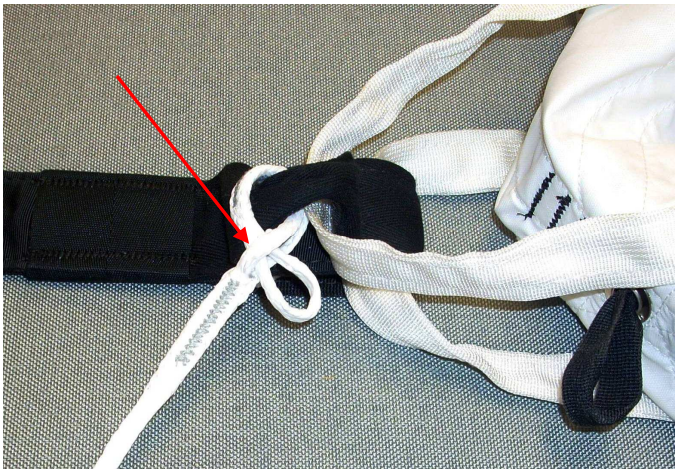
Make sure the green indicator stitching is closer to the bag than the drogue.



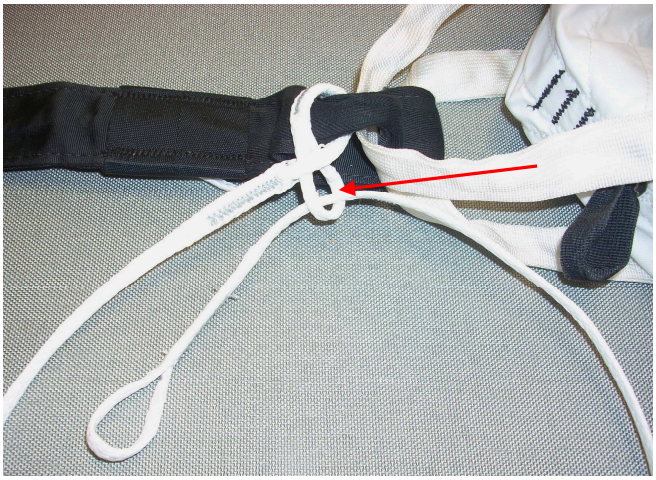
To replace the center line shown above:



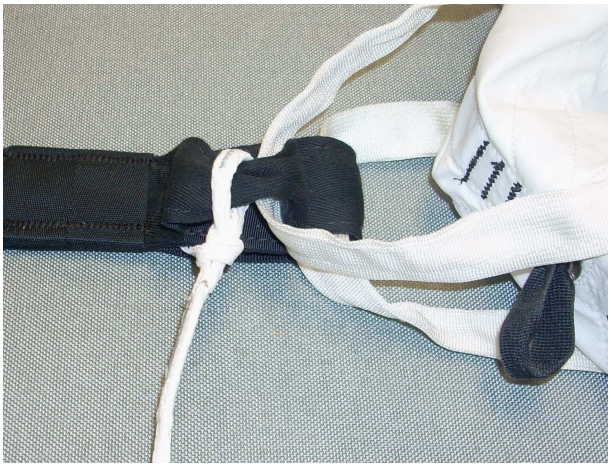
Pass the double looped end of the center line through either of the black loops of the drogue bridle.



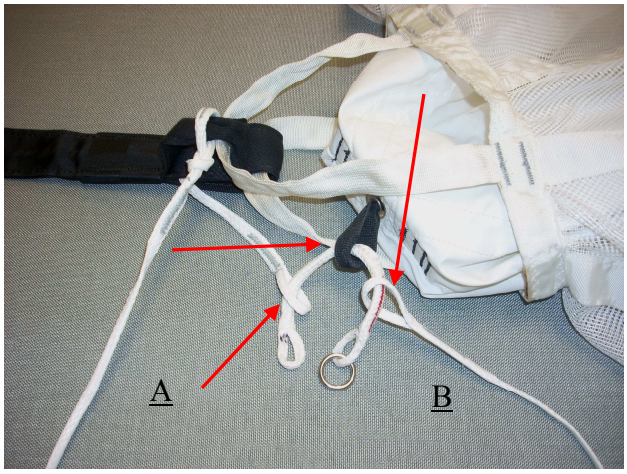
Pass the end of the center line through the near loop of the double looped center line.



Pass the tail through the end loop of the center line.



Tighten the knot formed.



Assemble both lines by passing the soft link through the kill-line loop (A), through the loop on the drogue, then through the loop of the center line (B).



Pass the soft link through the three loops a second time.



Pass the tail end of the soft link through the end loop beneath the soft link mini ring.



Pass the mini ring through the end loop.



Tighten the knot.

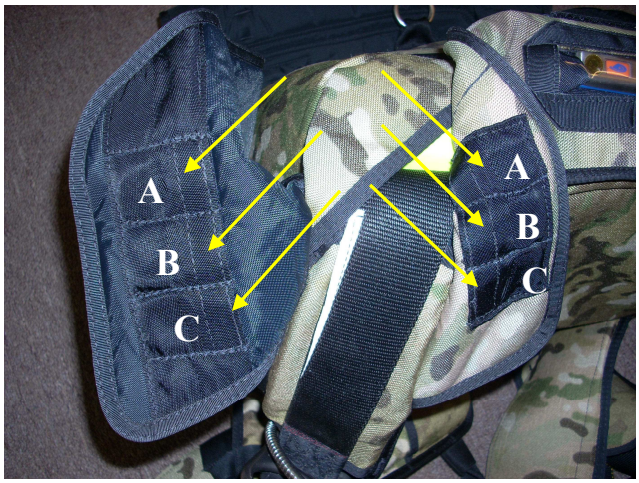
Center line and **kill line** are properly installed.

11.12 Replacing the Magnets in the Riser Covers.



Wings Tandem comes with magnetic riser covers.

The magnets **(WT-TD-100-81)** can be easily replaced when needed.



There are three (3) on each side of the riser cover.

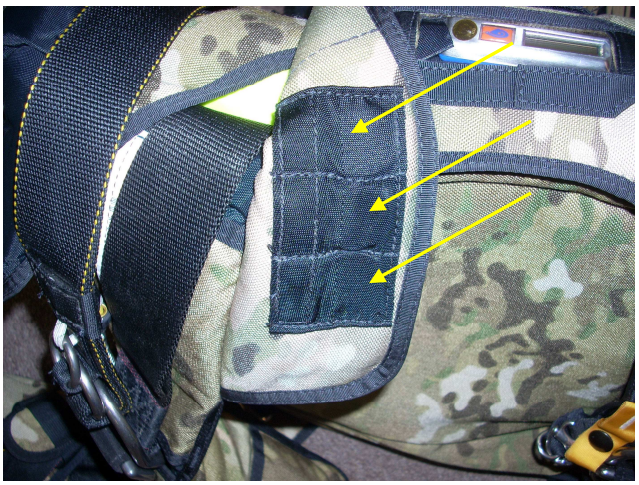
Note: When replacing the magnets, be sure that the magnets are attracting to each other. If they are repelling, flip that magnet over to correct the attraction.



Shown above are the three (3) magnet pockets.

The magnets are held in place with Velcro.

Slide them out to replace them.



Shown above is the other side of the riser cover.

There are three (3) magnets in this pocket also held in place with Velcro. Slide them out and replace.

11.13 Replacing the Drogue Pilot-chute Pocket Magnets.

Wings Tandem uses magnets to keep the drogue locked in its pouch.

There is one magnet in the drogue pouch pocket, and one magnet in the drogue pocket.



Above is the magnet pocket in the drogue pouch. Note that it is beneath the inner Spandex pouch.



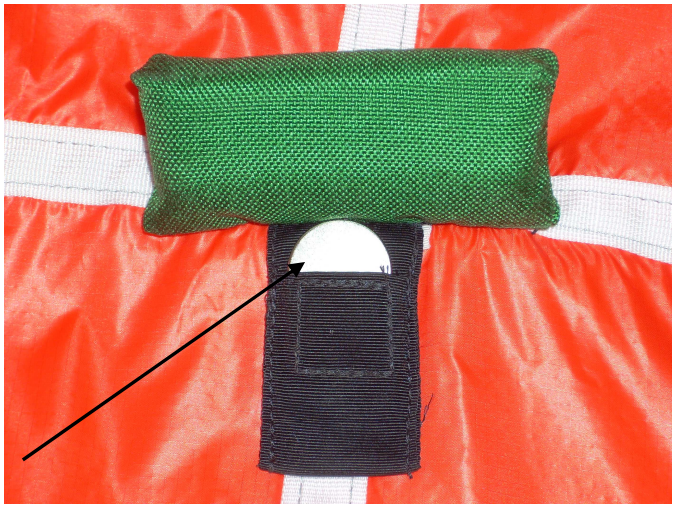
Above is the magnet pocket on the drogue.

Both magnets are held in place with Velcro.

To replace these magnets separate the Velcro and slide the new magnet into the pocket.

Check to be sure that they attract each other.

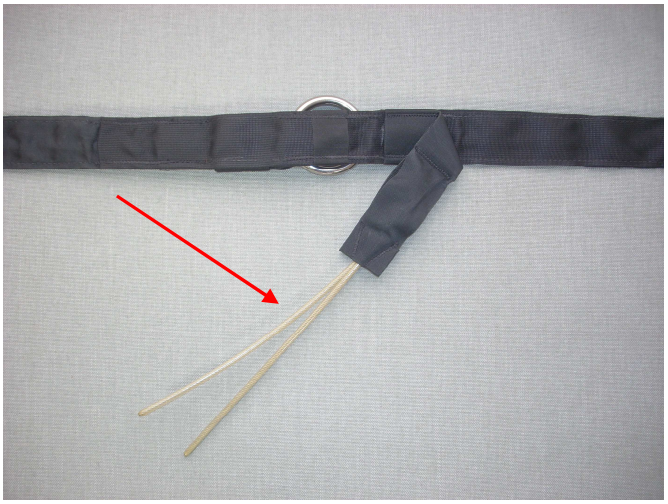
If they repel, remove one or the other and flip it over to correct the attraction.



Above is the magnet of the drogue sliding out of its pocket.

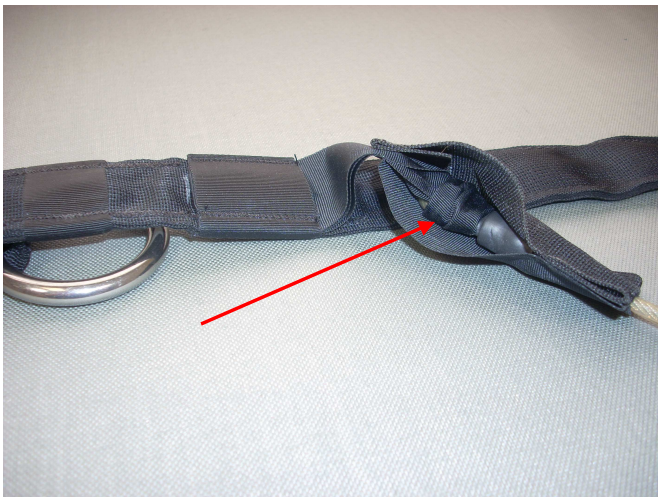
11.14 Replacing the Main Closing Pin.

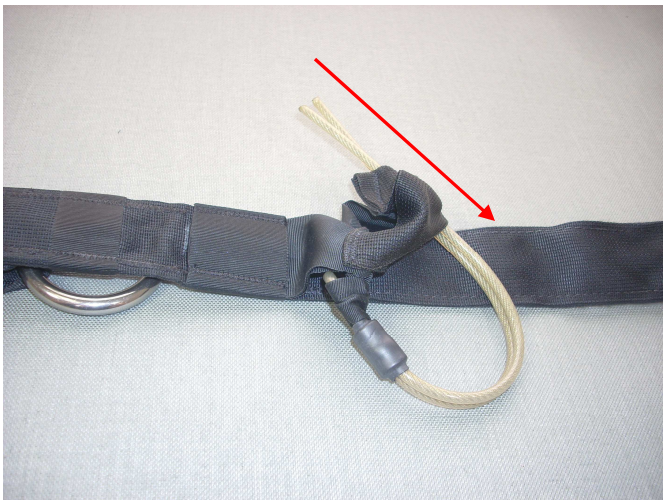
The main closing pin on the Wings Tandem is replaceable.



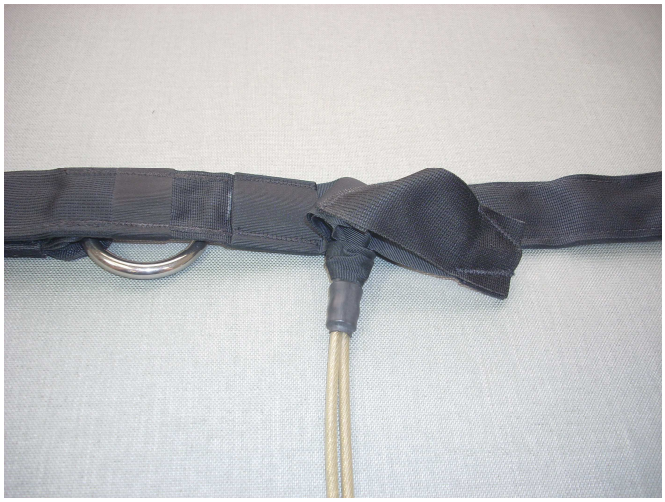
Above is the main closing pin on the drogue bridle.

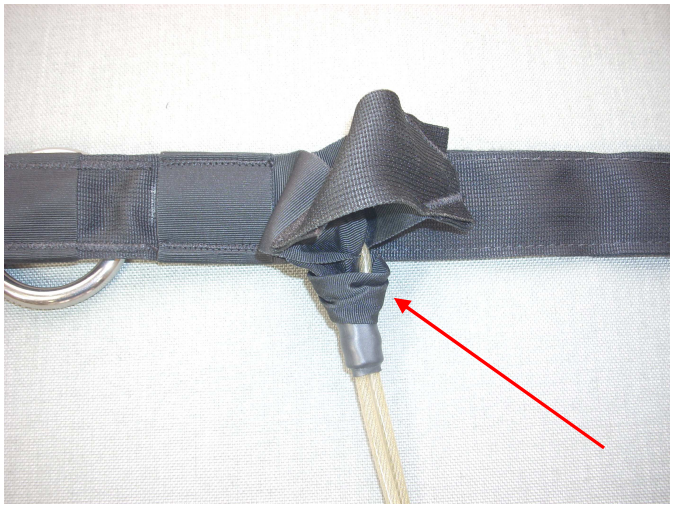
It is attached to the bridle with a lark's head knot.





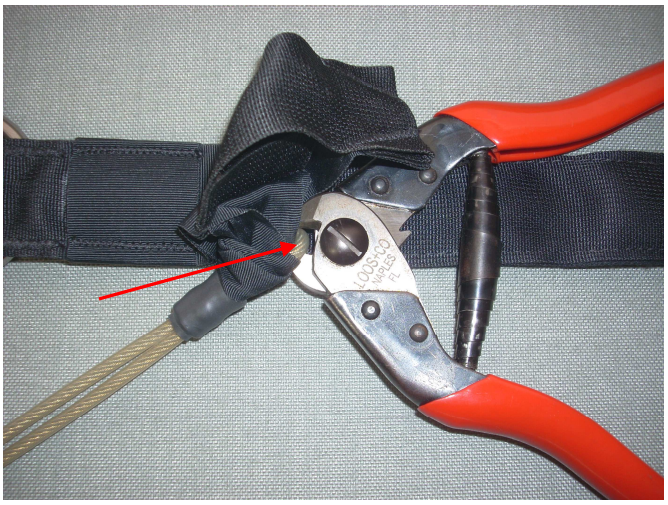
To replace the main closing pin, back the pin out of the sleeve as shown.





Loosen the Type III knot that secures the main closing pin.



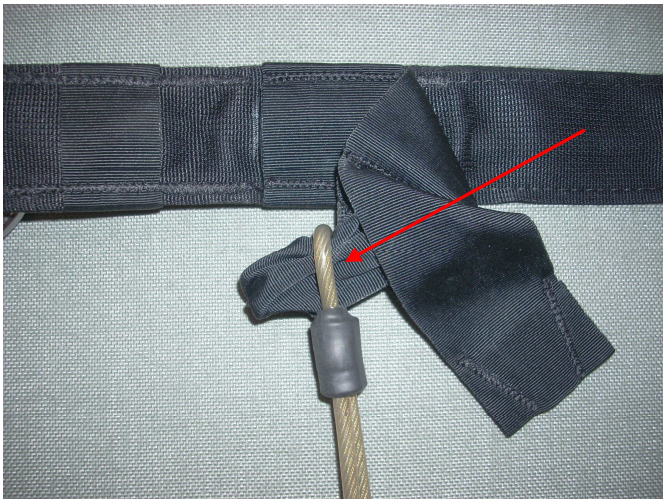


The closing pin can either be backed out of the lark's head knot or cut out with cable cutters.

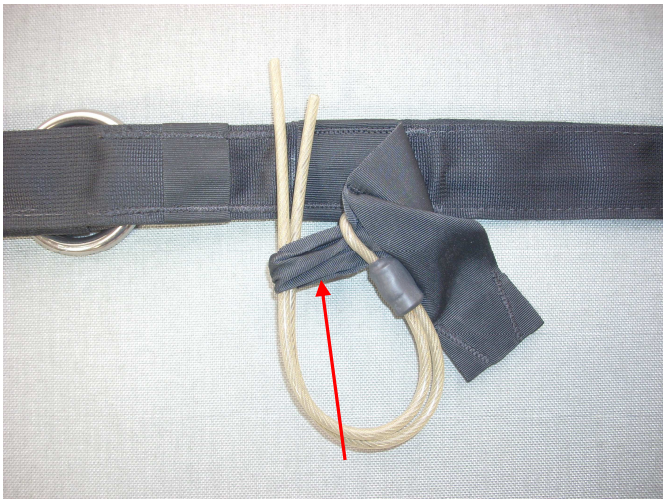
If using cutters, be careful to **NOT** cut the retaining loop.



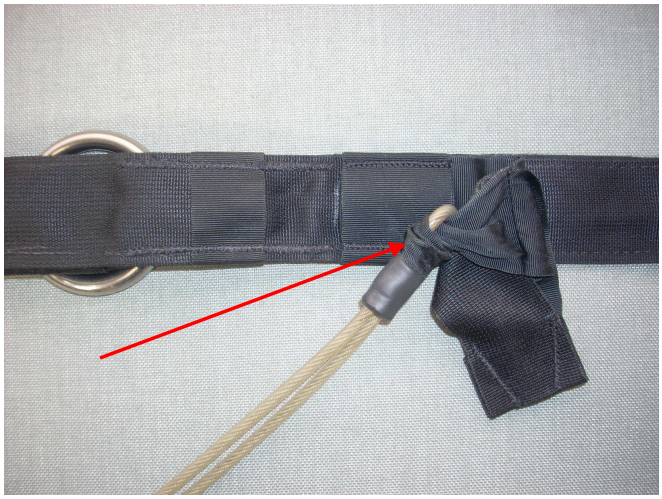
The closing pin removed with cable cutters.



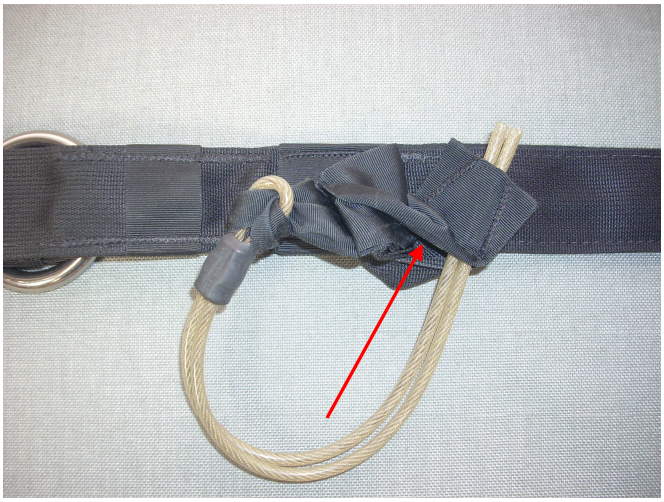
To replace the closing pin, pass the Type III loop through the loop of the closing pin.



Pass the ends of the pin through the Type III loop as shown.



Tighten the knot that secures the pin.



Pass the ends of the pin through the sleeve as shown.



The main closing pin replaced.

Chapter 12

Parts

PART #	NAME / DESCRIPTION
WT-TD-100	**WINGS TANDEM** Harness Container w/ Student Harness
WT-TD-115	Reserve Toggles (Set of two)
WT-TD-116	Reserve Freebag w/Bridle for Reserve Boost
WT-TD-118	Reserve Pilot Chute
WT-TD-119	Reserve Pilot Chute Cap
WT-TD-120	Main Canopy Release Handle Pillow Style
WT-TD-121A	Main Canopy Release Handle Loop (Red)
WT-TD-121B	Main Canopy Release Handle Loop (Green)
WT-TD-123	Reserve Ripcord Handle-Stainless Steel-Bent
WT-TD-124	Reserve Ripcord Handle Pillow Style
WT-TD-125A	Reserve Ripcord Handle Loop Style (Green)
WT-TD-125B	Reserve Ripcord Handle Loop Style (Red)
WT-TD-126	"Reserve Boost" Reserve Static Line (RSL)
WT-TD-127	Free-bag Safety Stow
WT-TD-128	Reserve Closing Loop

PART #	NAME / DESCRIPTION
WT-TD-130	Main Risers, Type 7 Large Ring (1 Pair)
WT-TD-131	Main Steering Toggles (Set of Two)
WT-TD-132	Main Flaring Toggles (Set of Two)
WT-TD-141	52" Main Drogue Pilot Chute w/Bridle
WT-TD-142	60" Main Drogue Pilot Chute w/Bridle
WT-TD-144	Main Closing Pin with Lanyard
WT-TD-145	Main Deployment Bag Only
WT-TD-146	Drogue Kill-line Only
WT-TD-146L	Drogue Kill-line Only (for 60" drogue)
WT-TD-147	Drogue Center Line Only
WT-TD-147L	Drogue Center Line Only (for 60" drogue)
WT-TD-148	D-bag Safety Line Only
WT-TD-148L	D-bag Safety Line Only (for 60" drogue)
WT-TD-150	Main Container Leg Pads, Replaceable (1 Pair)
WT-TD-160	3-Ring Drogue Riser, Type 8, Replaceable
WT-TD-170	Drogue Hacky Handle, Replaceable

PART #	NAME / DESCRIPTION
WT-TD-180	#2000 Spectra Line Soft Links (Set of 3)
WT-TD-181	Magnets, Replaceable (Set of 12)
WT-TD-190	Main Closing Loop
WT-TD-191	Secondary Elastic Closing Loop
WT-TD-200	Student Harness
WT-TD-220	Passenger Harness Hook Knife
WT-TD-230	Examiner's Emergency Handles (set of two)
WT-TD-231	Examiner's Emergency Handle Pockets (set of two)
WT-TD-232	Examiner's Emergency Handle Lanyards (set of two)
WT-TD-600	Wings Tandem Gear Bag
WT-TD-700	Wings Tandem Owner's Manual

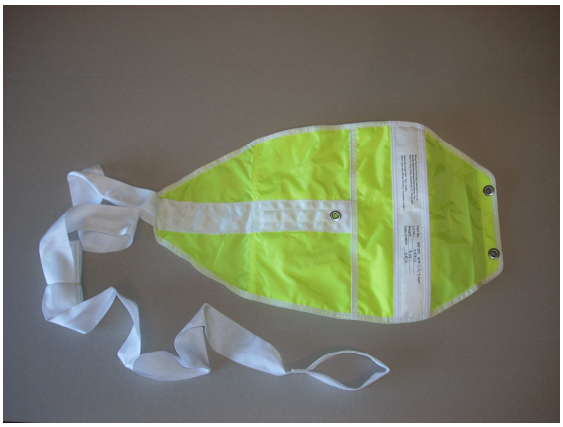
PART #	Price	NAME / DESCRIPTION
WT-PR-330	4188	Precision 330 Tandem Main Canopy
WT-PR-365	4188	Precision 365 Tandem Main Canopy
WT-PR-400	4188	Precision 400 Tandem Main Canopy
WT-PR-R350	3188	Precision 350 Tandem Reserve Canopy
WT-PR-R375	3188	Precision 375 Tandem Reserve Canopy
WT-A2-330	3900	Aerodyne A2 330 Main Canopy
WT-A2-350	3900	Aerodyne A2 350 Main Canopy
WT-A2-370	3900	Aerodyne A2 370 Main Canopy
WT-A2-289	3900	Aerodyne A2 389 Main Canopy
WT-FC-360	2922	Flight Concepts 360 Rage Main Canopy
WT-FC-R400	2423	Flight Concepts 400 Reserve Canopy
WT-SI-340	4500	Sigma 340 Main Canopy
WT-SI-R360	3200	Sigma 360 Reserve Canopy
WT-PL-350	3433	Para Labs FireBolt 350 Main Canopy
WT-PL-328	3333	Para Labs FireBolt 328 Main Canopy
WT-PL-R400	2900	Para Labs 400 Reserve Canopy
WT-M2-TAF	999	M2 Tandem AAD-feet
WT-M2-TAM	999	M2 Tandem AAD-meters
WT-CY-TAF	call	Cypres Tandem AAD-feet
WT-CY-TAC	call	Cypres Tandem AAD-changable
WT-VG-AAD	call	Vigil II AAD

Chapter 13

Spare Parts



WT-TD-115 Reserve Toggles



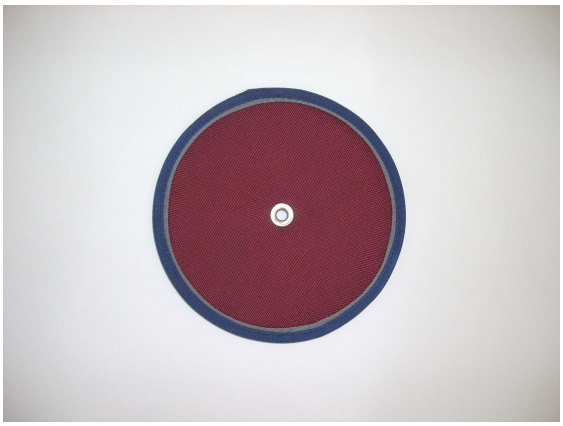
WT-TD-116 Reserve Free-bag w/ Bridle
(Specify container size when ordering.)



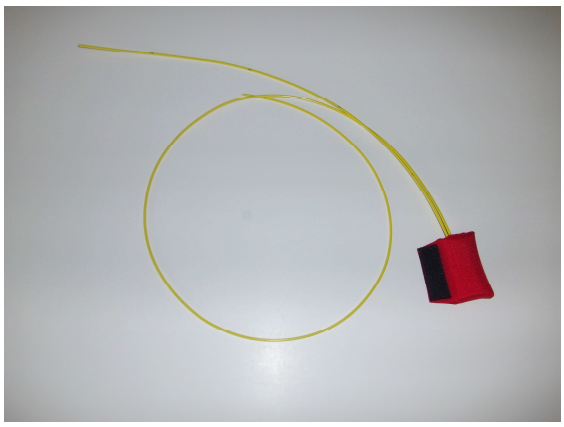
WT-TD-116 B Reserve Free-bag w/ Bridle for ***Reserve Boost*** (Specify container size when ordering.)



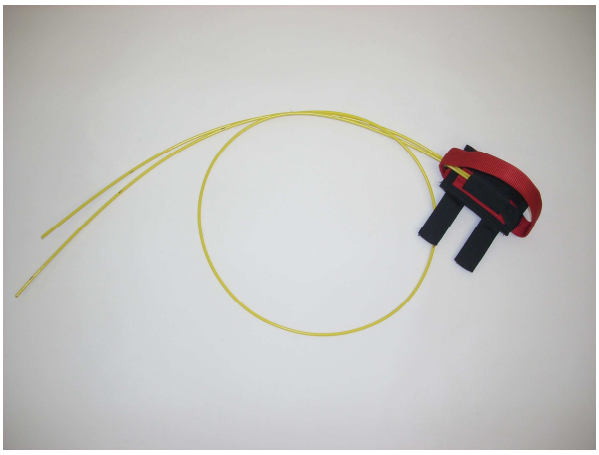
WT-TD-118 Reserve Pilot Chute



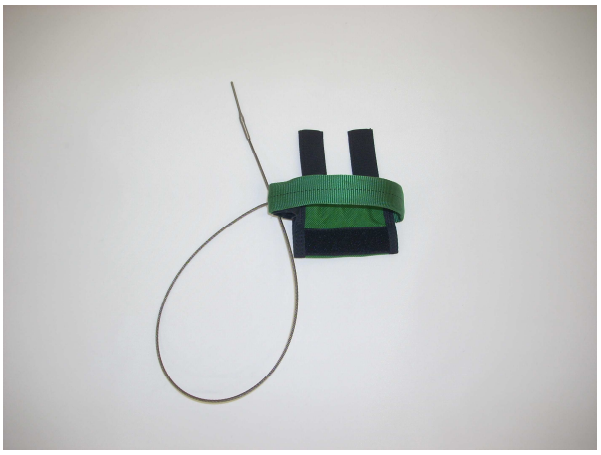
WT-TD-119 Reserve Pilot Chute Cap



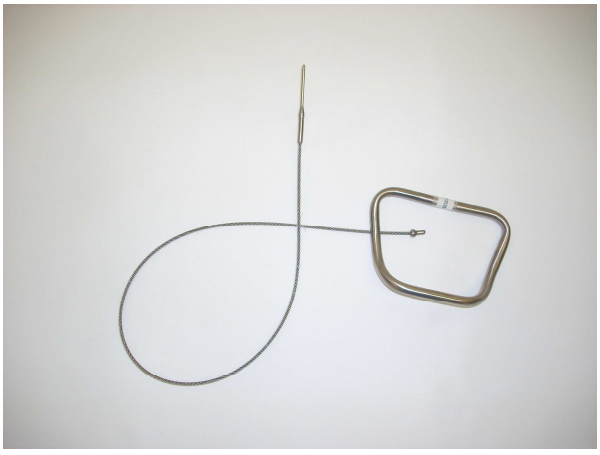
WT-TD-120 Main Canopy Release Handle
Pillow Style



WT-TD-121-A Main Release Handle
Loop Style (Red)



WT-TD-125-A Reserve Ripcord Handle
Loop Style (Green)



WT-TD-123 Reserve Ripcord Handle
Stainless Steel



WT-TD-126 Reserve Static Line (RSL) for
Reserve Boost



WT-TD-130 Main Risers, Type VII Large Rings w/ RSL Snap Shackle



WT-TD-131 Main Steering Toggles, (Set of 2)



WT-TD-132 Flare Toggles, (Set of 2)



WT-TD-141 52" Main Drogue with Bridle



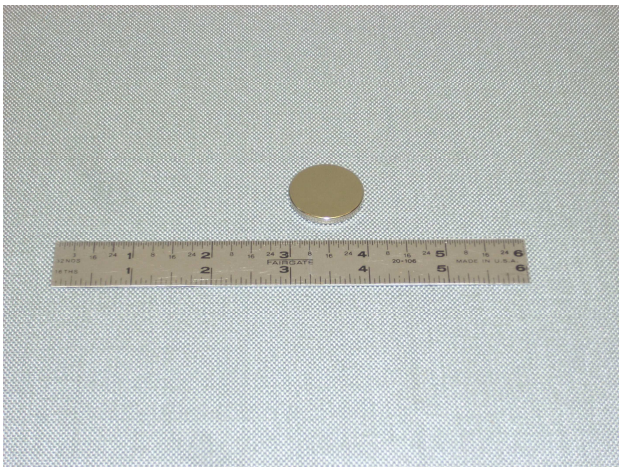
WT-TD-142 60" Main Drogue with Bridle



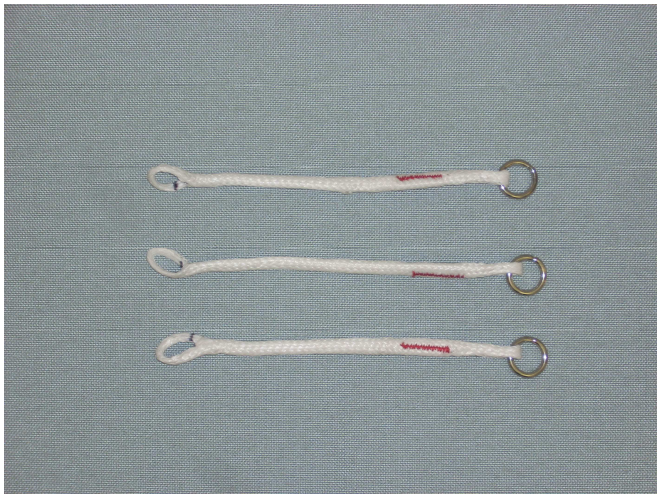
WT-TD-160 Drogue Riser, Type 8



WT-TD-170 Replaceable Drogue Release Hacky Handle



WT-TD-181 Magnets (Set of Eight)



WT-TD-180 Soft Links, 2000# Spectra Line (Set of Three)



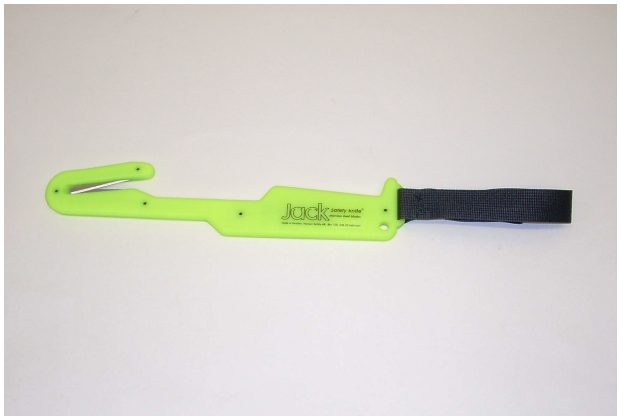
WT-TD-190 Main Closing Loop



WT-TD-191 Secondary Elastic Closing Loop



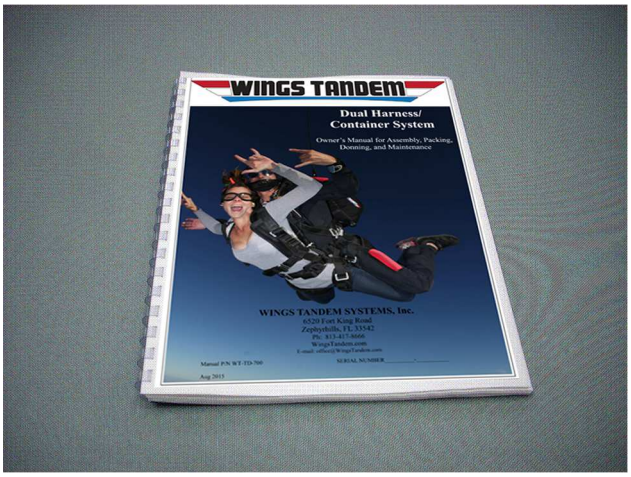
WT-TD- 200 Student Harness



WT-TD-220 Emergency Hook Knife



WT-TD-230 Examiner's Handles



WT-TD- 700 Owner's Manual



WT-TD- 600 Wings Tandem Gear Bag

Chapter 14

Care and Maintenance

14.1 General Storage Requirements

To ensure that serviceability standards of the Wings Dual Harness / Container System are maintained, every effort should be made to adhere to the following general storage requirements:

1.When available, a climate controlled building should be used to store the Wings Dual Harness/ Container System.

2. The Wings Dual Harness/ Container System should be stored in a dry, well ventilated location and protected from pilferage, dampness, fire, dirt, insects, rodents and direct sunlight.

3. The Wings Dual Harness/ Container System should **NOT** be stored in a manner which would prevent ventilation or interfere with light fixtures, heating vents, fire fighting devices, cooling units, exits or fire doors.

4. The Wings Dual Harness / Container System should **NOT** be stored in a damaged, dirty, or damp condition.

5. The Wings Dual Harness / Container System should **NOT** be stored in direct contact with any building, floor or wall. Storage will be accomplished using bins, shelves, pallets, racks or dunnage to provide airspace between the storage area floor and the equipment.

6. Proper housekeeping policies and strict adherence to all safety regulations should be practiced at all times.

14.2 Storage Specifics for Parachutes

In addition to the storage requirements stipulated in the **General Storage Requirements**, the following is a list of specifics that must be enforced when storing parachutes.

1. Except for those assemblies required for contingency operations, parachutes should **NOT** be stored in a packed configuration.
2. Stored parachute assemblies should be secured from access by unauthorized personnel.
3. A parachute that is in storage, and is administered a cyclic repack and inspection, should NOT be exposed to incandescent light or indirect sunlight for a period of more than 36 hours. In addition, exposure to direct sunlight should be avoided entirely.

14.3 In-Storage Inspection

General Information:

1. An in-storage inspection is a physical check conducted on a random sample of parachutes that are located in storage.
2. Parachutes in storage should be inspected at least once every **180** calendar days and at more frequent intervals if prescribed by the chief rigger.
3. Inspect the parachute to ensure that it is ready for use.
4. Check to be sure the parachute has the proper identification.
5. Check that no damage or deterioration has incurred.
6. Check the adequacy of the storage facilities, efforts have been taken to control pests and rodents, and protection against unfavorable climatic conditions.

14.4 Water Contamination Guide

If the Wings Dual Harness / Container or any of its components have been **immersed in salt-water for more than 24 hours the equipment must be condemned.**

If the Harness/ Container or any of its components have been immersed in water, be it fresh or salt-water, the Harness/ Container and any of the components immersed must be rinsed immediately or placed in a double plastic bag with the top securely closed to keep the contents in a wet state until they can be rinsed. **If they cannot be rinsed within 24 hours, they must be condemned.**

! CAUTION !

REMOVE ALL INSTRUMENTS BEFORE RINSING THE HARNESS / CONTAINER AND THE COMPONENTS.

FOLLOW THESE INSTRUCTIONS FOR RINSING AFTER WATER IMMERSION.

1. Place the equipment in a large container filled with enough fresh water to completely cover it.

2. Agitate the contents of the container by hand for **5** minutes.

3. Remove the equipment from the container and suspend or elevate it in a shaded area for a period of 5-10 minutes to allow it to drain. **Do NOT wring** the fabric or suspension lines of a parachute canopy.

4. Repeat the procedures in steps 1, 2 & 3 above, twice, using fresh, clean water for each rinse.

5. After the third rinse, allow the equipment to drain thoroughly. Upon completion of draining, dry the equipment by elevating or suspending the item in a well ventilated room or a heated drying room with the temperature not to exceed 130° Fahrenheit or 55° Celsius. When heat is used it shall not exceed 105° F. or 40° C. The preferred temperature is 90° F. / 32° C. The use of electric circulating fans will reduce the drying time.

6. When dried, perform a technical / rigger type inspection of the equipment. Corroded metal components or corrosion stained fabrics or suspension lines must be either repaired or replaced.

7. Record the immersion and rinsing, and any repairs made to the equipment in the parachute log record.

Chapter 15

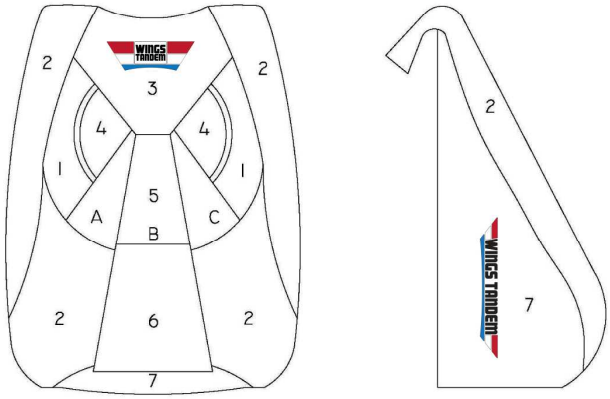
Order Form

Office Use Only.
Serial # _____
Date rec'd _____
Date processed _____

Customer Name: _____
Address: _____
Phone #: _____ Email: _____

Harness/Container Information (for sizing): **T-** ☐
Main Canopy: _____
Reserve Canopy: _____
Harness Color: _____
Colors:

Container	Mid Flap Stripes
1. _____	5A: _____
2. _____	5B: _____
3. _____	5C: _____
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	



Leg Pad: _____ Back Pad: _____ Trim Tape: _____

Leg Strap Hardware: ☐ Thread Thru ☐ B-12 Snap
Reserve Handle: ☐ Metal ☐ Loop Style ☐ Red ☐ Green
Main Canopy Release Handle ☐ Pillow Style ☐ Loop Style ☐ Red ☐ Green
Monograms: (Type exactly as it is to appear) ☐ *Script* Style ☐ **Block** Style
Note: Wings Tandem logos included at no charge on flap 3 and flaps 7 unless otherwise ordered.
Reserve Flap (#3) _____ Color: _____
Side Wall (#7) Left Side _____ Color: _____
Side Wall (#7) Right Side _____ Color: _____
Student Harness: Harness Color: _____ Padding Color: _____ Trim Tape Color: _____

Main Canopy Ordered (make and size) _____
Reserve Canopy Ordered (make and size) _____
AAD Ordered _____

Special Instructions: (Please specify any options desired **not** listed)

_____
_____
_____

NOTES: