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Warning / Disclaimer
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1. Introduction

1.1 Scope

This owner's manual constitutes the manufacturer's instructions for the operation, packing, and maintenance of the 311 Wedge Emergency Parachute System.

1.2 FAA Approval

Originally certified in 1973 under TSO C-23b, standard category, the Para-Cushion parachute assemblies were upgraded in 1992 and are now FAA approved under TSO C-23c, category B (in accordance with AS 8015A and FAR 21, Subpart O). A copy of this approval is on the rear back cover.

1.3 Operational Limitations

Limited to use by persons up to 115 kg (254 lbs) fully equipped (person, clothes, and equipment except parachute), and up to 150 knots IAS. Maximum recommended weight, (wearer, clothes, equipment) of 175 pounds (79.5 kg) if the Mid-Lite canopy (Part no. 1012-6) is installed).

1.4 Repack Cycle

Your Para-Cushion 311 Wedge pack is subject to a 120 day repack cycle. FAR 91.15 requires that "no pilot of a civil aircraft may allow a parachute that is available for emergency use to be carried in that aircraft unless it is an approved type and....it has been packed by a certificated and appropriately rated parachute rigger within the preceding 120 days." The Para-Cushion 311 must be packed by an FAA Senior or Master parachute rigger with a back type rating. If your Para-Cushion is subjected to moisture or damage it should be inspected sooner than the 120 day maximum.

1.5 General Description of Models

The Para-Cushion series of Emergency Parachutes, including the model 311, are FAA approved emergency parachute systems fitted with a round, steerable canopy.

The Para-Cushion series includes back, seat, and chair types and several variations of each. The newer version of the back type (the 303, introduced in 1987) has fabric riser covers and is slightly shorter than the original Para-Cushion Back.

The back types include the Model 303 (introduced in 1987) and the model 311 (introduced in 1999). Both have fabric risers cover and are slightly shorter than the original Para-Cushion Back. The model 311 is wedge shaped, thicker at the bottom with the pilot chute mounted low. The unique arrangement (U.S Patent # 3,908,937) of each system with its externally mounted pilot chute allows for a soft flexible container with protecting ripcord pins.

Each complete system weights between 14 1/2 and 15 3/4 pounds depending upon model, and the

canopy used. This manual covers Para-Cushion packed with the following emergency canopies manufactured by Strong Enterprises: the 26-foot Standard Lo-Po, the 26 foot Military Lo-Po and the 26 foot Mid-Lite. These three canopies utilize low porosity (Lo-Po) cloth which allows less air flow, and therefore a slower, more stable rate of descent than conventional parachute cloth.

Note!

The 120 day repack cycle required by regulation is a maximum. If for any reason your parachute is not in the condition it was when packed, it should be inspected and repacked, regardless of the time since previous packing.

1.6 Model Description

The model 311 Wedge covered in this manual, is an FAA approved, manually operated emergency parachute system, fitted with a 26' foot Canopy. The system was designed specifically for aircraft where the head room is at minimum and the back rest is at a straight, upright angle with the seat bottom, such as Pitts SI, Pitts Model 12, Christen Eagle, RV-4, RV-6, Harmon Rocket, FI Rocket and many others. The standard harness is fully adjustable in the main lift webs (vertical straps) as well as in the pilot's lumbar area to ensure proper fit and support. The back cushion utilizes Confor Foam padding for additional comfort and support.

1.7 System Function

The Para-Cushion is activated by pulling the ripcord handle. This withdraws the ripcord pins and releases the locking loops allowing the pilot chute to eject, catch air and extract the parachute from the container. The canopy is packed with a device called a "diaper" which is sewn to the skirt at the bottom of the canopy and is where some of the suspension lines are stowed. The balance of the lines are stowed inside the container. On deployment, as the canopy is extracted from the container, the lines are also deployed from the container.

When the last stows deploy, the diaper is released allowing the canopy to inflate. The total time for deployment and how far you travel from pulling the ripcord to a full open canopy depends very much on your airspeed. Generally, opening times are from 2 to 3 seconds and the distance fallen would be from 150 feet to 300 feet. This does NOT mean that you should plan on jumping or pulling your ripcord at 300 feet.

1.8 Care of your 311 Wedge Emergency Parachute System

Parachutes are simultaneously very rugged and quite delicate. They are pieces of life saving equipment and should be treated with care. Parachutes are made of nylon, a very strong and durable material, but even nylon has enemies. Small amounts of acid will eat it and ultra-violet sunlight weakens nylon rapidly. This is a surface effect so that thicker material, such as webbing or pack material are not seriously affected, but canopy cloth is very vulnerable. If your Para-Cushion is opened or used, it should be taken to a certified parachute rigger, parachute loft or returned to the manufacturer for airing, drying, inspection and repack. FAR 65.129 requires that no parachute be packed, maintained, or altered in any manner that deviates from procedures approved by the manufacturer.

The parachute should be left unopened inside its protective container ready for use. When you take your Para-Cushion to your rigger for servicing, they will be glad to allow you to pull the ripcord yourself, give you a functional demonstration, and answer all your questions. We urge you NOT to

open your parachute in the field for demonstration purposes. Foreign objects can damage the canopy which will require repairs at your expense.

When your Para-Cushion is in the aircraft care must be exercised to assure that it is not damaged. Be sure that it does not come in contact with any sharp or loose metal surfaces, or any objects within the plane which might cut or snag it. All metal edges and exposed nuts and bolts, etc. should be taped or covered to prevent wear on the parachute container. Be sure that your parachute does not come in contact with water, oils, acids, grease, dirt, agricultural or fire retardant chemicals. When not in use, store your Para-Cushion in its carrying bag in a clean, dry, protected area. If in doubt as to its condition, consult your nearest parachute rigger, parachute loft, or Strong Enterprises.

! WARNING !
LEAVING YOUR PACKED PARACHUTE SYSTEM EXPOSED TO THE SUN WILL GREATLY DECREASE ITS SERVICE LIFE.

1.9 Service Life

Strong Enterprises and other members of the Parachute Industry Association (PIA) are currently discussing guidelines for a recommended service life. FAR 65.129 requires that "No certificated parachute rigger may pack a parachute that is not safe for emergency use," so until guidelines are established, the continued airworthiness of an assembly is established by the licensed parachute rigger who inspects it as part of his repacking procedure. While proper care can no doubt extend its usefulness, an older parachute should be examined more closely for signs of deterioration. Your parachute should be treated as the sensitive piece of life saving equipment that it is, but it should not be expected to last forever, even when proper care is taken.

1.10 Preflight Inspection

Prior to each flight the parachute should be inspected before it is put on. Check it visually for any unsafe condition. Be sure the harness is not twisted or misrouted. Are the fittings rusted? Did it get oily on the hanger floor? Is the ripcord handle secure in its pocket (under the fabric pocket covering)? Lift the Velcro® on the back pad and check the ripcord pins to be sure they are properly seated in their loops. All pins should extend at least 1/2 inch beyond the fabric locking loop. Be sure the rigger's seal thread is still intact around the last pin. That's your assurance it has not been opened since it left the rigger's packing table. Check the packing data card in the nearby pocket to be sure that the parachute has been repacked within the previous 120 days.

1.11 Fitting the Parachute Harness

If you are putting the parachute on for the first time, unsnap the hardware on the straps, loosen the three adjustment points, and slip your arms through the main lift web (the vertical straps in front), much like putting on a jacket. Next, reach between your legs, pick up each leg strap, untwist them if necessary, and snap them in place on each side of the lower portion of the main lift webs. Lean forward, pull the leg straps below your hips, and tighten them snugly, yet comfortably around your thighs. Finally snap and adjust the chest strap. Fold and stow the webbing ends in the elastic keepers. Be sure the ripcord handle is accessible.

Many Para-Cushions have adjustable main lift webs, (vertical straps that come down over your shoulder) and back straps that will allow you to adjust the fit of your harness. To adjust these

straps, stand at attention, adjust the main lift webs so that both sides are even and they are tight just enough so you have barely enough room to stand upright. This will fit tight when standing up, but you should find it comfortable when seated. Resist the urge to excessively tighten the harness while seated this could restrict your escape from the cockpit. The back straps, if adjustable, should be the same length as the distance between the container and your lower back while you are standing upright.

Fully Adjustable Harness - The fully adjustable harness allows you to easily fit your harness. To properly adjust this harness, first loosen all adjustment points all the way out. Then put on the parachute as explained above being sure to fit the leg straps snugly. Then stand at attention and take up the slack in the main lift web (vertical straps) by pulling on the harness ends located just above the leg pads. This should pull the straps down snug over your shoulders. Next adjust the horizontal back strap (located behind you at the leg junction) to just come in contact with your back. This strap need not be tight for a comfortable fit. Finally snap and adjust the chest strap, fold and stow the webbing ends in the elastic keepers. Be sure the ripcord handle snug in the pocket and is accessible.

Aerobatic Harness - The Aerobatic, or two point harness moves the snaps normally located on the leg, to the middle of the chest, thereby preventing interference with your seat belt. To properly don this harness loosen the two adjusters all the way out, next slip your arms through the main lift webs (the vertical straps in front), much like putting on a jacket, then reach between your legs, pick up the right leg strap, untwist if necessary and thread the right strap through the loop located on the right main lift web at the leg junction taking care not twist the strap. Next, snap it in place at the chest on the opposite (Left) main lift web. Repeat the process for the left strap. The straps should be adjusted not so tight that it restricts your ability to stand upright. Resist the urge to overtighten the straps once you are seated. Fold and stow the webbing ends in the elastic keepers. Be sure the ripcord handle snug in the pocket and is accessible.

1.12 Plan Ahead

Know and rehearse your emergency procedures before they are needed to reduce your decision making time. With the parachute on, sit in your cockpit and fasten your lap and shoulder belts. Be certain these are over your parachute harness. Wear gloves, helmet and goggles, even headphones if you normally use them. Mentally organize your bailout procedure. Inspect your cockpit for projections or sharp edges that may damage the parachute, or injure you. Consider canopy ejection, oxygen disconnect, or other requirements that you may be faced with. All these things take time, and an emergency leaves you little time for rehearsal. Generally, you are better off staying with the ship if its controllable, but the time you spend evaluating that, reduces your margin of safety, and in some cases the condition can get worse. Make your decision quickly because all these actions consume altitude.

1.13 How to get out of the airplane

It boils down to two things: Get clear of the aircraft, then pull your ripcord. In that order. If the parachute begins to open while you're still aboard, the wind may inflate it, dragging you out, or into the tail. Also, it may entangle with the aircraft. There are no other hard or fast rules—the craft may be tumbling, spinning, or inverted. Simply get yourself out any way you can. Unless you're above 15,000 feet, pull your ripcord to open your parachute immediately, once you're clear. There is enough oxygen to breath, and you'll be descending into more dense air all the time, plus it gives observers an opportunity to get a fix on your position.

1.13 How to open the parachute

The ripcord handle is located near the chest strap on the wearer's left front of the harness. The key is to LOOK at the ripcord handle, rather than fumble or tug on a harness fitting. Beneath the fabric cover, the handle is held in place by a pocket but it may have been dislodged by your exit, so look for it first. REACH over and grab it with both hands (or typically with your right hand and left thumb), and PULL: YANK IT HARD.

This is no time to be gentle! Actually pulling, which uses the muscles of your forearms, is not as effective as pushing, which takes advantage of your upper arm strength. If it doesn't come free on the first pull, check to make sure you have the handle in you hand, back the handle up to the housing to create slack in the cable, then punch it out again. The entire cable assembly should come completely out of the housing. To reduce the pull force, push it in the direction that the protective ripcord rather than straight out from your chest.

The Para-Cushion Seat container has a housing coming from under you, so pull the handle straight up, over your head. The Para-Cushion Back and Para-Cushion Chair both have housings coming over your shoulder, so push the handle down toward your feet. By having both hands together on the handle, you also reduce the chance of the canopy or lines entangling with an extended limb. Keep your feet together for the same reason. Body position is secondary to pulling.
Remember to **LOOK-REACH-PULL.**

1.14 How to steer

Having a steerable parachute reduces your rate of descent, increases your stability, and allows you to avoid obstacles (buildings, trees, water, power lines, etc.). The parachute drifts with the wind and has a forward speed of about 6 MPH, which can be directed with or against the wind using the built-in steering vents in the rear.

The canopy may be turned by pulling down on the steering line rings or webbing toggles, located on the rear of the risers, just above your head. An 8-12 inch pull will produce a slow rotation, but excessive pulling will not improve the performance.

1.15 How to Land

Like birds and smart pilots, you want to reduce your landing speed by facing into the wind, or quartering slightly. Avoid all but very slight turns below 200 feet.

Push your feet and knees tightly together, with your toes slightly pointed so you don't land on your heels. The tension caused by keeping your ankles and knees pressed tightly together increases their individual support, reducing your chance of injury. Keep your elbows in and try to look at the horizon, not down at the ground. This will give you a better idea of your altitude (much like looking out the side, rather than over the nose during a landing flare).

Maneuver the canopy as necessary to avoid all obstacles. In event of a tree or power line landing, keep your feet together so you don't straddle a limb or wire, and be prepared to slide through and hit the ground afterwards. You should be able to avoid power lines, but if not, throw away the ripcord

- it is three feet of dangling electrical conductor. To prepare for a water landing the chest strap may be unfastened (except with the Aerobatic harness) as long as you cross your arms in front of the harness to prevent falling out. Depth perception over water is difficult at best, so do not attempt to leave your harness "just above" the water.

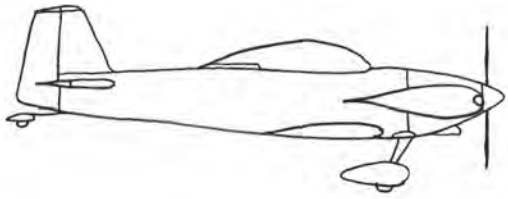
1.16 Recovery

If the wind keeps your canopy inflated after touchdown, you may be dragged, so pull in on the lines closest to the ground to spill some air, and then run around the canopy to collapse it. In event of a water landing, take a deep breath just before you splash down. Once under water, unfasten your harness straps and swim as far as possible straight ahead which should be upwind, allowing the canopy to blow away from you. Entanglements with soggy nylon cloth and lines can weigh you down. If suspended from a power line, do not attempt to climb down, and do not accept assistance from anyone until the power has been shut off.

2. 311 Wedge Product Description

The model 311 Wedge covered in this manual, is an FAA approved, manually operated emergency parachute system, fitted with a 26' canopy. The system was designed specifically for aircrafts where the head room is at minimum and the back rest is at straight, upright angle with the seat bottom, such as Pitts SI, Pitts Model 12, Christen Eagle, RV-4, RV-6, Harmon Rocket, FI Rocket and many others.

The harness is fully adjustable in the main lift webs (vertical straps) as well as in the pilot's lumbar area to ensure proper fit and support. The back cushion utilizes Confor Foam padding for additional comfort and support.



2.1 Parts list

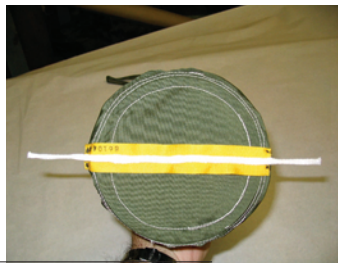
» 121103 Harness and Container Assembly

» 420510 Standard Lo-Po or Mid-Lite (420550)

» 632334260 Ripcord Assembly

» 790120 Pilot Chute, Lil Grabber

» 861041 Locking Loop



» 799031 Cap for Pilot Chute

» 816006 Carrying Bag

» 510079 Packing and Maintenance Manual

3. Required Packing Tools

A - Shot Bags, at least 4

B - Line Separator 1 ea

C - Pilot Chute Locking Rod 1 ea

D - Pilot Chute Locking Strap 1 ea

E - T-handles 3 ea

F - Pull-Up Cords 3 ea

G - Tension Plate 1 ea

H - Tension Hook 1 ea

I - Seal Press 1ea

4. Prepare Parachute Assembly for Packing

Lay the harness and container and canopy down on the table with the wearer facing down. Apply tension using tensioning devices.

5. Inspection

» Inspect the entire assembly for completeness and any damage.
» Inspect Pilot Chute and bridle.
» Check that the Larks-head knot on the pilot chute is secure.
» Inspect Apex area.
» Check over entire canopy for damage.
» Inspect Lines for damage.
» Check line sequence and control lines.
» Check that the screws are tight in the L-Bars.
» Inspect Harness and Container Assembly.
» Check that the elastic stow bands stretch and are in good condition.
» Check tackings for tightness and condition.
» Inspect Hardware for functionality and condition.
» Inspect Harness for nicks, abrasions and sun damage.

6. Packing the 311 Emergency Parachute System

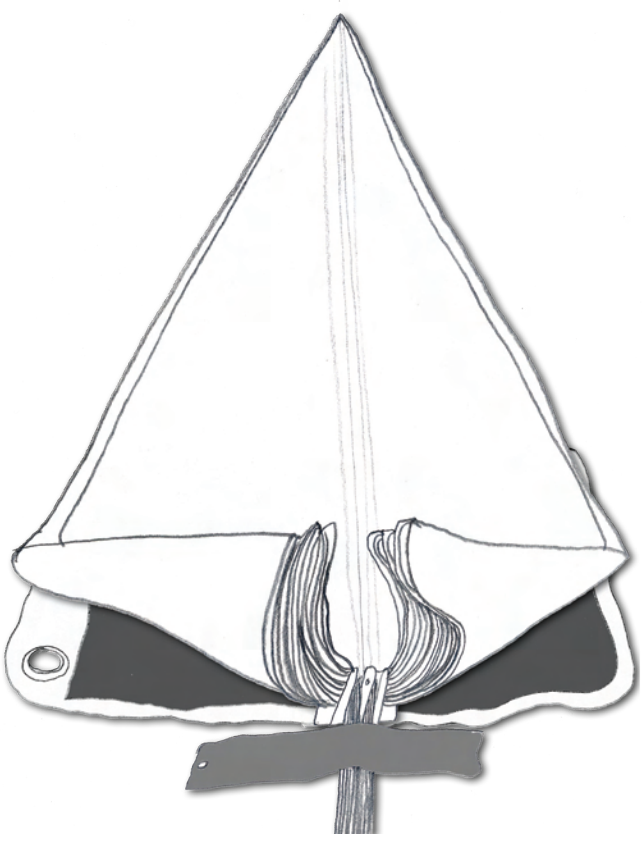
6.1 Pleat and Long Fold

6.1.1

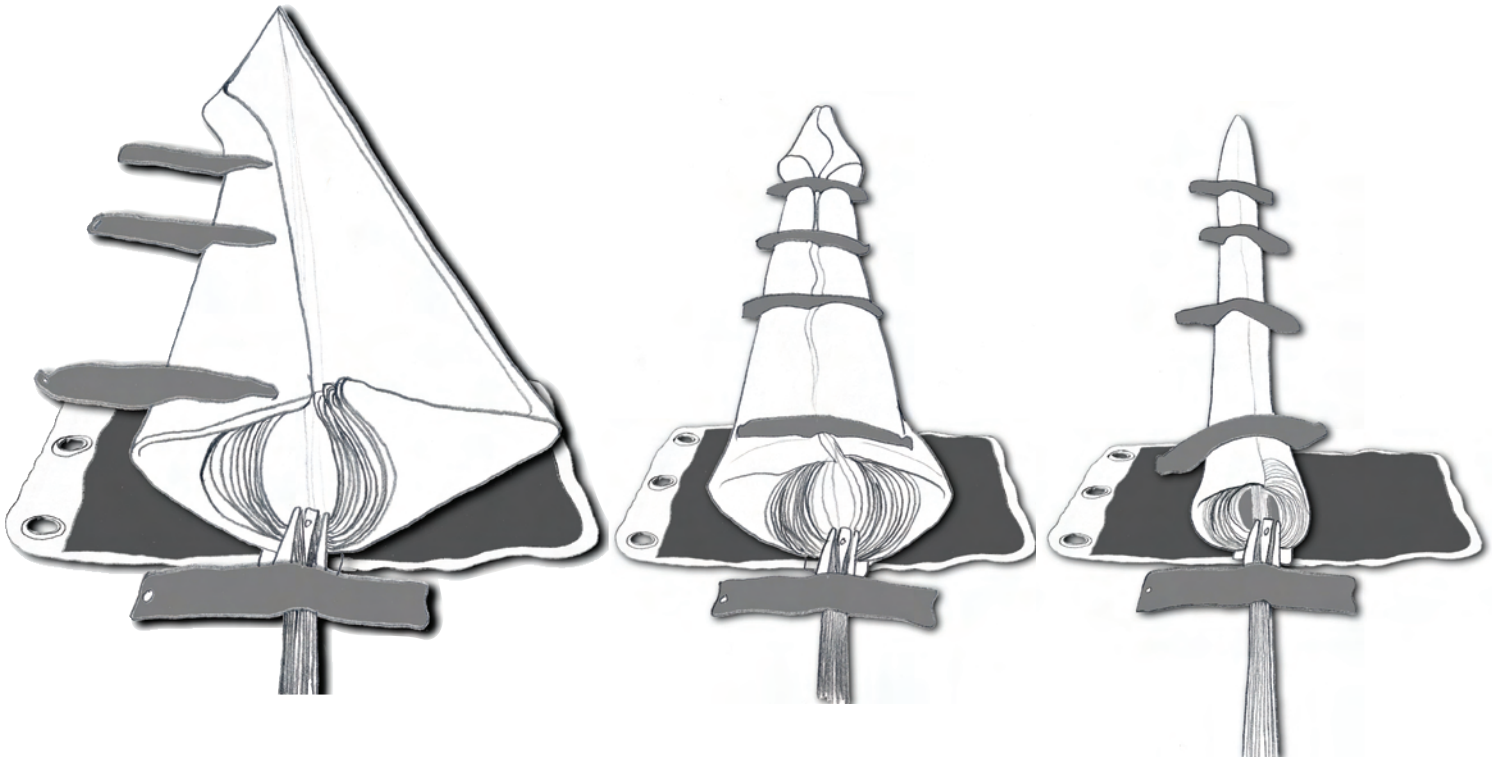
Lay the harness container and canopy down on the table with the wearer facing down. Inspect entire assembly for completeness and any damage. Check line sequence and 4 line release system. Flake canopy and pleat in the normal manner with an equal number of gores to each side.

6.1.2

Fold the skirt up 90º on each side parallel to the radial seams.

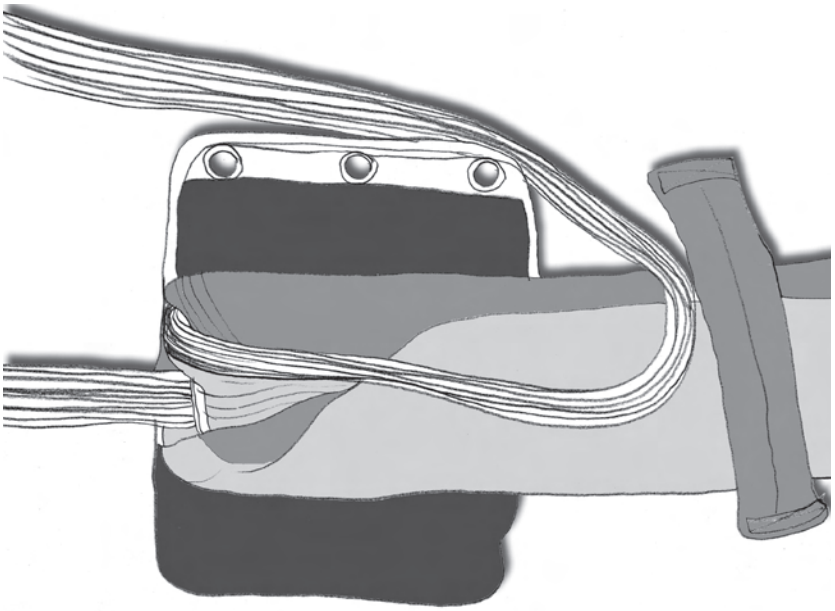


6.1.3
Long fold in fifths (by folding both sides to meet at center, and then folding in thirds, overlapping) tight and narrow



6.2 Securing the Diaper

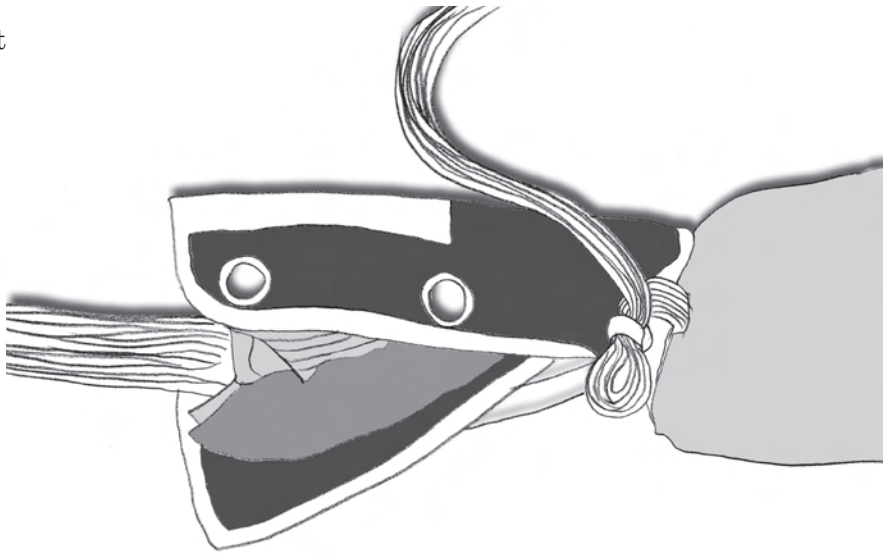
6.2.1
Spread the diaper out flat. Bring the lines in the LEFT-HAND GROUP ONLY loosely up over the skirt.



! WARNING !
DO NOT tuck the lines inside the folded canopy. Tucking the lines in the canopy can cause serious burns to the canopy and lines.

6.2.2

Wrap the diaper around the skirt and left line group.

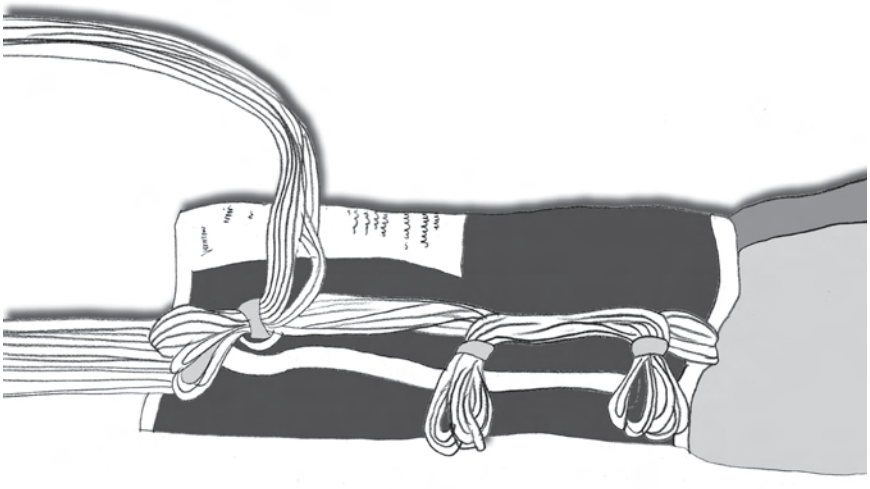


! WARNING !

Put only the left half of the lines inside the diaper. Otherwise the purpose of the diaper will be defeated, allowing it to release before all the lines are unstowed.

6.2.3

Pass the three (two on older models) locking rubber bands through their respective grommets in the diaper. Secure the diaper by stowing the left line group through each of the three (or two) rubber bands, stowing from top to bottom making 1 1/2 inch tight bights. Unless the shorter (1 1/4") rubber bands are used, these rubber bands should be doubled to hold the line stows securely



6.3 Riser Placement

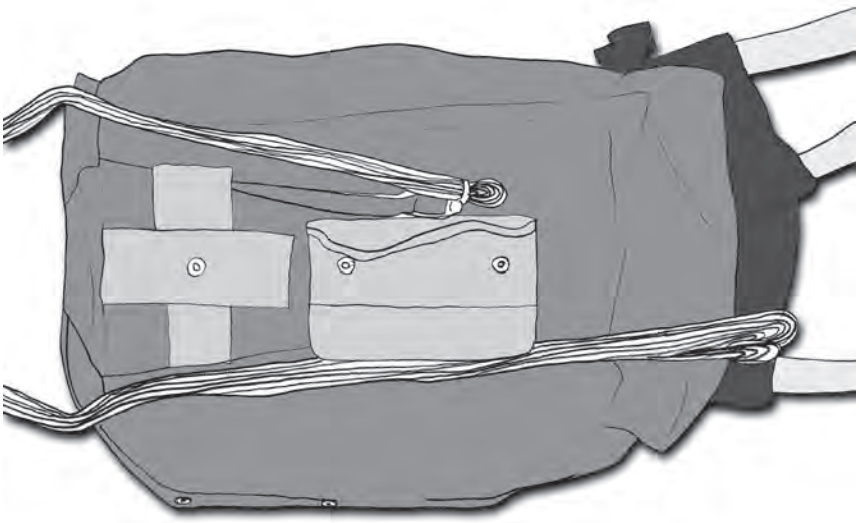
6.3.1

Open the protective Velcro© flaps in the base of the container.
Route the risers into the pack and place the links about one inch above the bottom of the flaps. Secure the links by attaching the hook and loop tape on the flaps. Be careful not to snag and damage the braided suspension lines on the hook tape.

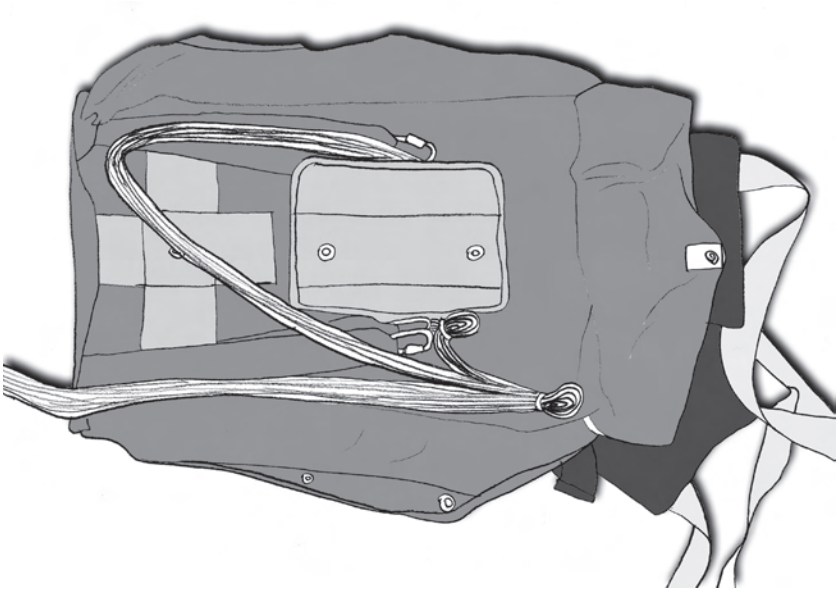
6.4 First line Stow

6.4.1

Grasp both line groups together about 16" from the left link. (The slack in the right line group will be toward the link; the lines toward the canopy should be even.)
As you make your first line stow in the pack tray, separate the right and left line groups, and pull slightly more tension on the right side line group (the one attached to the skirt), so there is about an extra 1/2" of slack in the left side lines. This will insure that during deployment, the lines on the left side line group are not pulled so tight that they will unstow prematurely from the diaper. Continue on by stowing the rest of the lines in the pack tray with a single wrap of the stow band.

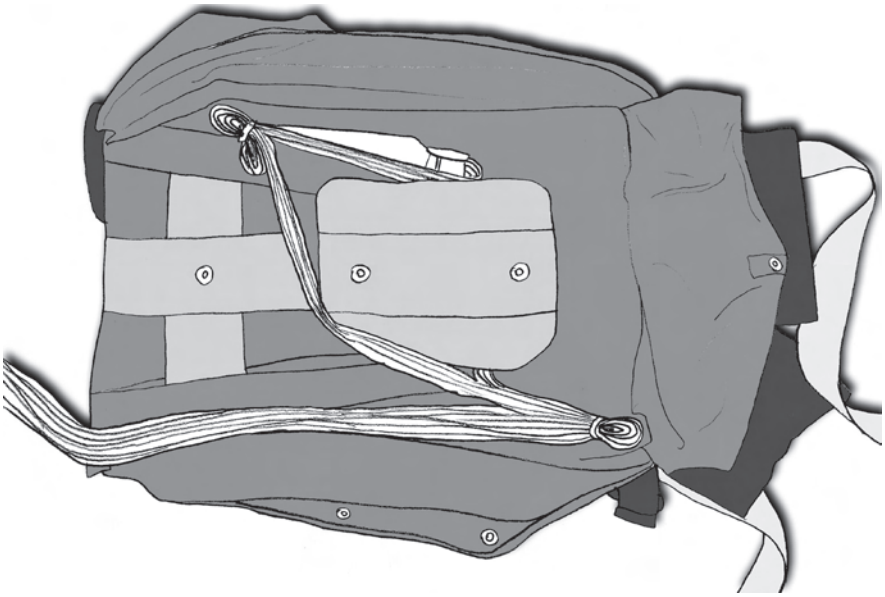


6.4.2
Stow first bight of lines in the third rubber band on wearer's rear left corner of container



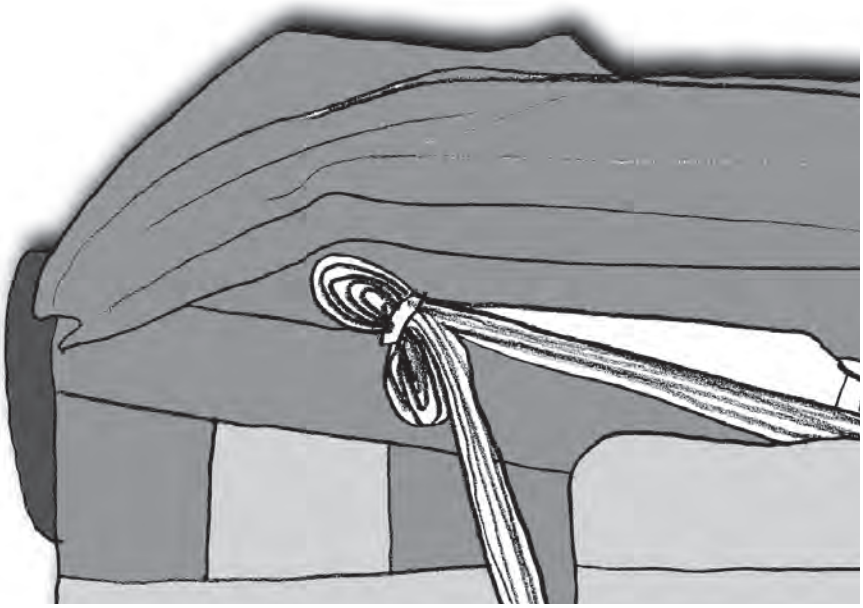
6.5 Excess or Half line stow

6.5.1
The resulting "excess" length (about 20 inches) from the right riser will have only one-half the total number of suspension lines. Stow this excess from the right line group on the right side of the container, in the upper right inboard rubber band. To do this, route lines diagonally from the first stow, around top of protector flap, to the top of the container, and place in the rubber band closest to center of the pack tray.



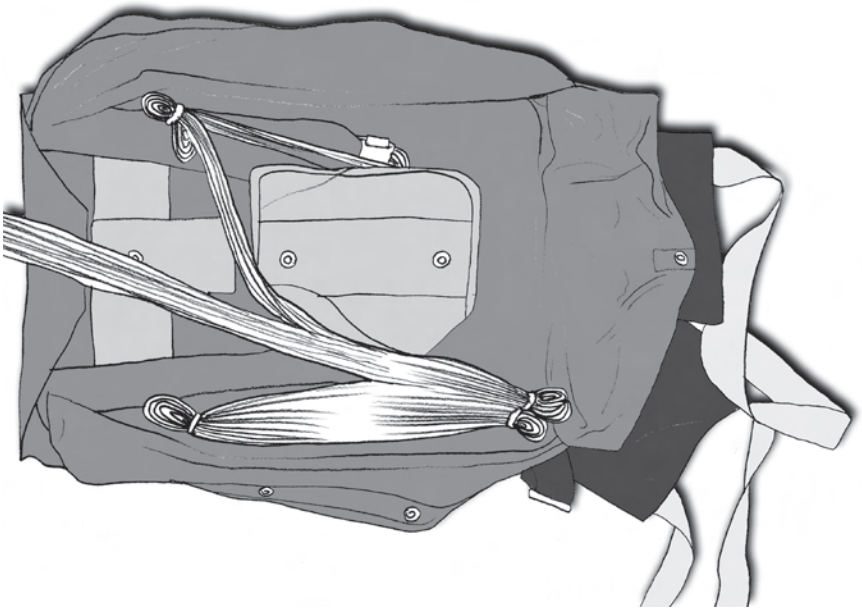
6.5.2

When the 3 stow diaper is used, this bight may be doubled back on itself before being placed in the rubber band; with the 2-stow diaper, this will not be necessary. Unless the shorter (1 1/4 inch) rubber bands are used, this rubber band should be doubled. At this point all lines between the canopy and the container should be even.



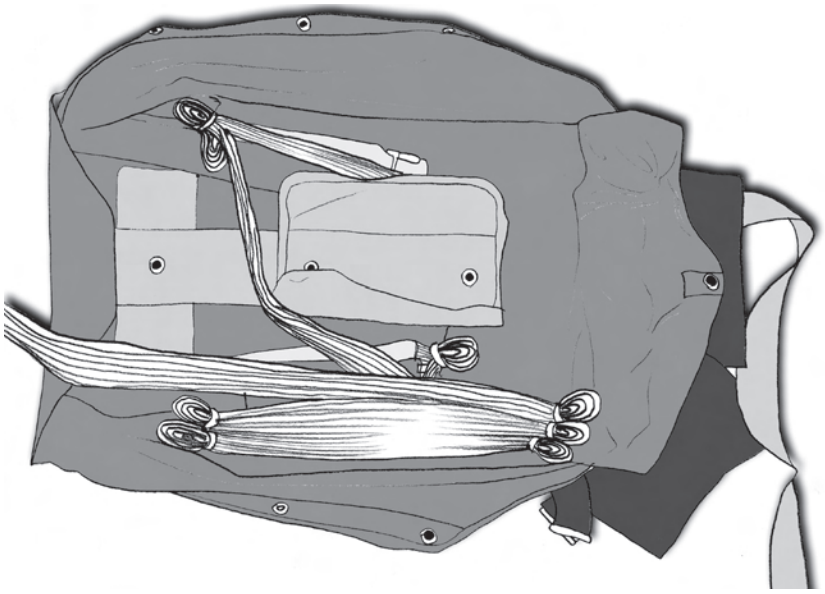
6.6 Remaining Line Stows

6.6.1 Proceed with stowing the remainder of the lines. The next stow is in the lower left corner of the container.



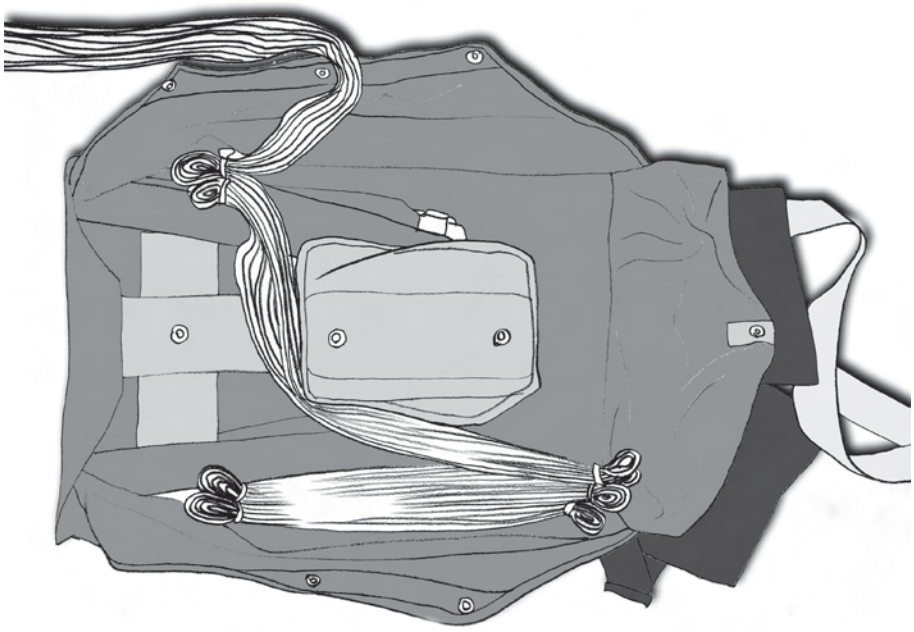
6.6.2

Continue stowing down, up, down, until a total of five rubber band stows are on the left side of the container.



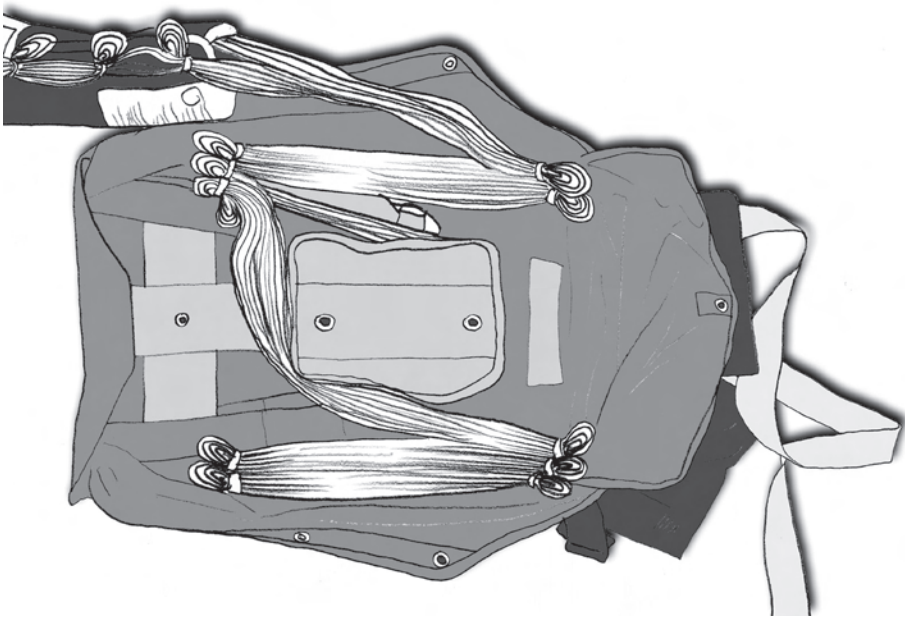
6.6.3

Routing lines around the top of the protector flap, between the top and second grommet, make the next stow in the upper right corner of the container using the center rubber band



6.6.4

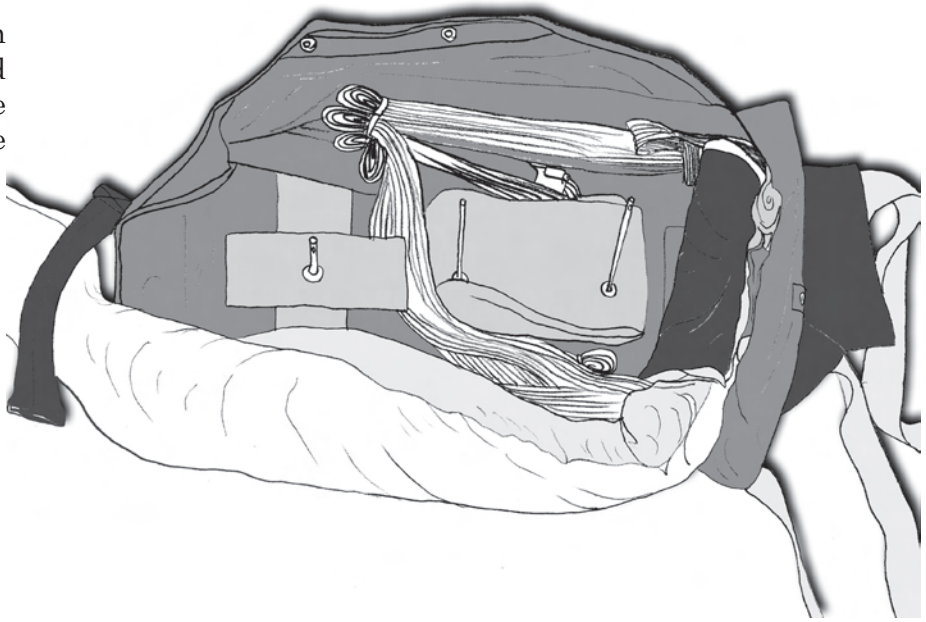
Continue stowing on the right side of the pack from inboard to outboard. The last stow should be in the lower right corner of the pack, about 8"-16" from the diaper.
Insert the T-handles up through the grommets in the bottom of the pack tray.



6.7 Skirt Placement

6.7.1

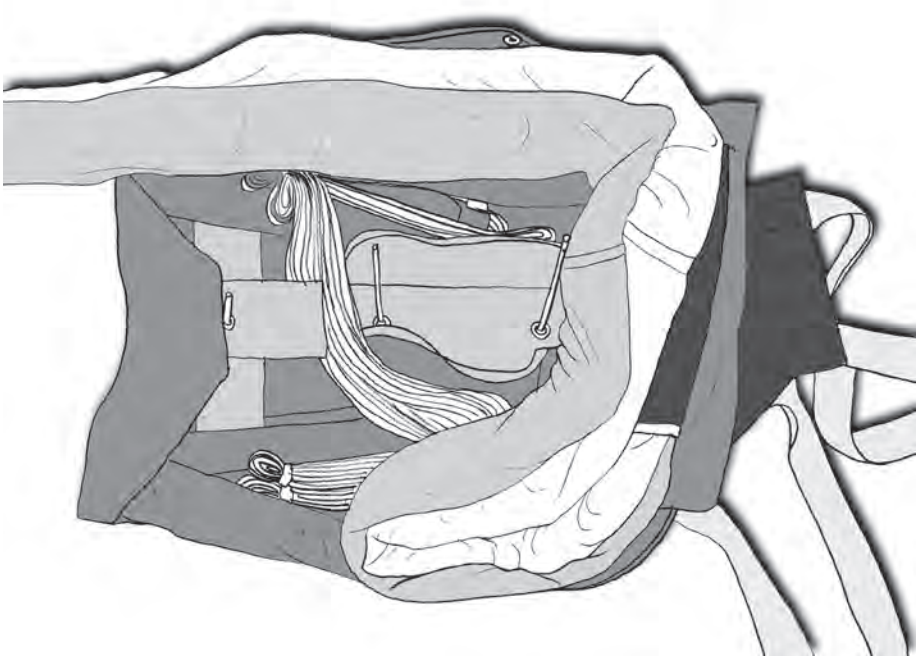
The diapered skirt is placed in the wearer's lower right hand corner of the pack with the canopy extending across the bottom of the container.



6.8 Accordion Fold

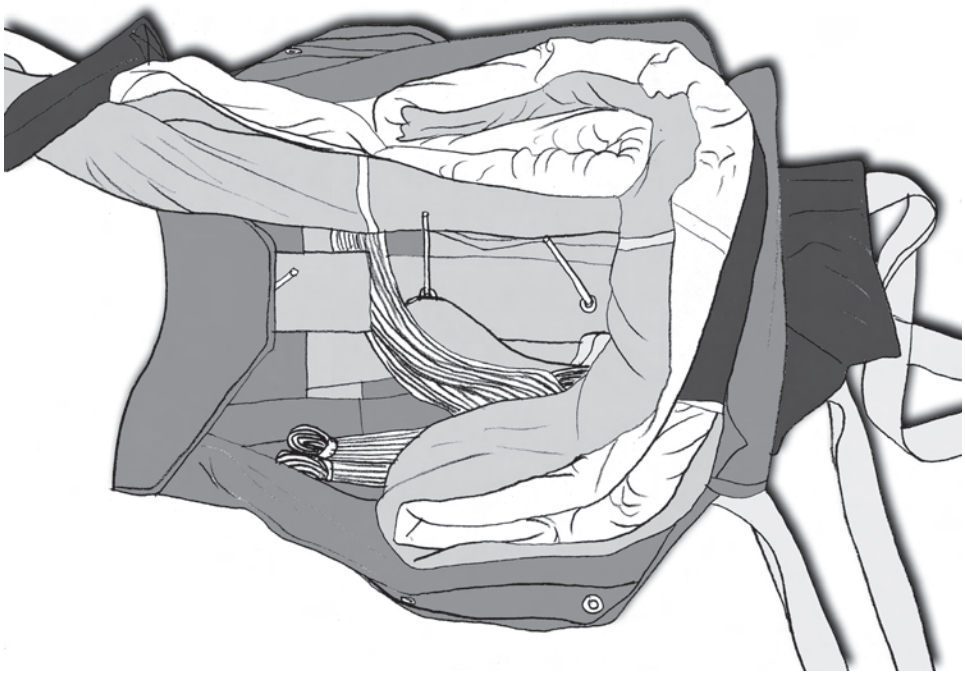
6.8.1

The canopy is stowed "on edge" and not "flat". From the skirt, it is routed across the bottom of the left side of the container and up to the middle grommet. At the middle grommet, fold the canopy back down left side and across the bottom. This fold is inside previous fold.



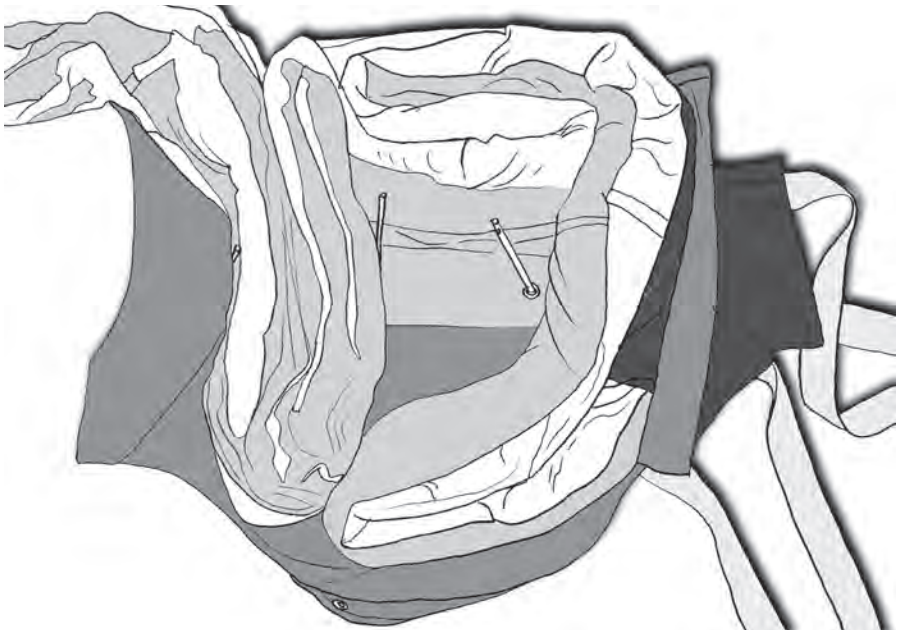
6.8.2

Next, fold the canopy 90˚ up the right side of the container to the middle grommet, fold the canopy back down the right side to the bottom, then back up the right side of the container to the middle grommet. Each fold should be to the inside of previous fold.



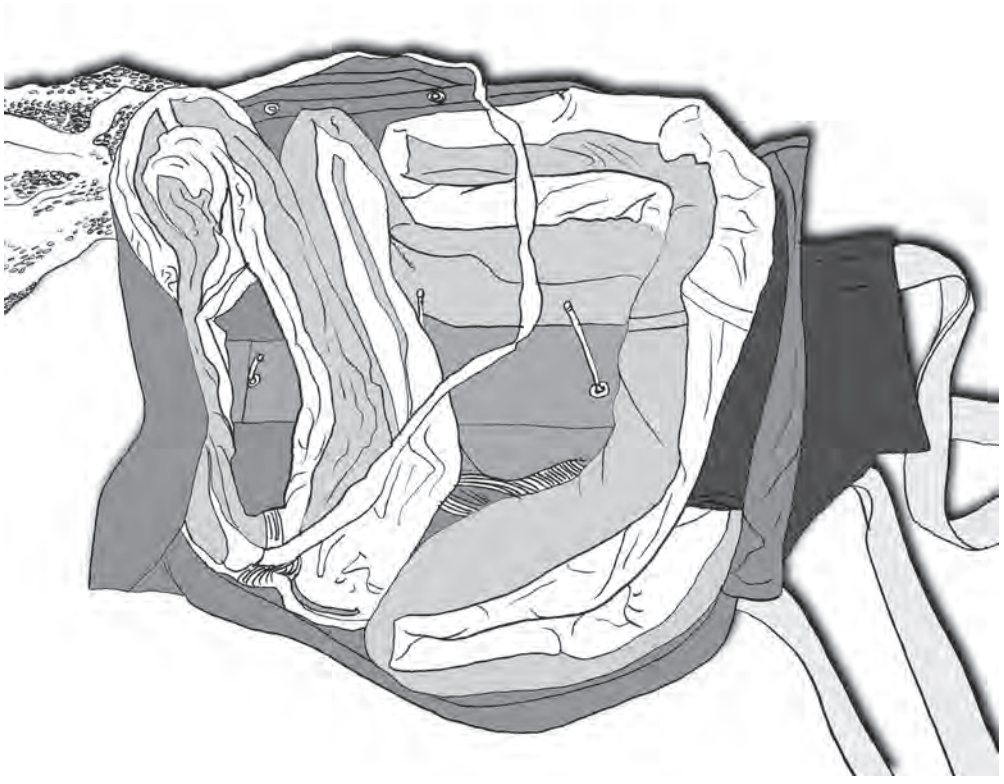
6.8.3

From middle grommet, make a short 90° fold to outer edge of the right side of container.
This will help to smooth out the end of previous fold.

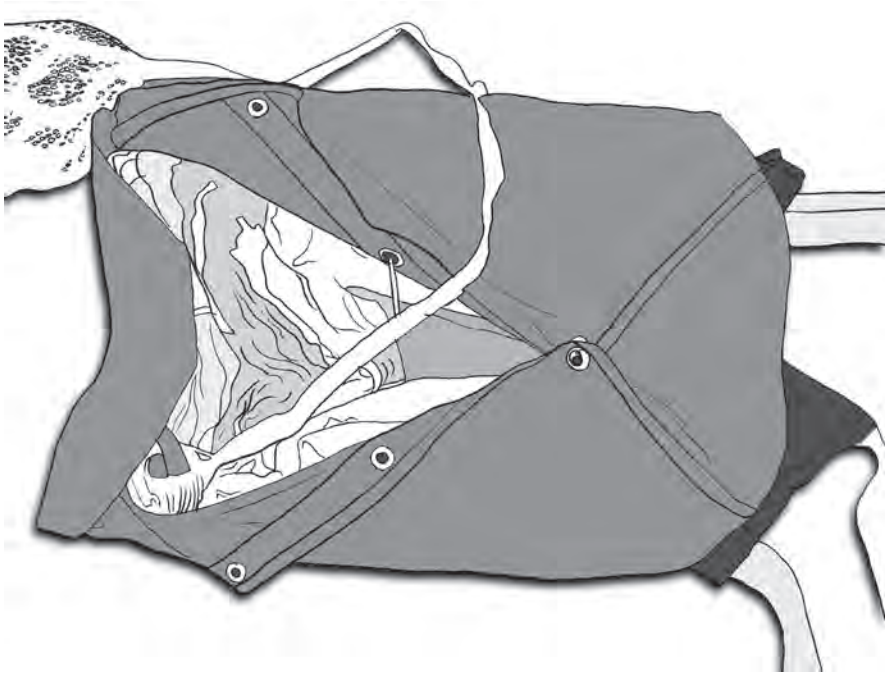


6.8.4

The remainder of the canopy will be stowed in three side-to-side folds. To do this, fold canopy across left side of the container and then back across to the right side. Both of these folds should be between the top two grommets. The last fold is across the top of container above top grommet. Spread apex out flat and fold under.
Route bridle down the center of the container toward the bottom.



6.9 Closing the Container



6.9.1

The Para-Cushion 311 is packed without a launching disk. For ease of packing, compress pilot chute on a closing strap and lock with a locking rod.

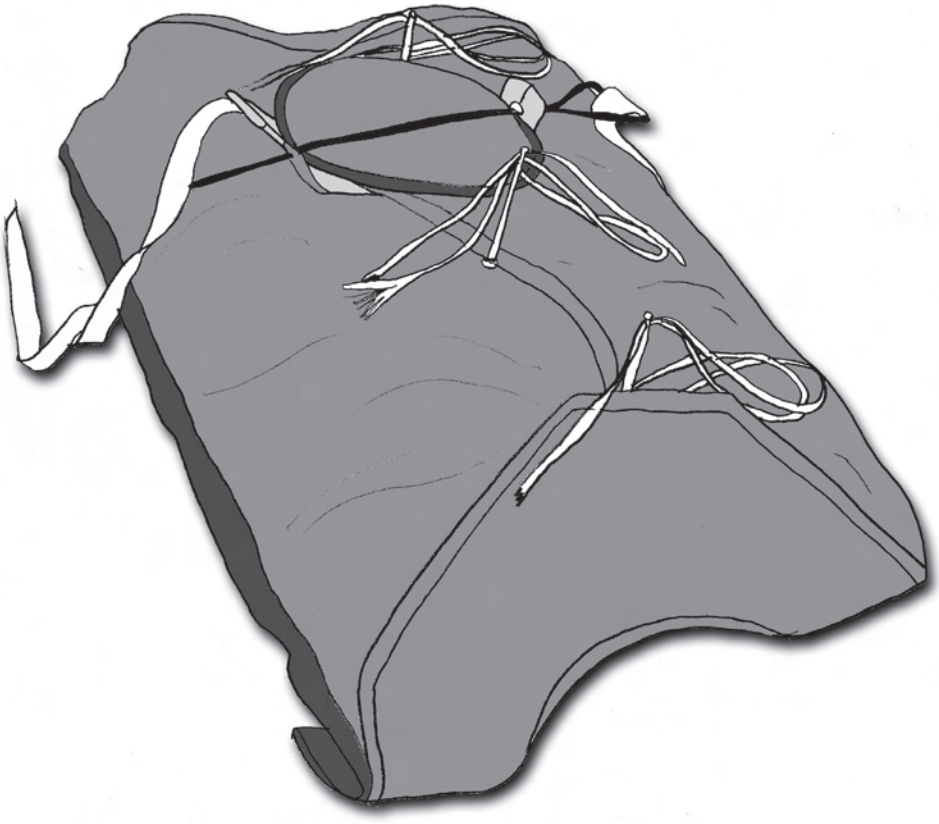
Pre-close pack by inserting T-handles up through the grommets in the bottom of pack tray, passing them through grommets in the container flaps so the flaps so flaps are closed in the following closing sequence:

Bottom-Right Side-Left Side-Top. Spread inside divider flap as you go to protect canopy from locking loops.

Bridle should exit flaps between lower two grommets,

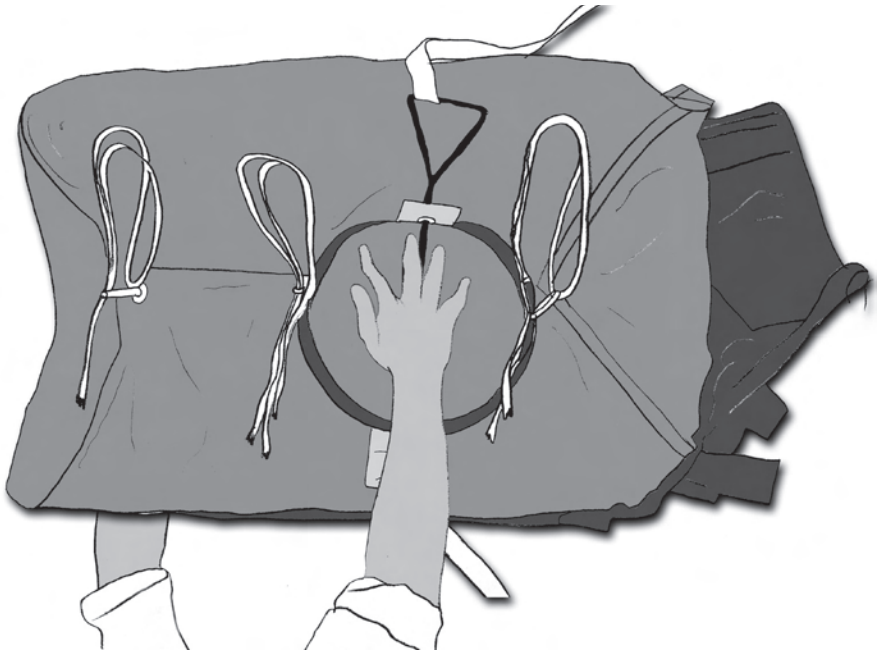
6.9.2

Pass Pull-up cords (3 of them) through closing loops in pilot chute cap and closing loop of top flap. Make short "S" folds with excess bridle and tuck into container between the two lower grommets. Center pilot chute between the two lower grommets, and pass ends of pull-up cords through slots in T-handles.



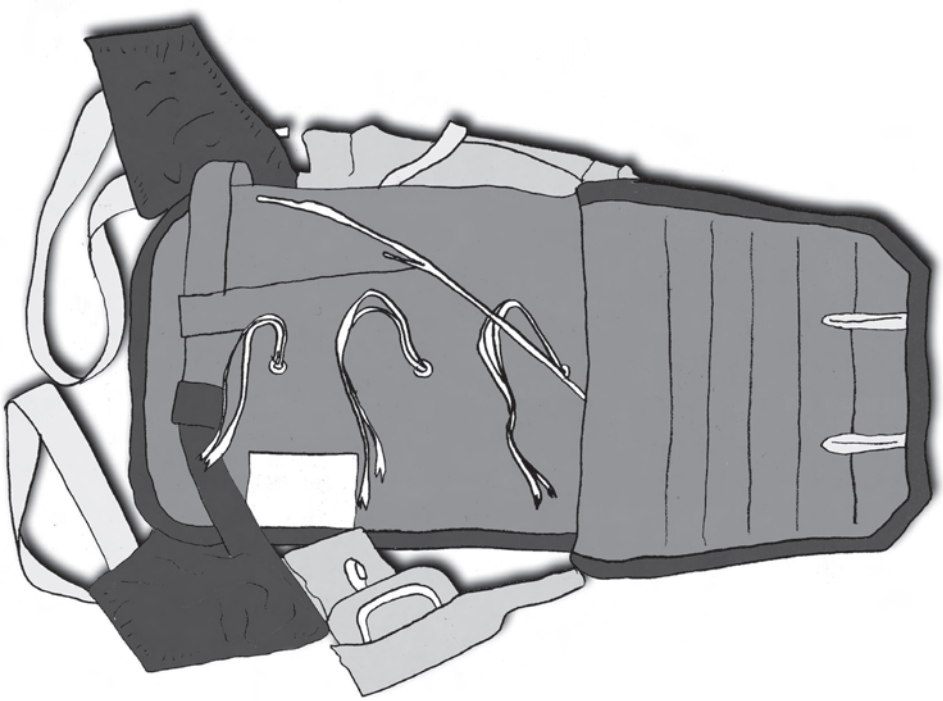
6.9.3

Holding pilot chute in position with one hand, and with the other hand under pack, holding it closed, turn pack over.



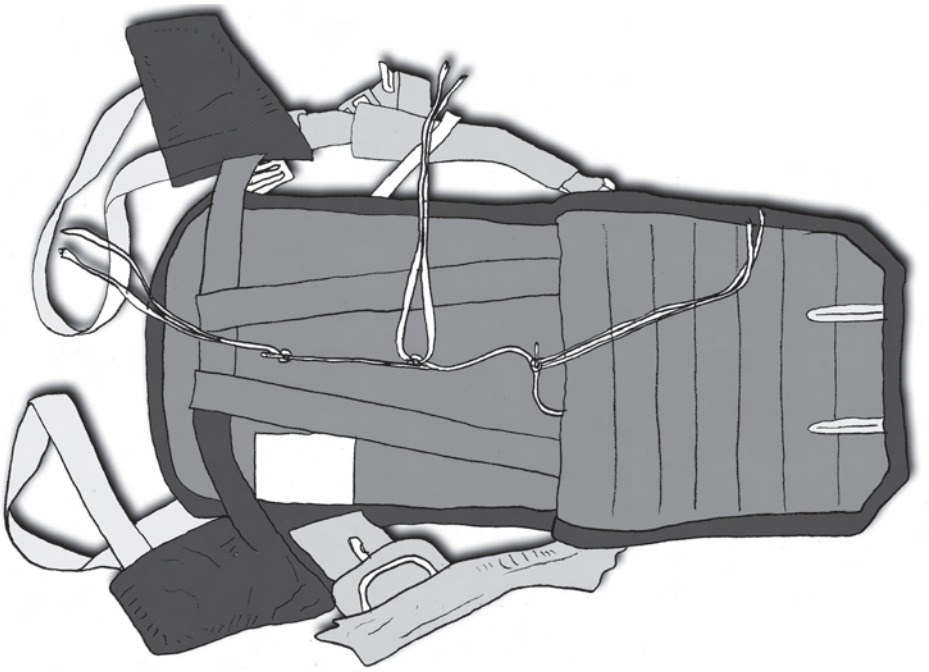
6.9.4

Draw pull-up cords through grommets by removing T-handles from the pack. Draw pull-up cords up tight until closing loops are through the pack.



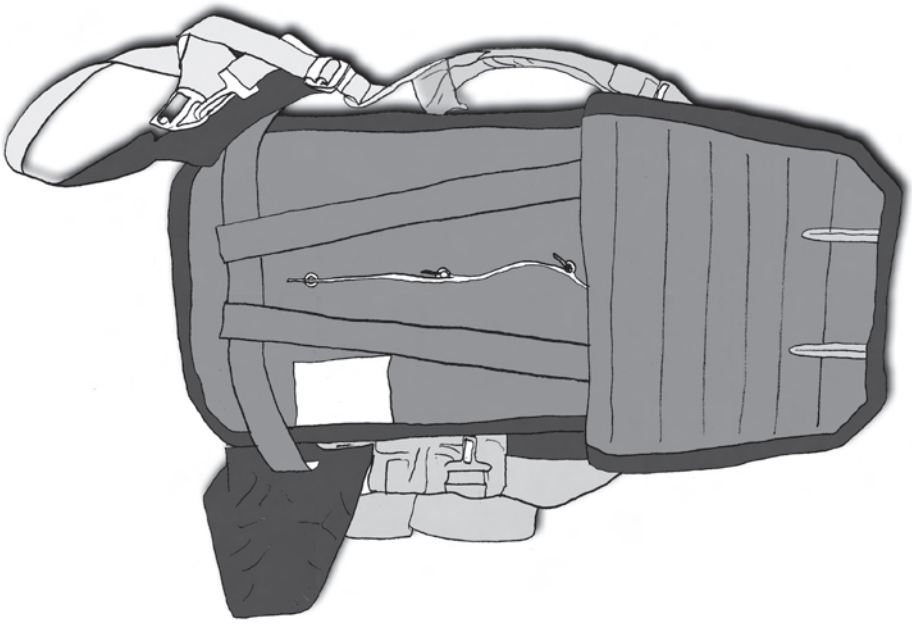
6.9.5

Work from top of pack down inserting each ripcord pins in its loop. Slowly and carefully remove pull-up cords to avoid friction burns on closing loops. Remove pilot chute closing rod and strap.



6.9.6

Dress pack and seal the bottom pin. Complete data card and your rigger's logbook. Be sure ripcord handle is secure in its pocket.



! WARNING !
Count your tools to assure you have not left any in the packed parachute.

7. Repair Guidelines

The following repair specification is set forth to aid riggers in the maintenance of Strong Parachutes. Repairs must be made only be appropriately rated FAA certified parachute riggers.

CANOPY

TYPE OF REPAIR	LIMITATIONS
Re-stitching:	**No limit as to length or number.**
Patch, single side:	**Size limit: 50% of panel area. Limit of 3 per panel, 15 per canopy.**
Panel replacement:	**Limit 9 per canopy**
Radial Seams:	**Size limit: 12", no more than 4 per canopy.**
Lateral bands: Upper Lower	**Damage: size limit 2" Limit: 1 per canopy Limit: 4 per canopy**
"V" tabs:	**No limit**
Suspension Lines:	**No Limit**

PILOT CHUTE

Use restitching or single side patch. Anything more, replace.

PILOT CHUTE CAP

Replace when spandura fabric becomes worn.

CLOSING LOOP

Replace one time per year. See Chapter 8

BRIDLES

Damaged bridles should be replaced

CONTAINER

Standard military single side patches or replacement of the damaged area is authorized.

HARNESS

Any portion of the harness which is structurally damaged should be replaced in a manner to duplicate the original equipment.

RIPCORDS

Damaged ripcords should be replaced.

DATA CARD

Data cards should not be discarded or replaced. When filled, they should be attached to the new card so that a complete log of packing, repairs, and alterations is recorded. This is the history of the parachute.

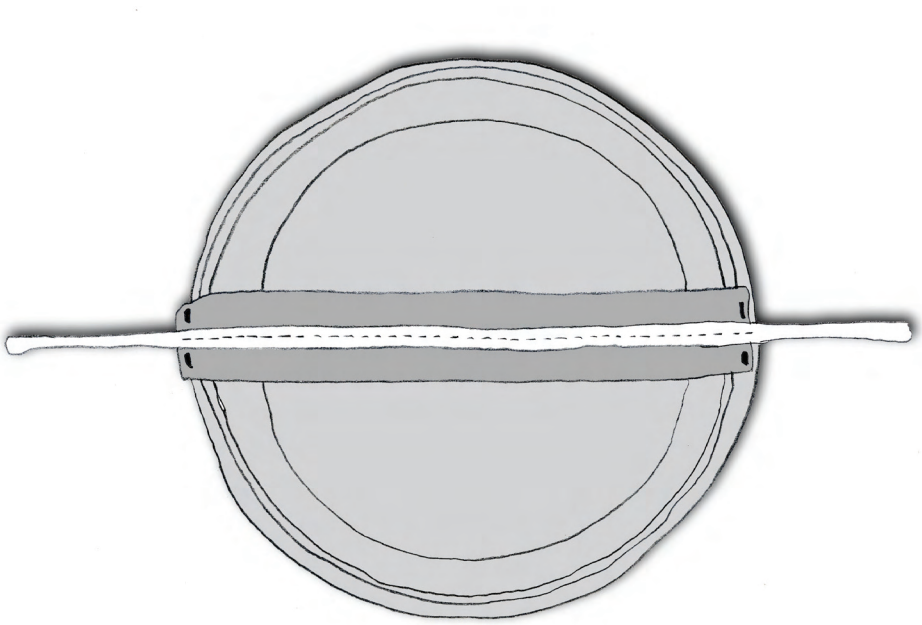
Note!

Darning and ripstop tape are not authorized for certified canopy's as they may weaken the fabric. Single side patches are recommended for even small damaged areas.

8. Changing the Pilot Chute Loop and Cap

8.1

The 311 Wedge Parachute Assembly has a Pilot Chute Cap with a Spandura Rim. This Spandura Rim is hand-tacked to the top of pilot chute at 90º angles to loop openings. By snipping this hand tacking, you can easily remove the cap and lift it off.



8.2

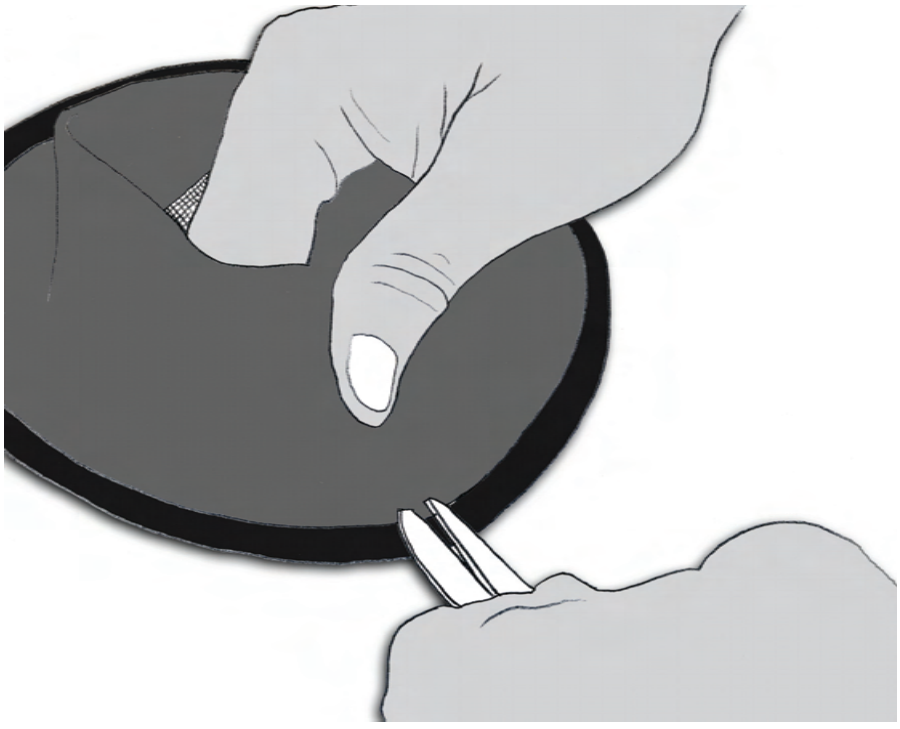
Once the cap is removed, remove the loop by snipping the hand tacking. Install a new loop by hand tacking from the bottom side up, then back through down, up on the other side, then down again on the opposite edge, followed by a good surgeons knot.

Note!

The Pilot Chute Loop must be placed as close to dead center as possible. Being off even a couple of degrees may cause Pilot Chute to not sit properly on packed container.

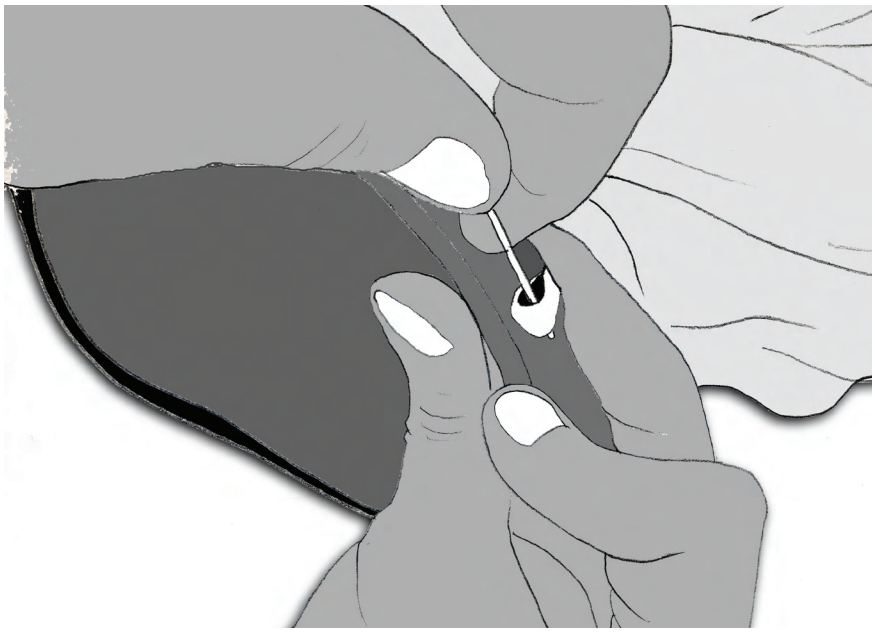
8.3

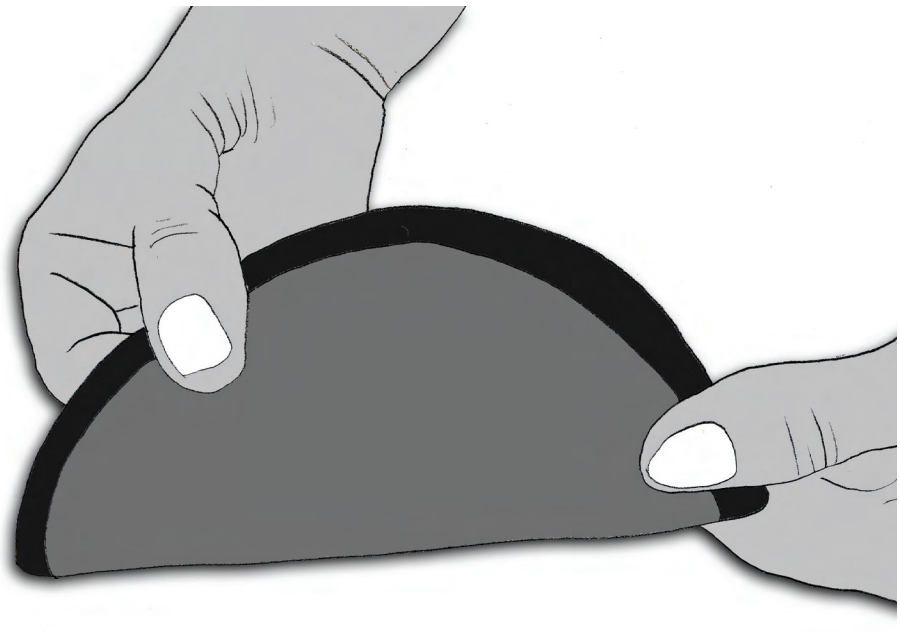
If you are replacing the cap, you must make two small holes where the loops will come through the Spandura. Do this near the seam in the Binding tape.



8.4

Once holes are cut, install new cap over the loop by aligning loop ends with the holes in the Spandura cap and pulling the loop through the holes with your hand tack needle.
Rigger tip: Once you have cut the first hole in the Spandura for your loop to come through, fold the cap perfectly in half at that hole, making a crease. Unfold the cap, and you can see just where 180º is and where your other hole should go.





8.5

Hand tack new cap in place at 90º angles to the loops.

Note!

Be careful not to catch pilot chute canopy cloth below stitch line at the top of the pilot chute. Doing so may result in stress being put on the cloth resulting in a hole in canopy.

9. Installing the Toggles

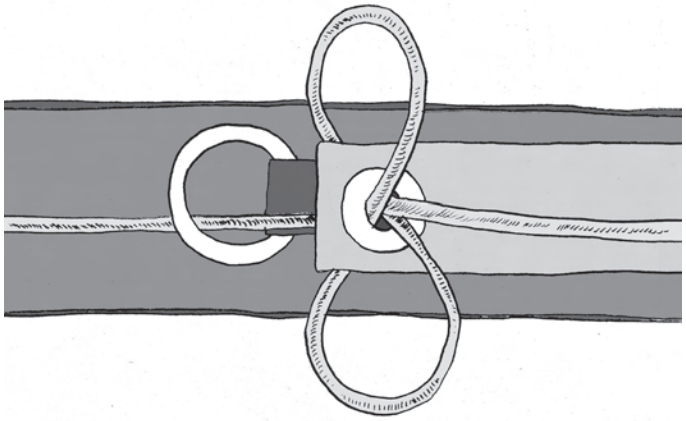
9.1

Thread the steering line through the grommet in the toggle, starting from the underside of the toggle (the side with Velcro®).

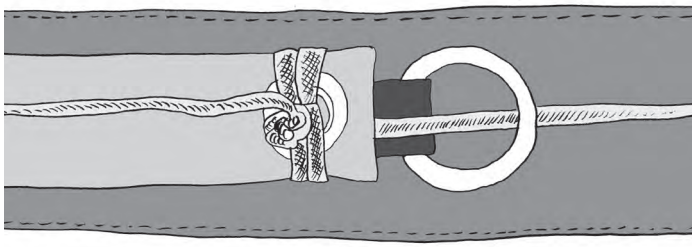
Lay the toggle on the riser where it will be when set, and measure where the steering line should be tied, There should be one or two inches of slack in the steering line after the rest of the lines are pulled tight. Figure-8 the line through the grommet and secure with an overhand knot.

If the steering line is thin, as in the Mid-Lite, or Lite, a second figure-8 may be necessary to fill up the grommet hole. Mate the Velcro® to secure the toggle to the riser.

For original Para-Cushions (old style) that utilize a metal ring, route the steering lines through the guide ring on each riser, zig-zag stitch a 1 1/2 inch loop (trim the excess line), then slip loop through and over a 1 inch ring or through the steering loop.



Safety tie each steering ring to the riser immediately below the guide ring using seal thread (cotton 24/4), one turn, single ply.



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Strong Enterprises

"The parachute company with imagination"

Division of S.E. Inc.

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Tel. (407) 859-9317 Fax: (407) 850-6978

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PARA-
CUSHION
EMERGENCY PARACHUTES

Owner's Manual
For packing and maintenance of

Para-Cushion
model 311

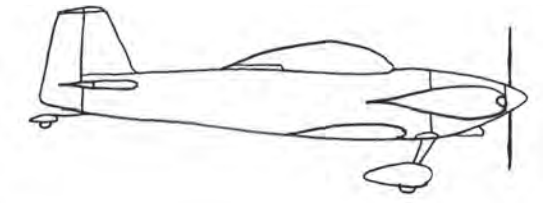
Part number: 1045-4

with

Diaper equipped

26ft. Mid-Lite Canopy

Part number: 1012-(420550)



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! 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. The results of such malfunctions are sometimes serious injury or death. There are so many factors, both human and natural, beyond our control that we want you to clearly understand that by using or intending to use our parachutes, you are assuming a considerable risk of personal injury or death. If you are not willing to assume that risk, please return the parachute to the dealer where it was purchased for a full refund.

DISCLAIMER

There are NO WARRANTIES which extend beyond the description of the parachutes in this manual and neither the seller nor any agent of the seller has made any affirmation of fact or promise with respect to the parachutes except those that appear therein.
The liability of the seller is limited to the duty to replace 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 any accident, improper use, alteration, tampering, abuse or lack of care on the part of the purchaser.

Mr. Edward Strong
President, Strong Enterprises
A Division of S.E. Inc.
11236 Satellite Boulevard
Orlando, FL 32837

U.S. Department of Transportation
Federal Aviation Administration

Dear Mr. Strong:

This is in response to your March 9, 1992, and subsequent submittals requesting Federal Aviation Administration authorization to identify Para-Cushion Series, Part No. 1045-( ) emergency parachutes assemblies, in accordance with the requirements of Federal Aviation Regulation (FAR) Part 21, Subpart O, Technical Standard Order (TSO) C23c, and SAE Aeronautical Standard AS-8015A, Category B.

We find your March 9, 1992, Statement of Conformance submitted with your request and your Quality Control Manual dated December 6, 1988, acceptable.

The following data as submitted by your letter will be retained on file for this authorization:

a. Strong Enterprises Test Summary dated March 9, 1992.

b. Strong Enterprises Drawings for the Para-Cushion Series P/N 1045-( ) submitted with your March 9, 1992, request.

c. Strong Enterprises Owner's Manual which includes limitations and instructions and was submitted on May 7, 1992.

Effective this date, you are authorized to identify the Para-Cushion Series, Part No. 1045-( ) parachute assemblies with the appropriate TSO markings required by the applicable TSO and FAR 21.607(d).

This authorization is not transferable to another person or location and is effective until surrendered, withdrawn, or otherwise terminated by the Administrator.

Your responsibilities as a holder of a TSO authorization are outlined in FAR 21.3 and FAR 21, Subpart O.

The Airframe Engineer for this authorization is Cindy Lorenzen, telephone number (404) 991-2910. The Technical Support Specialist is Lorraine Bush, telephone (404) 991-6137.

Sincerely,

John Tigue
Manager, Atlanta Aircraft
Certification Office