

PARA- CUSHION

EMERGENCY PARACHUTES

Owner's Manual
For packing and maintenance of

Para-Cushion **model 306 Squadron Seat**

Part number: 1045-(T)

with

Diaper equipped

26ft. Mid-Lite Canopy

Part number: 1012-(420550)



Warbirds



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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.

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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 306 Squadron Seat 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).

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.

1.4 Repack Cycle

Your Para-Cushion Squadron Seat 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 Squadron Seat must be packed by an FAA Senior or Master parachute rigger with a seat 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 306 Squadron Seat Emergency Parachute System, is an FAA approved emergency parachute system 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 newer version of the seat type (the 304, introduced in 1988) has fabric riser covers and is slightly taller than the original Para-Cushion Seat. The Para-Cushion Chair (305) combines the best features of both the back and seat types and extends all the way from shoulders to thighs on the wearer.

The unique arrangement of each system with its externally mounted pilot chute (U.S. Patent #3,908,937) allows for a soft flexible container with protected ripcord pins.

1.6 Model Description

The Squadron Seat Pack covered in this manual, is an FAA approved, manually operated emergency parachute system, fitted with a round 26-foot diameter, steerable canopy. The system was designed specifically for the bucket style seat pan used in Warbirds such as the SN-J, T-6, T-34, T-28, P-51 and many others. The pack and cushion combination are shaped to fit fully into the seat to provide a large, stable, comfortable base for the pilot to sit. 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 and seat cushion utilize Confor Foam padding for additional comfort and support.

Each complete system weighs between 15 and 17 pounds depending upon model and canopy used. This manual covers Para-Cushions packed with the following emergency canopies manufactured by Strong Enterprises: 26-foot Standard Lo-Po, 26-foot Military Lo-Po and 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 time since previous packing.

1.7 System Function

The Para-Cushion is activated by pulling the ripcord handle. This withdraws the ripcord pins and releases 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 suspension lines are stowed. The balance of lines are stowed inside the container. On deployment, as the canopy is extracted from the container, 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 at 300 feet.

1.8 Care of your 306 Squadron Seat 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

Strong Enterprises produces 3 basic harness designs, the standard fixed harness, the fully adjustable harness, and the aerobatic harness. Below, please find proper fitting for each of these models. Standard Fixed Harness - This harness has 3 adjustment points, one on the chest, and one on each leg. 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.

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 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 seatbelt. 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 to 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 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 housing points 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. 306 Squadron Seat Product Description

The Squadron Seat Pack was designed specifically for the bucket style seat pan used in Warbirds such as the SN-J, T-6, T-34, T-28, P-51 and many others. The shape of the Squadron Seat pack and cushion combination are designed to fit squarely into the bucket style seat providing a large, stable base on which the pilot can fly in comfort.

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 and seat cushion utilize Confort Foam padding for additional comfort and support.



2.1 Parts list



» **121103 Harness and Container Assembly**, _____

» **420520 Mid-Lite or 28' Military Canopy**



» **632334260 Ripcord Assembly**, _____

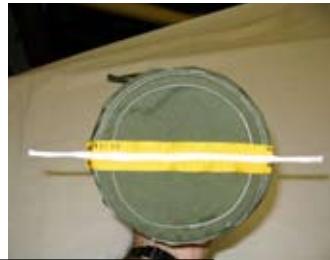


» **812203 Seat Cushion**, _____

» **790121 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 1ea**
- E - T-handles 3 ea**
- F - Pull-Up Cords 3 ea**
- G - Tension Plate 1 ea**
- H - Tension Hook 1 ea**
- I - Temporary Pins 2 ea**



4. Prepare Parachute Assembly for Packing

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

5. Inspection

- » Inspect entire assembly for completeness and any damage.
- » Inspect pilot chute and bridle.
- » Check that Larks-head knot on 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 screws are tight in the L-Bars.
- » Inspect Harness and Container Assembly.
- » Check that elastic stow bands are stretch and in good condition.
- » Check tackings for tightness and condition.
- » Inspect Hardware for functionality and condition.
- » Inspect Harness for nicks, abrasions and sun damage.
- » Check ripcord is snug fit.
- » Check closing loop length (see chapter 8).

6. Packing the 306 Emergency Parachute System

6.1 Pleat and Long Fold

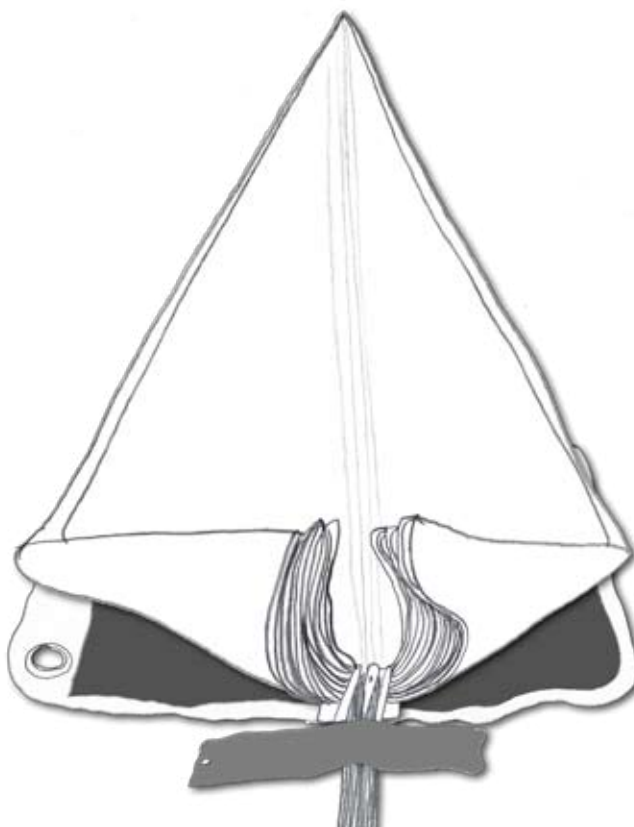
6.1.1

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



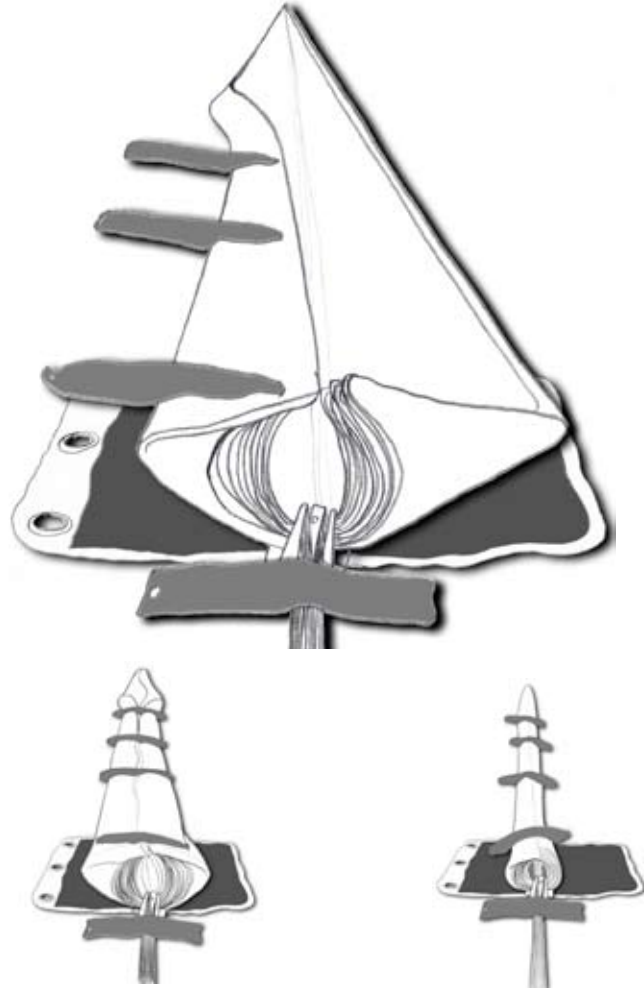
6.1.2

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



6.1.3

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

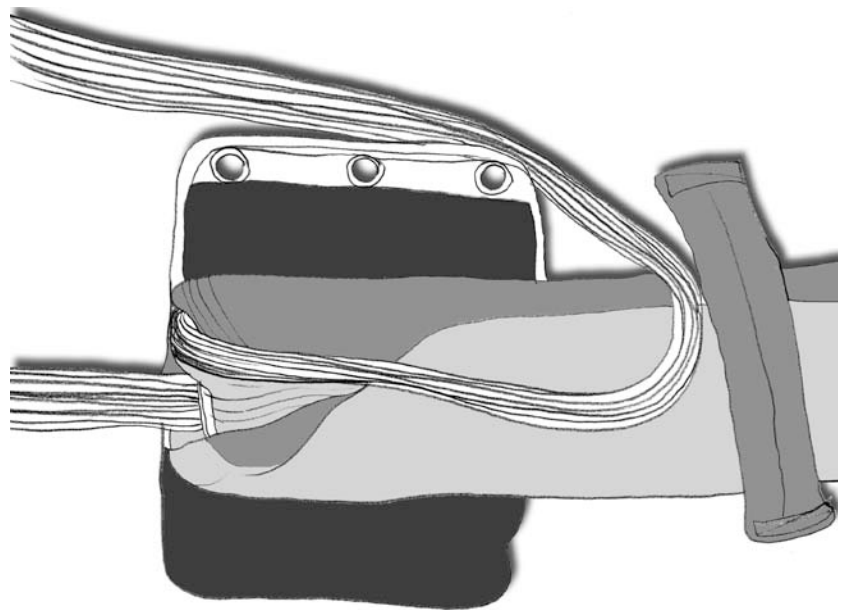


6.2 Securing the Diaper

6.2.1

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

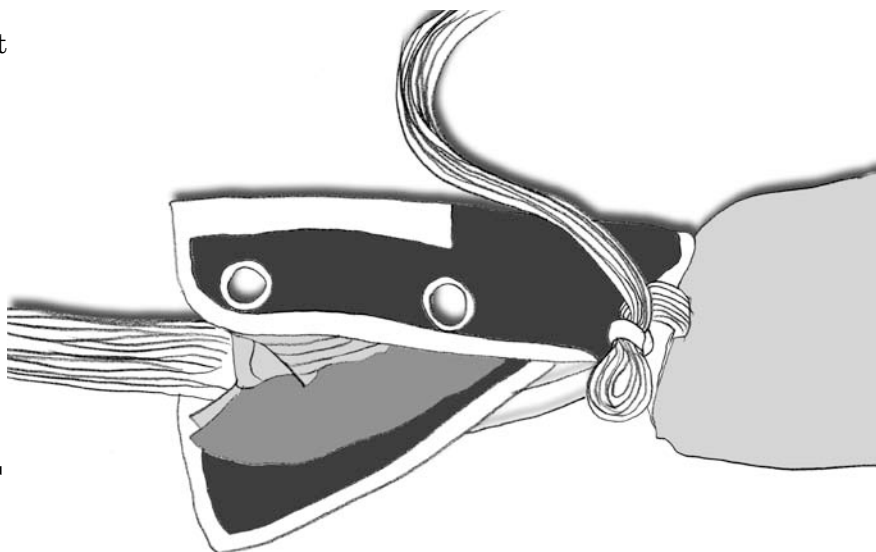


6.2.2

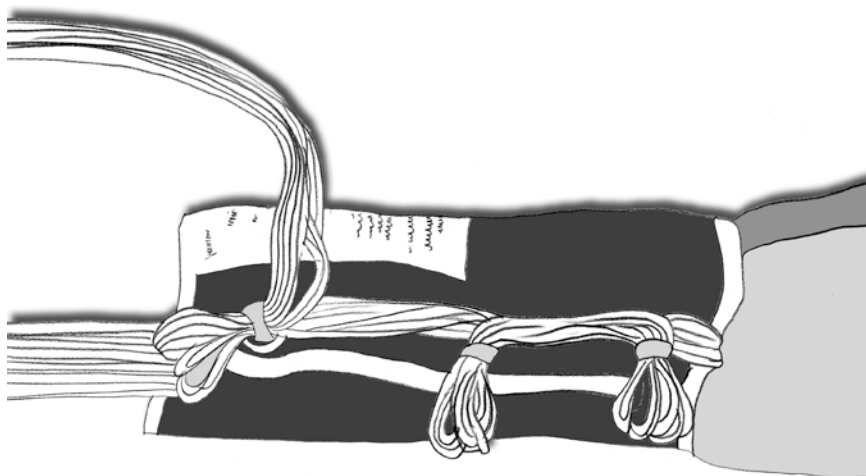
Wrap the diaper around the skirt and left line group

! WARNING !

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

**6.2.3**

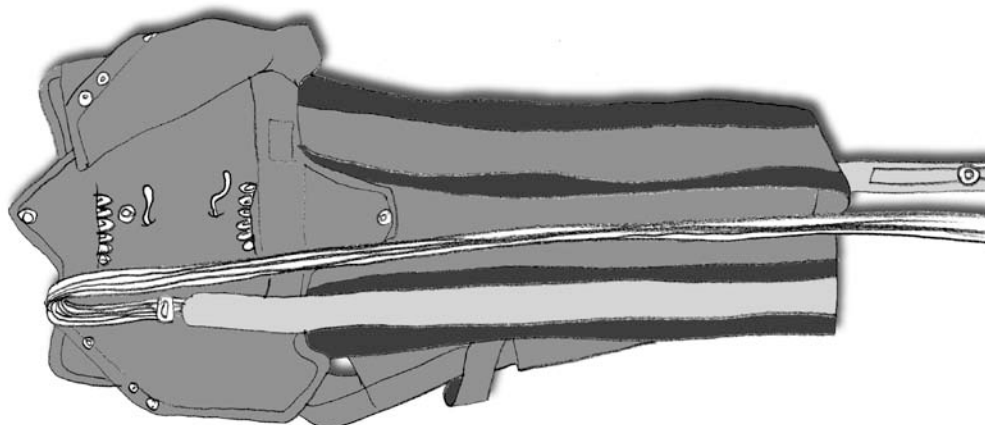
Pass three (two on older models) locking rubber bands through their respective grommets in the diaper. Secure the diaper by stowing the left line group through each of the three (or two) rubber bands, stowing from top to bottom making 1 1/2 inch bights. Unless the shorter (1 1/4") rubber bands are used,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



6.3 Risers Placement

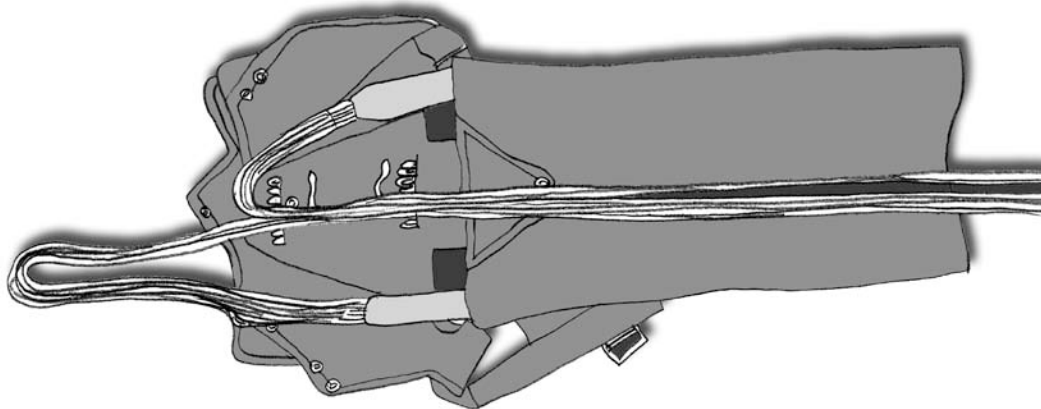
6.3.1

Route the risers down the backpad and mate the Velcro®. This will result in the connector links being approximately four inches inside the container.



6.3.2

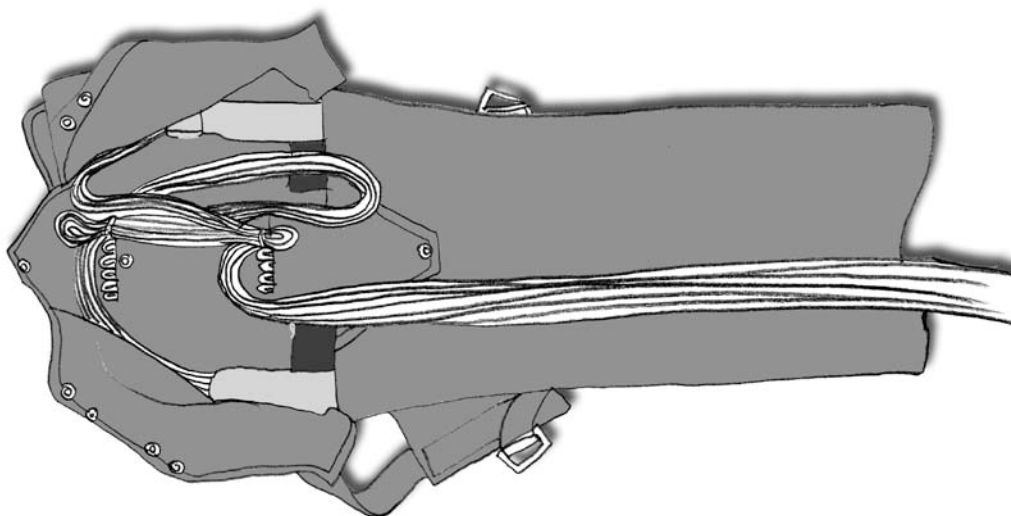
After diaper is secured, the right line group will be 14-16" longer than left line group at pack end.



6.4 First line Stow

6.4.1

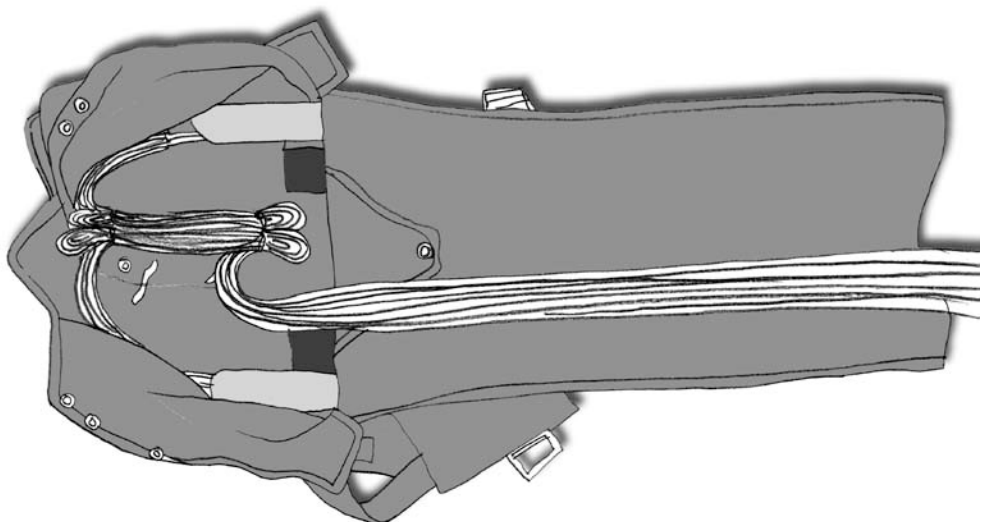
Grasp both line groups together about 16" from the left link. (The slack in right line group will be toward the link; lines toward the canopy should be even.) Stow first bight of line in third rubber band on wearer's rear left corner of container.



6.5 Excess or Half line stow

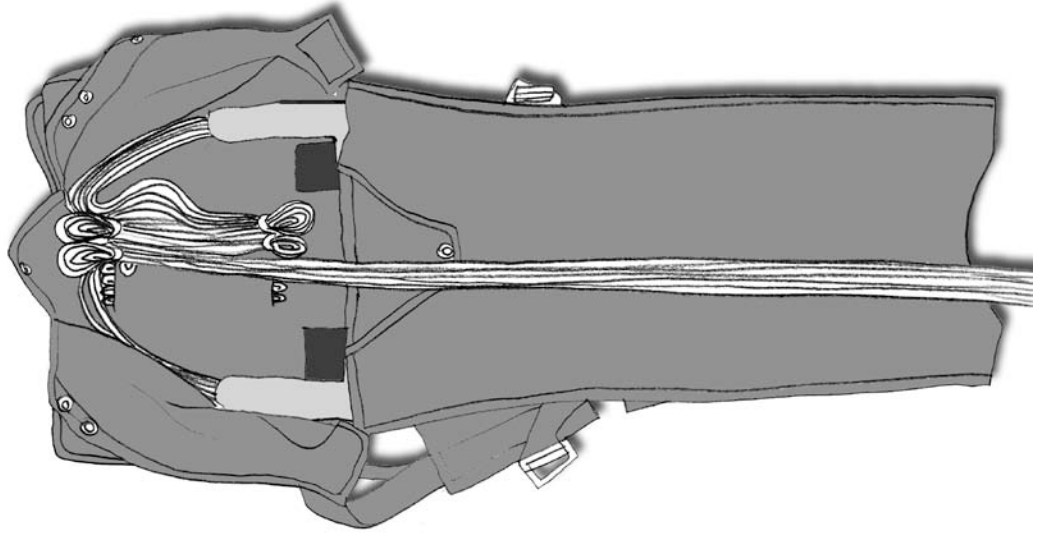
6.5.1

The resulting "excess" length (about 30") from the right riser will have only one-half the total number of suspension lines. Holding both line groups in front left corner of pack, pass this "half" stow under previous ("full") stow, and stow in first rubber bands, rear and front, on left side of center section of the pack.



6.5.2

This bight may be doubled back on itself before being placed in the rubber band to accommodate for the extra length.

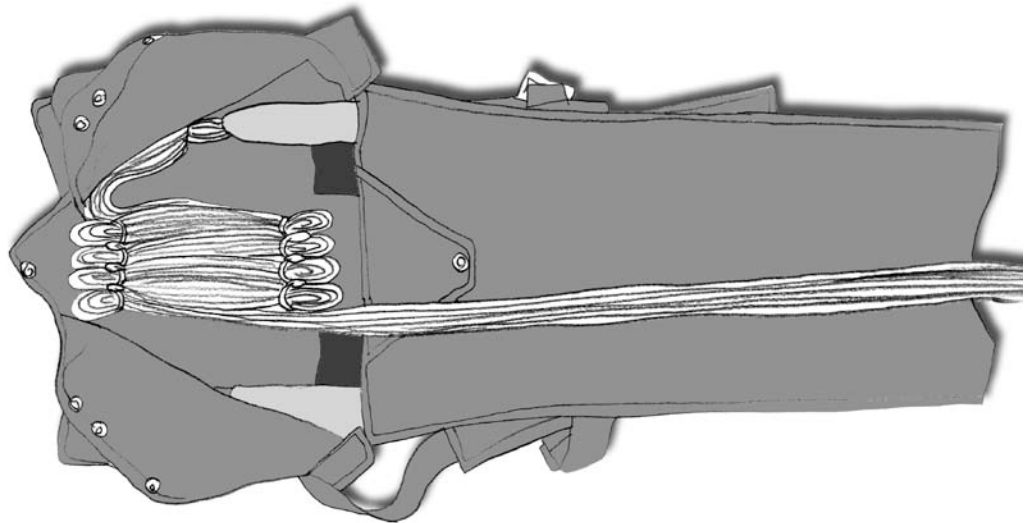


6.6 First Layer of Lines

6.6.1

Now that the two line groups are even, stow the remaining lines in the pack in two layers.

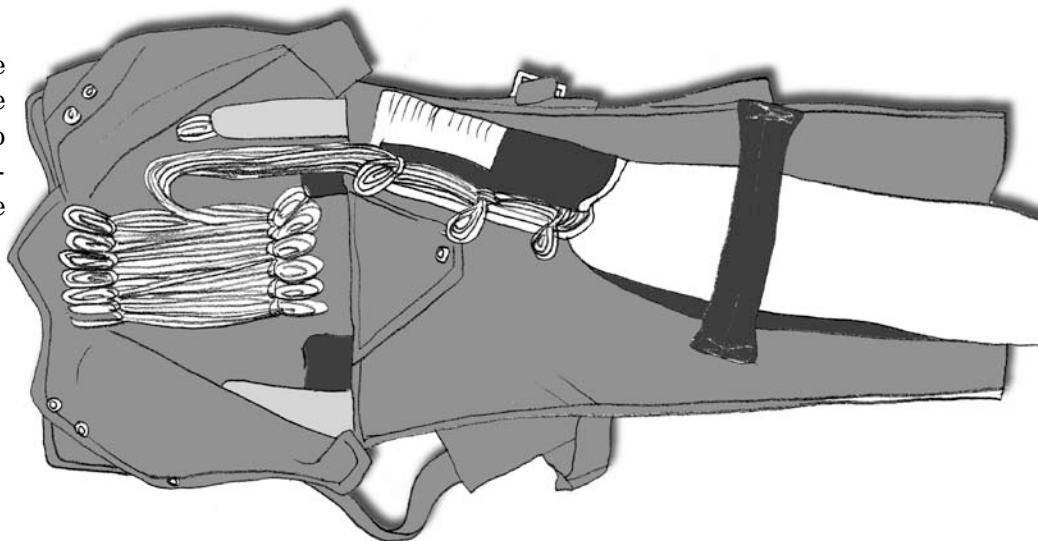
Make the stows of the first layer alternate from (wearer's) rear to front, skipping a rubber band between each stow.



6.7 Second Layer of Lines

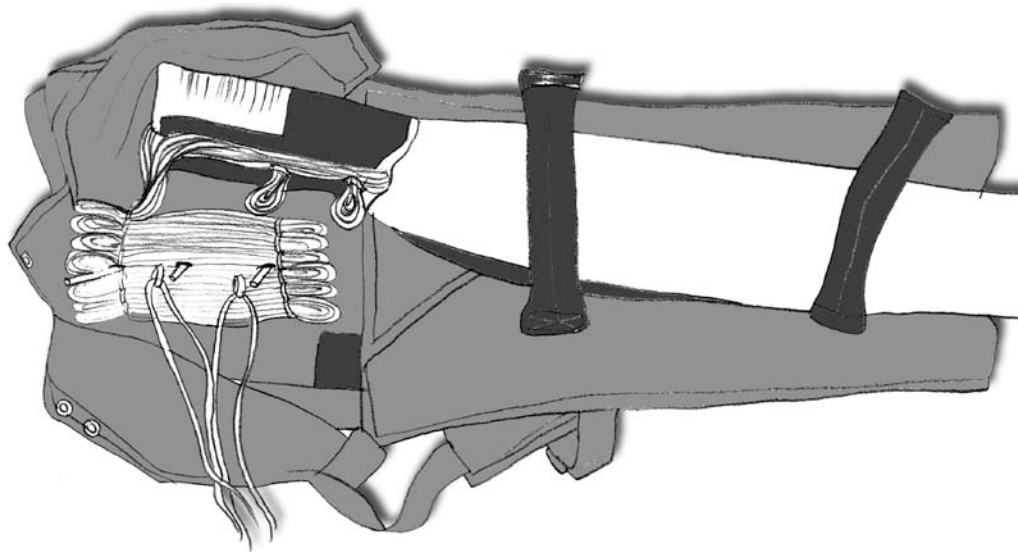
6.7.1

Make the stows of the second layer alternate from (wearer's) rear to front, using the rubber bands that were previously skipped



6.7.2

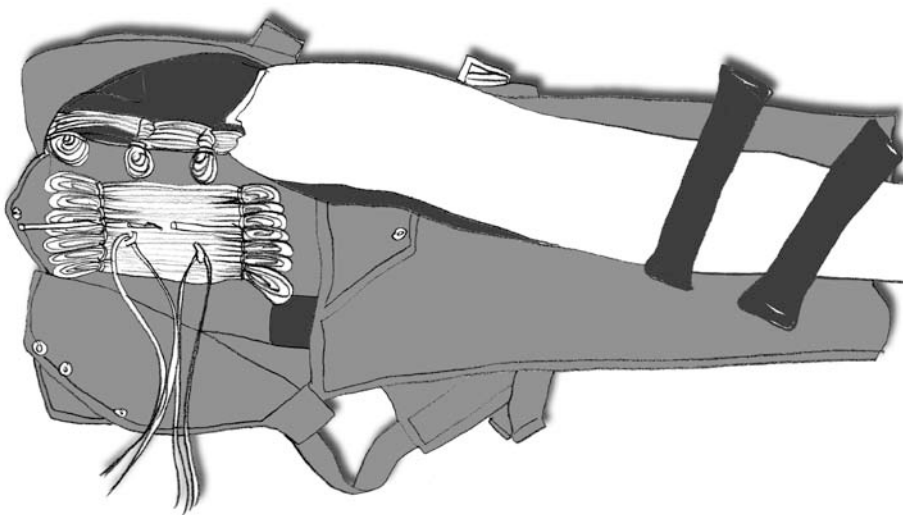
Place a pull up cord in both temporary locking loops. They are located between the stow bands in the bottom of the container.



6.8 Skirt Placement

6.8.1

Slide the skirt straight in towards the lower left corner, leaving it about 2" from bottom.

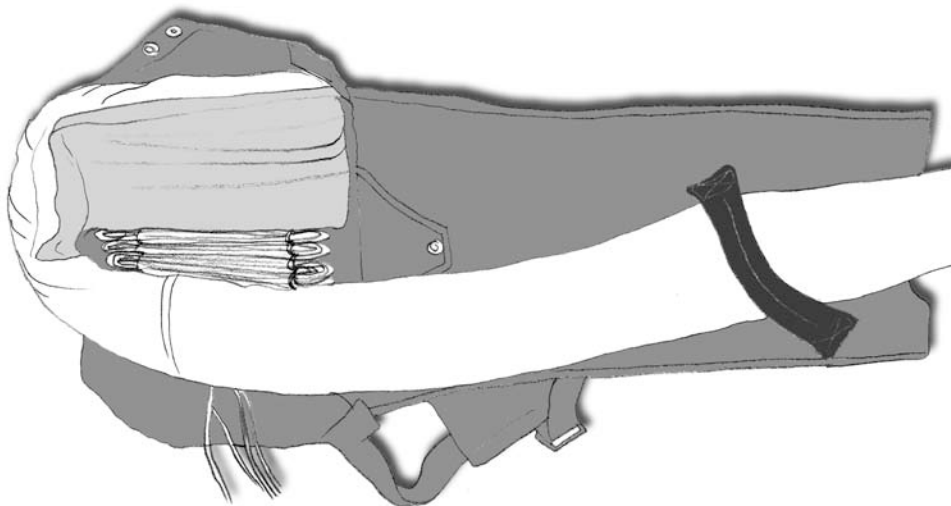


6.8.2

Make an S-fold, starting at the top of diaper, folding down towards and filling lower left corner.



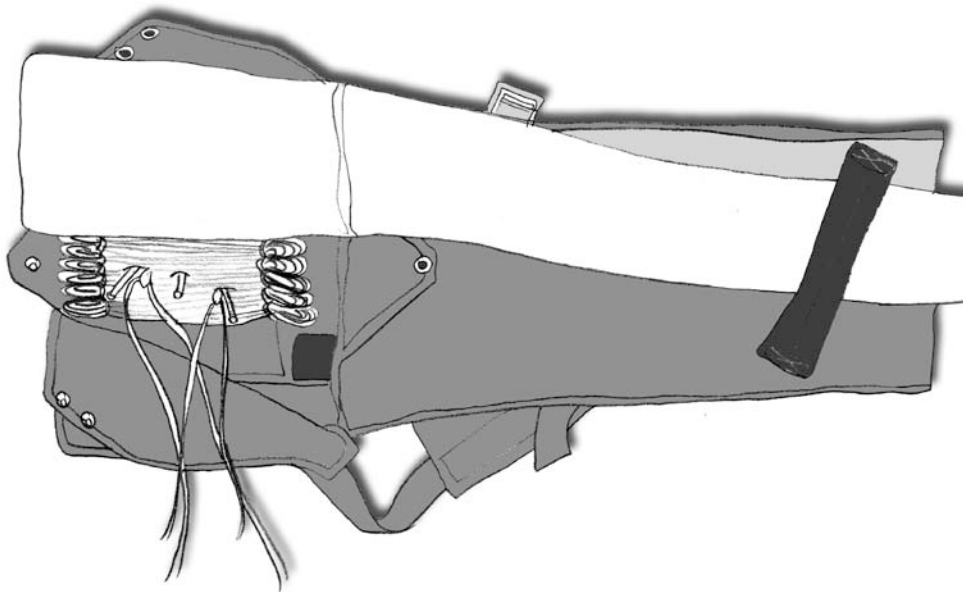
S-fold



6.8.3

Fill the remaining left side of the pack by stacking the canopy on its side between the lines and diaper and up towards the top of the container. The canopy goes up, down (fill the corner) up, stacked on its side.

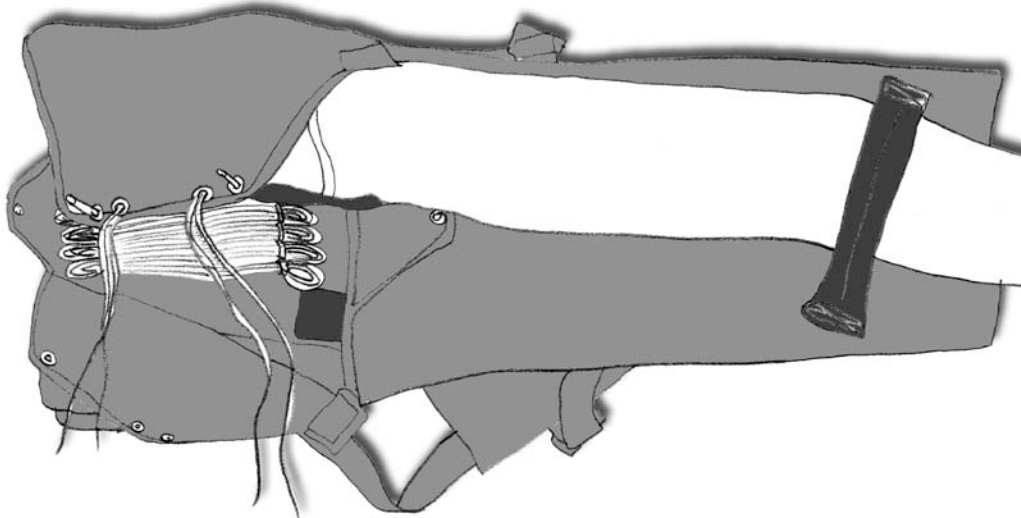
Now insert your 3 T-handles through the 3 grommets in container.



6.9 Closing the Left Side Flap

6.9.1

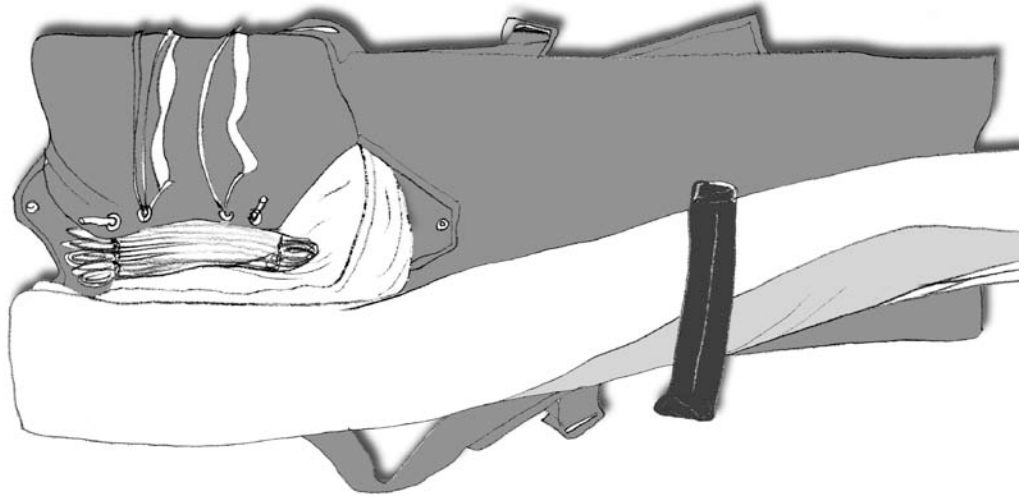
Pull up the temporary locking loops and pass them through the two middle grommets on the left flap and secure with temporary pins. Mate the Velcro® located at top corner of the side flap.



6.10 Accordion Fold Right Side

6.10.1

Route canopy across top of pack, above line stows.



6.10.2

Do not stack the folds on top of each other on the right side as is done on the left side. Turn the folds 90 degrees and stack them on their side towards the center of the container filling the corners as you go.

Spread apex out flat and lay it on top of folds routing the bridle to center of pack, then outside between container flaps.

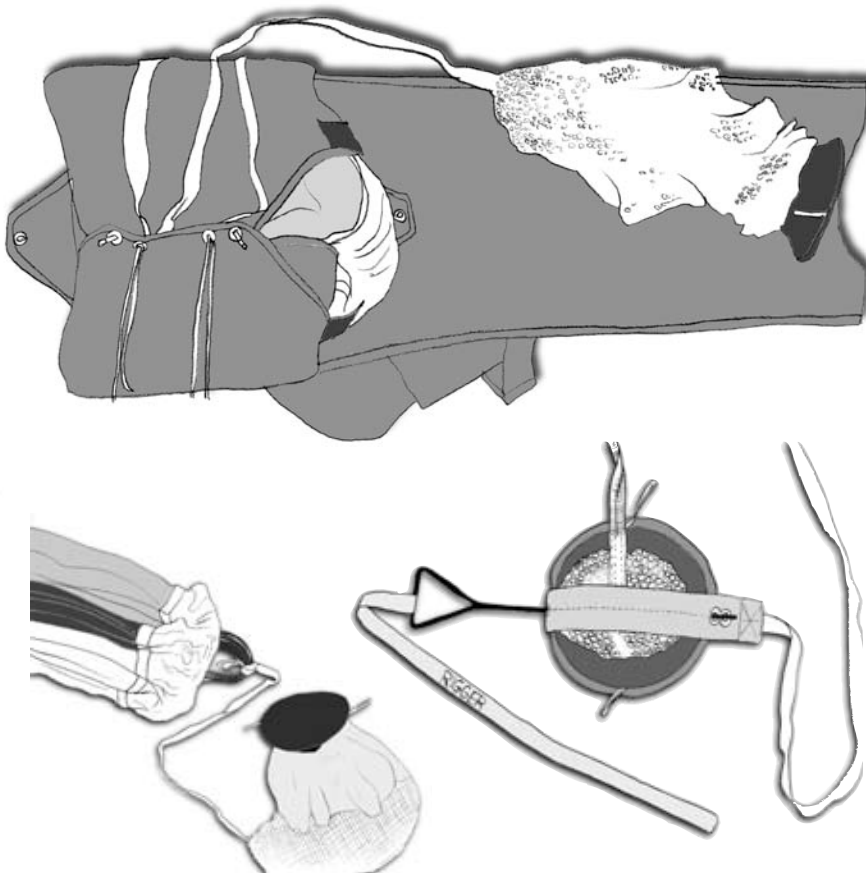
Pass pull-up cords through the two middle grommets on right flap and secure with temporary pins.



6.11 Closing the Container

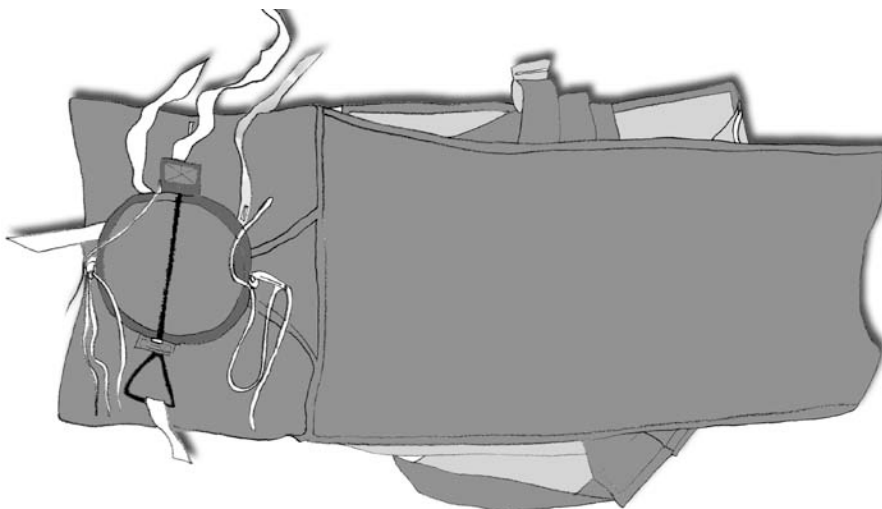
6.11.1

Stand the pilot chute upright on the locking strap. While compressing pilot chute, neatly and symmetrically tuck the pilot chute's canopy cloth in between the coils of the spring. Continue until the pilot chute is fully compressed and lock with locking rod. Pre-close the pack in the following manner by inserting T-handles up through grommets in bottom of pack tray, passing them through the grommets in flaps so the flaps are closed in the following closing sequence: right side, left side, top and bottom flaps keeping lines together away from the canopy.



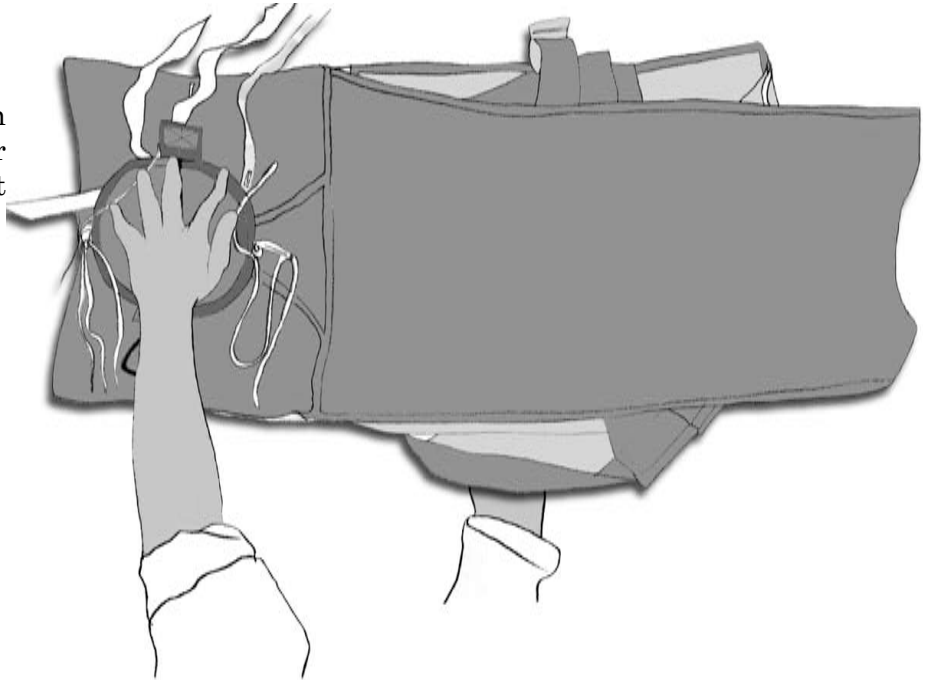
6.11.2

After T-handles are inserted, pass the two pull-up cords through the closing loops in pilot chute cap. Next center pilot chute between grommets and pass ends of the pull-up cords through slots in T-handles.



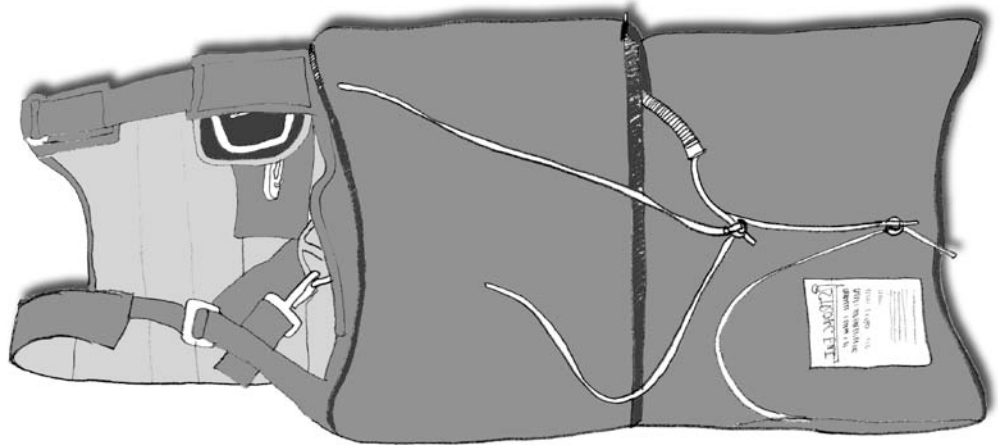
6.11.3

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



6.11.4

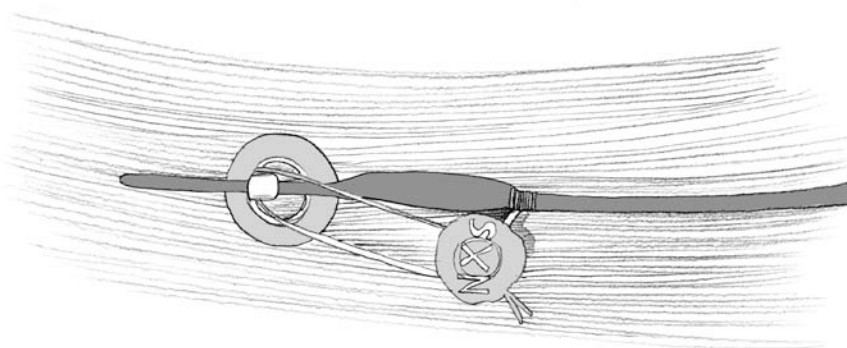
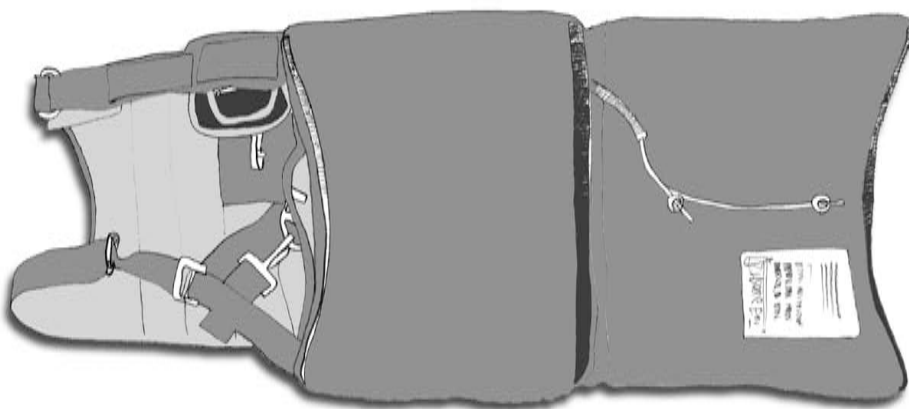
Draw pull-up cords through grommets by removing the T-handles from pack. Draw pull-up cords up tight until closing loops are through the pack. Work from the rear of pack to the front inserting each ripcord pin in its loop.



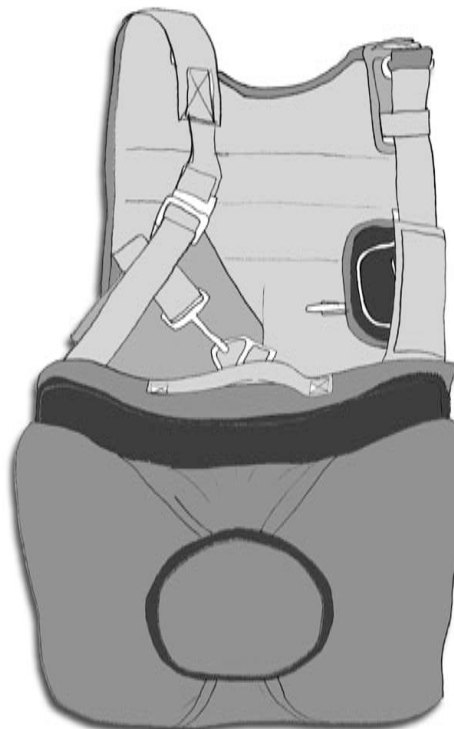
6.11.5

Slowly and carefully remove the pull-up cords to avoid friction burns on the locking loops. Remove the pilot chute locking rod and strap, the four pull-up cords, and the two temporary locking pins.

Use a fid, tuck excess pilot chute fabric under the rim of cap. Dress pack and seal end pin. Complete data card and your rigger's logbook. Be sure ripcord handle is secure in it's pocket. Zip cushion closed and count your tools.



! WARNING !
Count your tools
To insure 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 by appropriately rated FAA certified parachute riggers.

CANOPY

TYPE OF REPAIR

Re-stitching:

Patch, single side:

Panel replacement:

Radial Seams:

Lateral bands:

Upper

Lower

“V” tabs:

Suspension Lines:

LIMITATIONS

No limit as to length or number.

Size limit: 50% of panel area.
Limit of 3 per panel, 15 per canopy.

Limit 9 per canopy

Size limit: 12”, no more than 4 per canopy.

Damage: size limit 2”
Limit: 1 per canopy
Limit: 4 per canopy

No limit

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. Length for 306 Squadron Seat closing loop is 10 1/4 inches, \pm 1/4 inch. Change if out of tolerance or worn.

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 a complete log of packing, repairs, and alterations is recorded. This is the history of the parachute.

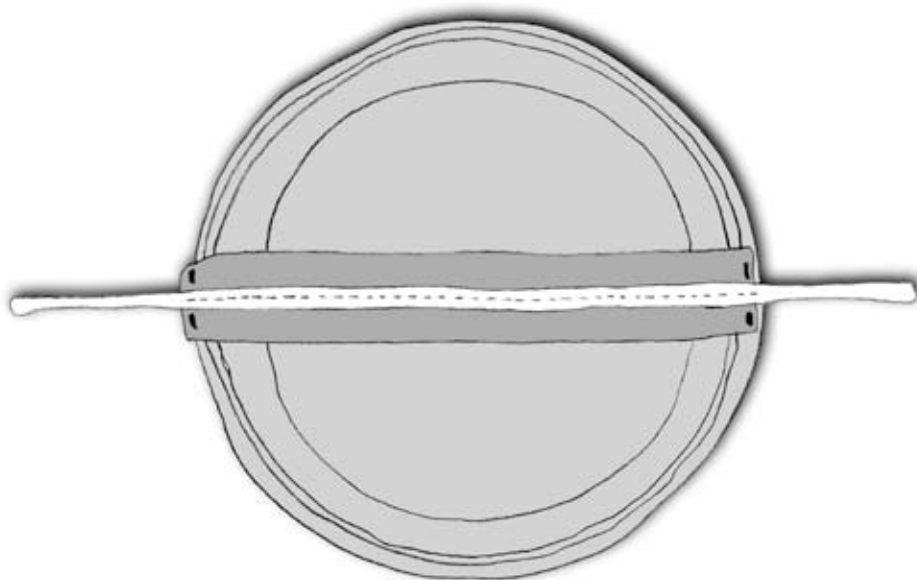
Note!

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



8.2

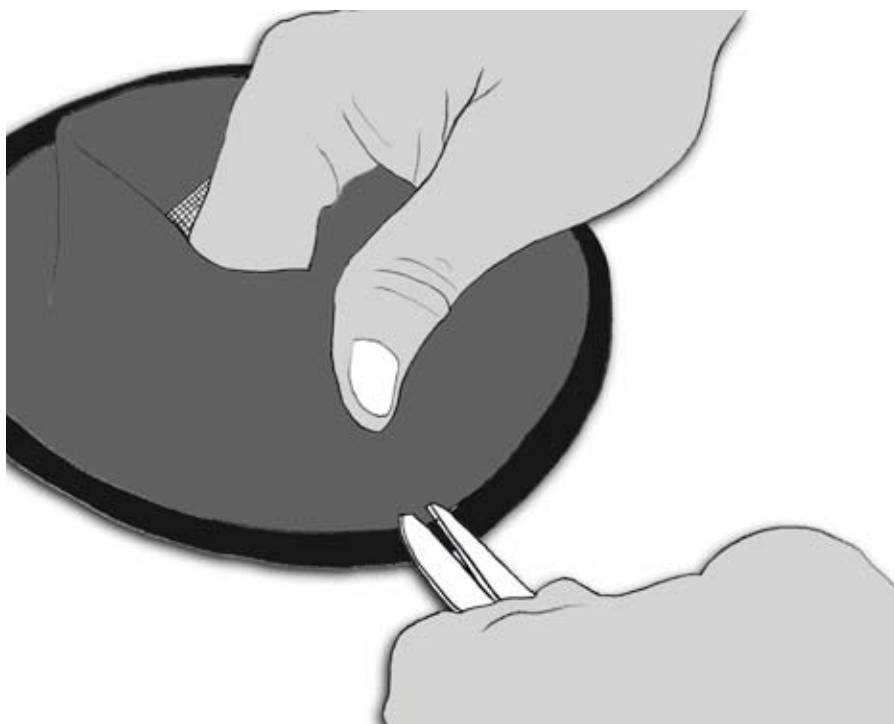
Once the cap is removed, remove the loop by snipping the hand tacking. Install a new loop by hand tacking from the bottom side up, then back through down, up on the other side, then down again on the opposite edge, followed by a good surgeons knot.

Note!

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

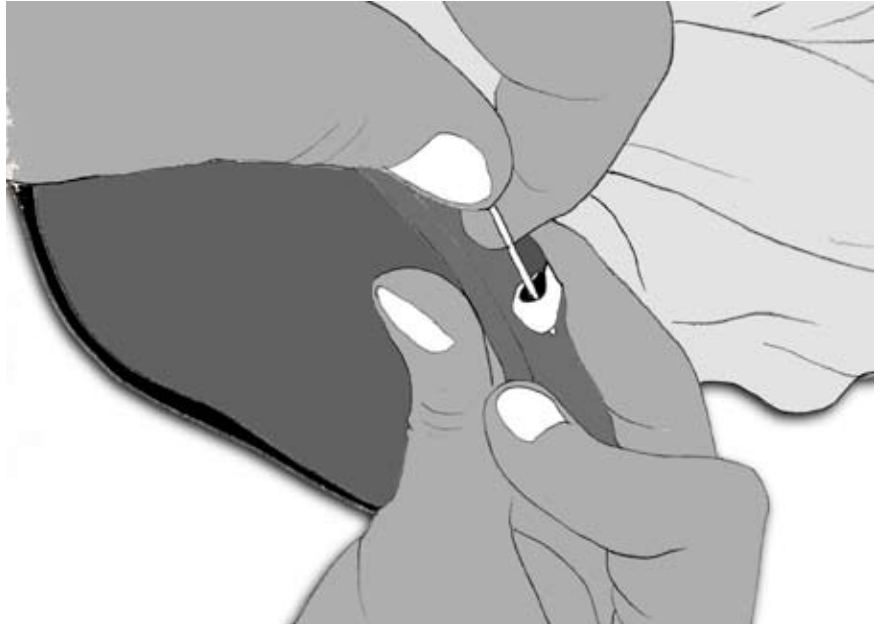
8.3

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.



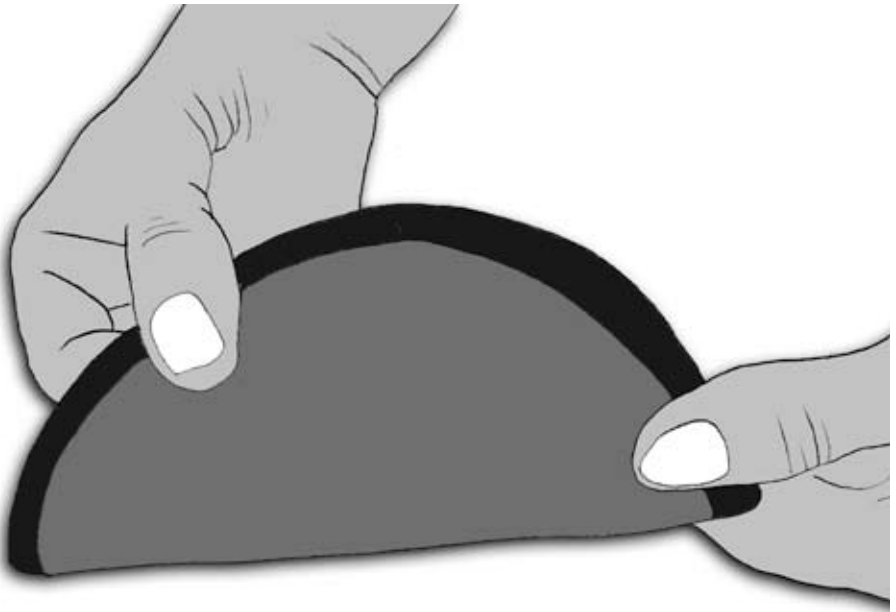
8.4

Once the holes are cut, Install the new cap over the loop by aligning the loop ends with the holes in the Spandura cap and pulling the loop through the holes with your hand tack needle.



8.5

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 180° is and where your other hole should go.



8.6

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



Note!

Be careful not to catch the pilot chute canopy cloth below the 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 the canopy.

9. Installing the Toggles

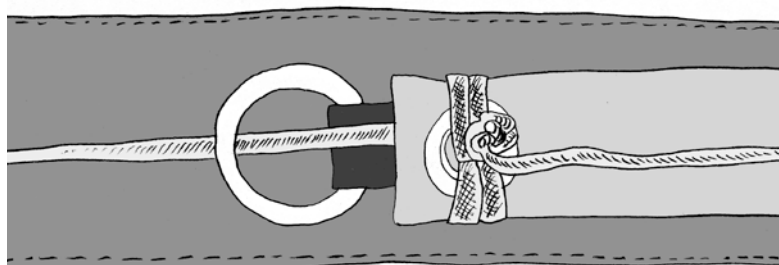
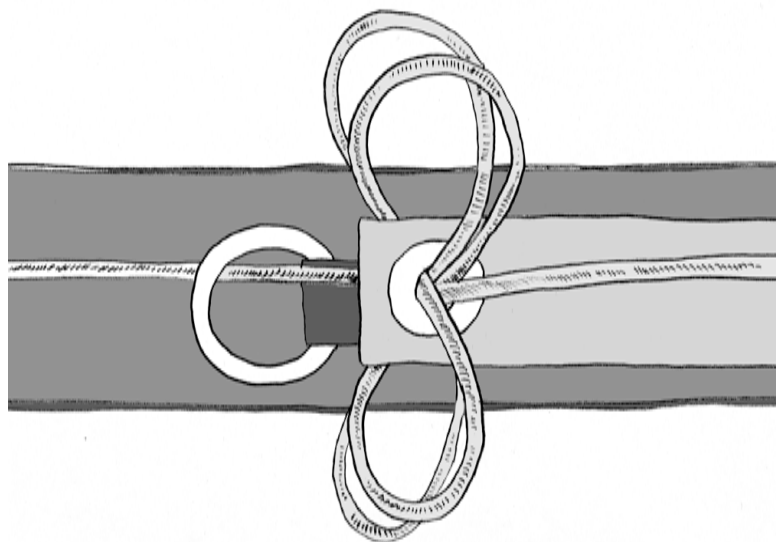
9.1 Thread the steering line through the grommet in the toggle, starting from the underside of the toggle (the side with Velcro®).

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.



Notes

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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



The parachute company with imagination.

Division of S.E. Inc.

11236 Satellite Blvd. Orlando, FL 32837

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

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