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SST OWNERS MANUAL

SERIAL #

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SST OWNERS MANUAL

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INTRODUCTION

Thank you for purchasing the SST. There's much about your new harness and container system that you can see, the workmanship, the strong fabrics and hardware we chose to build it, the sleek design to help you skydive safer and more smoothly. We've paid attention to details like the hook knife and the finished end on the chest strap. But many features of the SST will escape your first glance.

We started building SSTs when the idea of "piggyback" meant literally snapping a reserve to your back above the main container. We fought hard to get the rights to the Pop-Top reserve system, because we knew there was no better design. We have refined the SST from the most time-proven design in parachuting. It's funny, but not that much needed changing. We got it right the first time.

The original SST worked much like your new rig. Parachutes got small, so we trimmed the SST to the familiar wedge shape of the Racer. The 3-Ring release became available, so we designed it into the system. Skydivers demanded hand deployment, so we gave them the choice of either type--pull-out or throw-out.

Modern canopies had become so small, the harness could no longer brace against the pack for fit. The new age called for a truly integral harness and container system that fit more like a tailored coat than a hiker's backpack.

That's how your new SST came to be. And yet, it still is an SST. We alone offer the superior Pop-Top reserve system, and we still make SSTs for the jumper who demands gear from the cutting edge of skydiving technology.

This manual introduces you to your new SST--An introduction you must have before taking to the air with it. So leave yourself plenty of time between getting the rig and making the first jump. Use this manual to help familiarize yourself with the system. You can get thousands of jumps from a well maintained SST, so there's no need to rush the next one.

ATTENTION

IT IS ASSUMED THAT INTENTIONALLY JUMPING FROM AN AIRPLANE IN FLIGHT OR FROM A FIXED OBJECT IS DANGEROUS TO LIFE AND LIMB. PARACHUTES DO NOT ALWAYS WORK AS DESIRED. WHEN YOU TAKE IT UPON YOURSELF TO PARTICIPATE IN PARACHUTE JUMPING, YOU ACCEPT THE FACT THAT NO MATTER HOW CAREFUL YOU ARE, OR HOW GOOD YOUR EQUIPMENT IS, YOU CAN BE SERIOUSLY OR FATALLY INJURED.

WARNING--NO WARRANTIES

DISCLAIMER

It is expressly understood and agreed between the seller and the buyer and any subsequent user of the SST, all or in part, the manufacturer and seller shall in no way be deemed or held liable or accountable for any failure or damages resulting from failure of the SST. Use of the SST for any purpose shall constitute waiver to the manufacturer and seller for any damages to person or property directly or indirectly caused by said use. The SST is sold with all faults and without fitness for any particular purpose, and the manufacturer neither implies or expresses any warranties or guaranties of the SST. Use of this rig for any purpose constitutes agreement between the buyer or user and the seller according to the terms herein. If the buyer refuses the terms of this agreement, he must return the unused SST to the manufacturer with 10 days of receipt of the SST with a letter stating why the SST was returned.

ABOUT THE MANUAL

This revision of the SST Manual was compiled in MAY of 1985. The data contained herein was current at that time, but the sport advances rapidly. None of this information may be true now, especially as time goes on from the MAY 1985 date. We reserve the right to change the SST and its procedures without notice.

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Caution: This manual is serially numbered corresponding to the SST it was shipped with. Technical information in this manual refers only to the SST of the same number.

The first two digits of the serial number denote the week of manufacture. The third digit denotes the year. The last two digits denote the sequence.

If you have any question regarding the SST, this manual, or the procedures described in the manual, contact:

Jump Shack South
1665 N. Lexington Ave. #106
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TECHNICAL DATA

The SST harness and container systems has been certificated in the Standard Category by the Federal Aviation Administration (FAA) under Technical Standard Order (TSO) C-23(b). This TSO refers to National Aircraft Standard (NAS) 804 published in September, 1949. To meet these requirements, the manufacturer must submit the design in drawings to the FAA Engineering District Office. The FAA then inspects and certifies the manufacturing facility and approves the quality control of the manufacturing process as described in the manufacturer's manual. The FAA further assures that the manufacturer will trace and inspect each piece of fabric and hardware he uses during the manufacturing process of the equipment.

Under TSO C-23(b), equipment can be tested to Standard Category (sometimes called high-speed) or Low Speed Category. The SST has been tested to the Standard Category which certifies it to a shock load of 5,000 pounds. The rig may be assembled with a Low Speed Category reserve canopy, but then the entire system becomes certificated in the Low Speed Category. (Later installation of a Standard Category canopy restores the system to the Standard Category, of course.) It behooves the rigger to list the system as Low Speed Category in the appropriate manner when he installs a reserve from that category. Standard Category requires no markings.

Many reserve and main canopies will fit well into your SST, but some won't. Results of packing the wrong-sized canopy into your SST range from difficulty in packing to a likelihood of either a premature pack opening or total pack closure, depending whether the parachute canopy is too small or too big. FAA Advisory Circular (AC) 105-2, paragraph 5.B(6) states guidelines for component interchangeability, but we've made the decision even easier.

Index "A" states the names of the various canopies on the market at the time of this printing and their approximate volumes. It tells you which size SST you should choose for these canopies. If you don't find your canopy listed, call the canopy manufacturer or Jump Shack South to find out where your canopy fits in to the list. Don't guess; it's unnecessary and dangerous.

MODIFYING YOUR SST

Although the Federal Aviation Regulations technically allow alterations to a main container, the SST is such an integral system, we don't recommend it. Virtually nothing on the SST works completely independently of the reserve system. We've tested the entire system as a unit, and it should stay that way.

If you think you can improve something, we welcome your comments. It's valuable input like yours from the field that made the SST the great rig it is. But ask first. We continue to test the SST, and we may have already considered your idea. What we learned could save you from finding out the hard way.

FUNCTION

General Description

The harness and container are designed and built as an integrated system for reasons of function, safety, and comfort. The components of the harness and container system are made from nylon and polyaramid fabrics manufactured to U.S. military specifications and new--not reconditioned--Mil-Spec. hardware.

The SST, SST/Racer, and SST Model T feature a pre-sized one-piece nylon harness. Every SST employs the Pop-Top reserve container design (courtesy of Strong Enterprises, Inc.) and a one-pin main container. The comfort pads will not absorb water, perspiration, or hold dirt. The padding was chosen for its light weight and durability. Although it won't keep you afloat, it provides some floatation for the system.

Both the main and reserve containers fit snugly around the canopies to keep them in place until the anchored pilot chute extracts them in the proper sequence. This metering effect maximizes the reliability of the canopies by preventing one part of the system from deploying ahead of another which should go first.

Alternate Method--Pilotchute Assist: Same as above except that the canopy end of the static is attached to the main pilotchute with Velcro or Breakcord. Loading the static line first extracts the main ripcord from the cloth closing loop, then extracts the main pilotchute and bag. When the system fully loads, the breakcord or Velcro detaches and releases the pilotchute and bag from the static line. The pilot chute and bag stay with the canopy.

THE SST RESERVE

The reserve parachute uses the patented Pop-Top pilot chute (courtesy of Strong Enterprises). It's the only reserve system where the pilot chute is externally mounted--so it doesn't need to push container flaps out of the way to get open--and the ripcord pins are protected between the reserve container and the wearer's back. The Pop-Top system enables the highest launch of the low-volume MA-1 pilot chute spring when the reserve has been properly assembled and packed. THE SST RESERVE PARACHUTE SYSTEM MUST BE USED WITH AN APPROVED PILOTCHUTE.

For a list of usable pilot chutes, refer to Appendix "B"

There are three ways to deploy the SST reserve.

1. Ripcord Deployment: A steel ripcord handle mounted on the wearer's left activates two ripcord pins when pulled. These pins release the two cloth closing loop that route through the pack, and over the pilot chute, and back through the pack. Releasing the cloth closing loop allows the pilot chute to launch into the airstream and deploy the reserve.

2. Reserve Lanyard: This system comes as standard equipment on the SST/trainer and is used to back-up to the above system after the wearer has separated from the main papachute canopy. A lanyard crosses from the right riser, passes through a steel ring, and then shackles to the left riser. The reserve ripcord and housing also pass through the steel ring, and the housing is secured at the ripcord handle end by only an elastic band. After the risers separate from the harness, the lanyard ring slides along the housing to a dynamic topmost point of suspension. The lanyard ring extracts the housing from its elastic channel or AAD housing clamp. When all tolerance is taken from the ripcord/housing system, the ripcord pins are extracted, and the ring slides free over the remainder of the housing and the ripcord. The spring-loaded pilot chute launches and deploys the reserve canopy.

NOTE: The force required to activate the Main Reserve Interlock is equal to the force required to pull the ripcord. Adequate force may not be generated, during a streamer (high speed/low drag) malfunction, when utilizing a direct bag static line system. Therefore a springless pilot chute attached to the apex of the canopy is recommended.

3. Automatic Activation--When the desired altitude and descent coincide, a preset altitude/velocity sensing device fires a pyrotechnic charge into a combustion cylinder and activates a piston. A dog on the piston pushes a tube which slides over the proximal ripcord pin of the reserve ripcord, releasing the cloth closing loops of the reserve pilot chute. The pilot chute then deploys the reserve canopy.

The device described is the SSE Sentinel MK 2000, which has been tested and approved for the SST. The SST reserve system is not approved for any other AAD at this writing. The Sentinel MK 2000 may deploy the reserve while under a normally functioning ram-air main parachute in a spiral or "riser" turn below 1,000 feet.

Finally, AAD's have both failed to operate when needed, and operated before the desired altitude. Whether from fault of the device or user error, AADs should be considered unreliable and used with caution.

Nonetheless, Jump Shack South strongly recommends the use of an AAD.

THE MAIN CANOPY RELEASE SYSTEM

3-Ring Release System--This is the most popular system in use today. Two rings on the riser transmit the load of the opening and suspension to a big ring on the harness. A handle attached to the main lift web pulls two cables that release the left and right side rings close to simultaneously. After the breakaway, only the large rings remain. The 3-Ring system requires periodic maintenance. Refer to Appendix "C" for the instructions provided by the manufacturer, 3-Ring, Inc.

Before using the SST with the above release, consult an appropriately rated instructor.

SST TRAINER

The SST/Trainer meets the needs of modern student training programs. It complies with U.S. Parachute Association doctrines on student training, both for part III, or the accelerated freefall method. The SST/Trainer readily converts from static line deployment to ripcord deployment to make training easier for the drop zone operator.

COMPATIBILITY

Look at the system data information plate under the reserve pin-inspection flap to make sure your canopies will fit properly into your SST. Check the information against Appendix "A". If there is a problem, consult your dealer.

Record the information from the data plate now, along with the colors of your SST, in case your gear becomes lost or stolen. Also record the serial numbers and colors of your main and reserve parachutes. Keep the record some place other than your equipment bag.

ASSEMBLY

Parts List:

The SST harness and container system

Main parachute pilot chute

Main parachute deployment bag

Main parachute risers and toggles.

3-Ring Release handle

Reserve ripcord

Reserve pilot chute hat and Quick Loop

Static Line Cross Connector Reserve Lanyard (Trainer Only)

Pull-up cord (inside main pin inspection-flap)

Elastic stow bands

Reserve Packing data card

2 Main cloth closing loops for freepacking

2 Main cloth closing loops (for bottom closing flap grommet)

Hook Knife

Reserve pilot chute and bridle.

Options:

Reserve toggles

Reserve free-bag w/safety stow (for ram-air reserve)

AAD

Main ripcord

Spring loaded main pilot chute

RESERVE ASSEMBLY

Only an FAA certified rigger may assemble, inspect, and pack the reserve of an SST. Always keep this manual with the system so he can refer to the packing instructions.

When it comes time to repack the reserve of your SST (every 120 days), it's best that you pull the ripcord yourself in front the appropriately rated rigger. It gives you a chance to practice your emergency procedures and feel how much force is required to operate the handles of the SST.

MAIN ASSEMBLY

The person who sold you your SST should help you to assemble it. If that's not the case, please contact Jump Shack South.

1. Install the elastic stow bands on the deployment bag. For most canopies, you will need one elastic band for each locking stow, and two or three on each side of the bag.

2. Thread the main pilot chute bridle through the grommet at the top center of the bag with the stow bands on the outside. The mouth of the bag faces away from the pilot chute.

3. Thread the bridle through the bridle ring on the top of the square parachute (or through the apex lines of a round parachute), then back through the grommet and over the pilot chute from the top. When you finish, the pilot chute bridle loop will have returned once more through the grommet and be tightly secured around the canopy's load-bearing ring (or apex loop).

FOR THE SST/TRAINER--

Install the reserve static line system at this time.

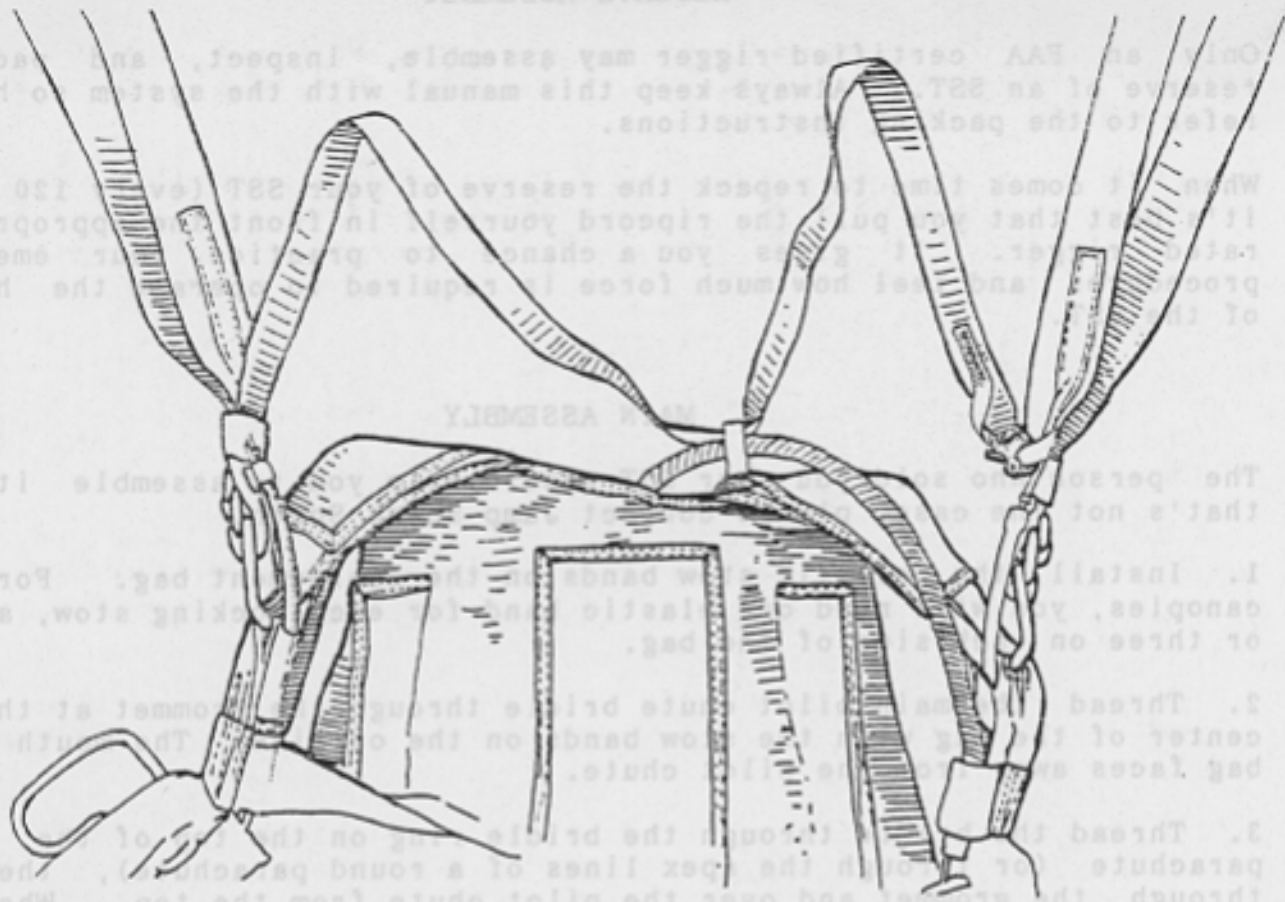
Note: To preclude the possibility of inadvertently routing the static line under the top reserve flap we recommend that the reserve be packed and sealed before taking the following steps.

A. Pass the cloth end through the free-sliding ring on the reserve ripcord housing, BUT NOT UNDER THE RESERVE RISERS OR THE TOP FLAP OF THE RESERVE CONTAINER.

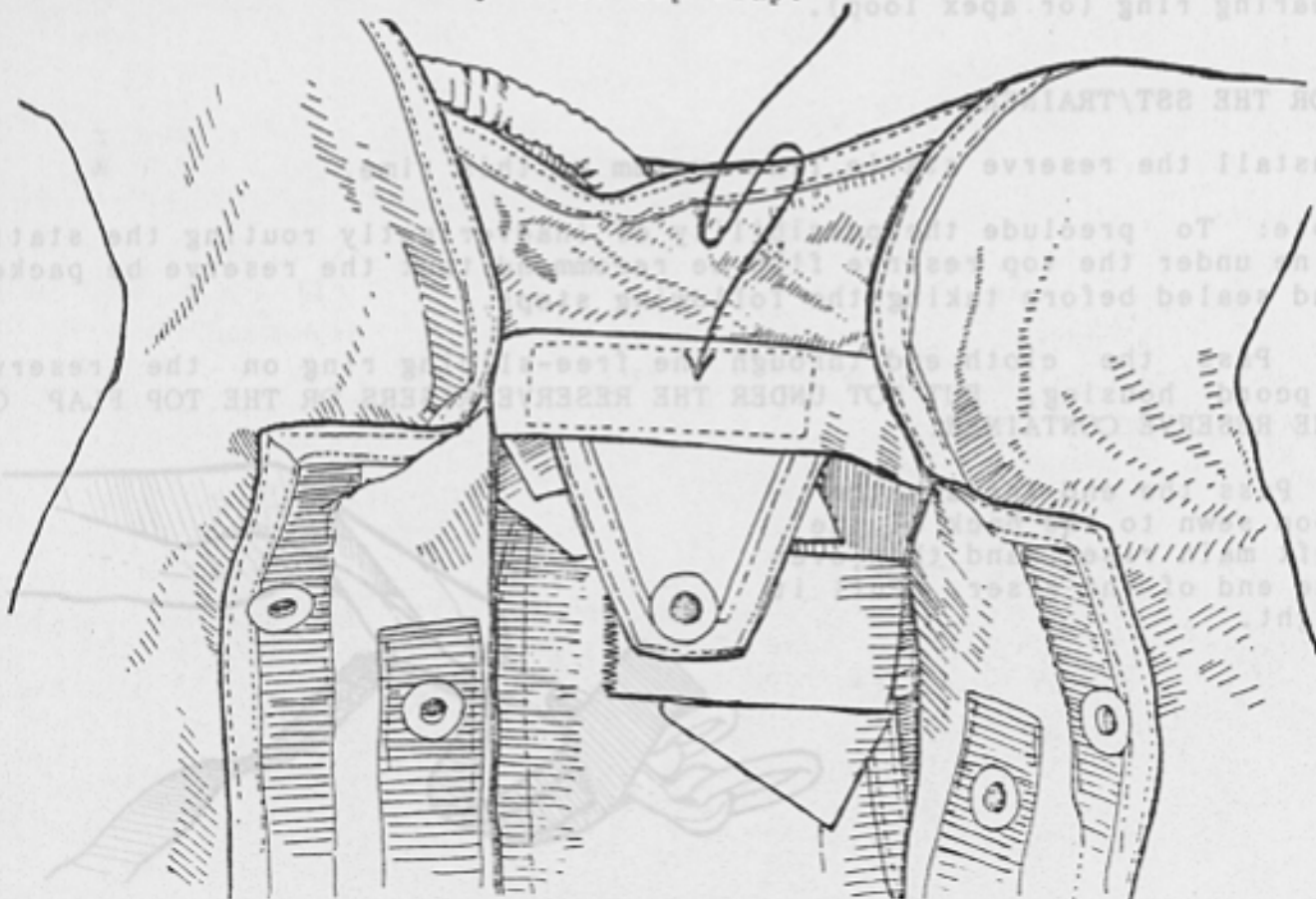
B. Pass the end through the loop sewn to the back of the left main riser, and then over the end of the riser. Pull it tight.



C. Attach the shackle end of the static line to the loop on the riser.



D. Stow the reserve static line in the channel over the wearer's neck and mate the velcro on the yoke or top flap.



MAIN ASSY. (CON'T)

4. Lay the SST face-down on a packing mat with the packed reserve container toward the main canopy. Install the risers according to the instructions in Appendix "C".

5. Install the canopy on the risers making sure nothing is twisted and the line rotation is correct. If you don't completely understand how to do this, consult a rigger. Don't guess, or you might find yourself under a canopy going backwards or worse!

The risers have been designed to accept connector links similar to the #5 Mallion Rapide link. If you wish to install your canopy on the older type L-bar links, add a buffer and sew it in with a U shaped pattern against the link channel to prevent the link from twisting while it's loading.

6. Install the steering toggles (if required) using a bowline or other non-slip knot. Tie the running end with an overhand knot for safety.

7. Insert one of the closing loops in the main container.

THE THROUGH-LOOP--

Find the grommet in the tray of the container and thread the longer of the loops through it, so it points upward.

THE SHORT LOOP

Thread the short loop through the bottom container closing flap grommet from the inside out and tack it with two turns of #5 nylon thread or the equivalent.

The through-loop works best for freepacking or when the main canopy loosely in the container. It allows for a little more compact and flatter pack job. If using a tighter-packing canopy, you may wish to use the short loop.

NO MATTER WHICH LOOP YOU USE, IT SHOULD REQUIRE NO MORE THAN 15 POUNDS TO EXTRACT THE PIN FROM THE LOOP AFTER THE CANOPY IS PACKED.

NOTE: WHEN REPLACING THE MAIN LOOPS DO SO WITH GUTTED TYPE 5 NYLON CORD, OR THE EQUIVALENT.

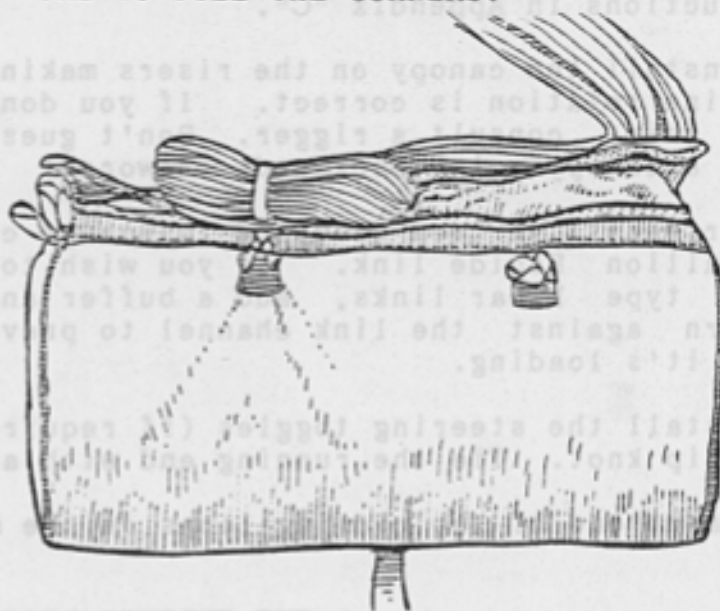
PACKING THE MAIN CANOPY

Refer to the manufacturer's instructions for laying out the canopy, setting the brakes, and otherwise preparing it to put into the bag. If you can't find suitable instructions, consult your rigger or call Jump Shack South.

Note: Refer to the instructions for static line deployment on page 19 before beginning, if a static line is to be used.

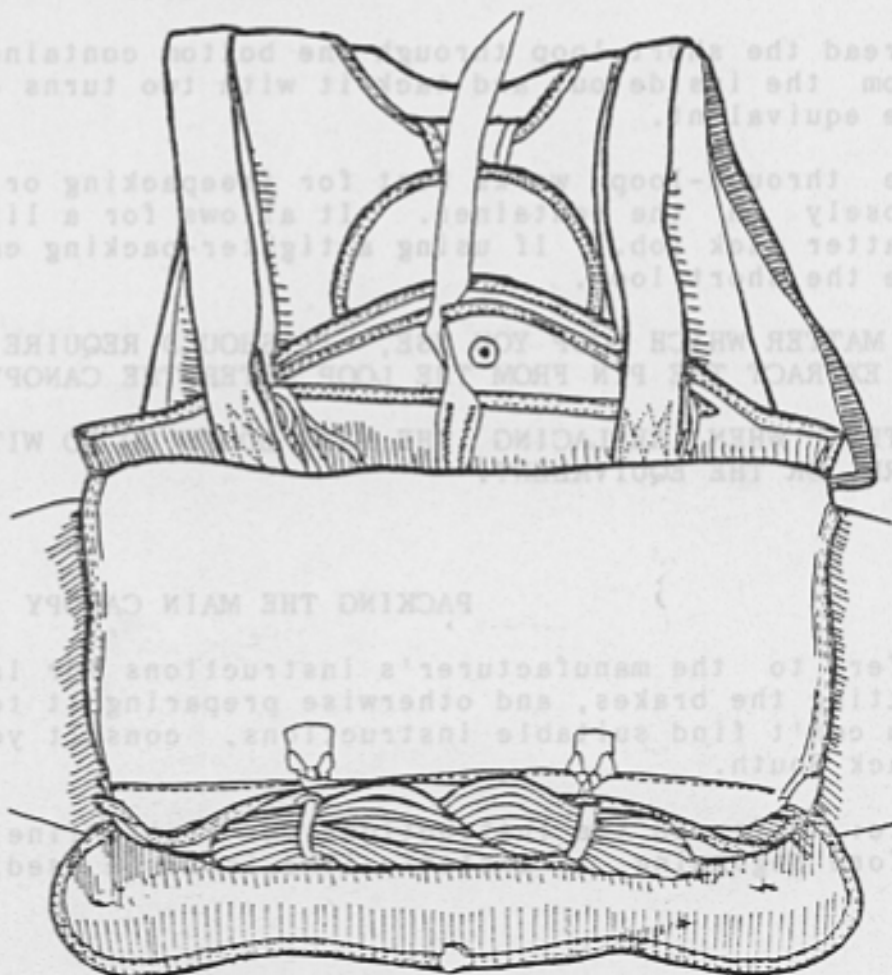
1. Dress the canopy slightly wider than the bag.
2. Stack the canopy into a bundle the height and width of the bag, and insert it into the bag. **MAKE SURE TO FILL THE CORNERS.**

3. Thread one of the two center locking elastic stow bands through its partner grommet. Take a bight of canopy lines 1" to 2" long, and wrap the stow band around it. Repeat with the other center locking stow.



4. Pull the pilot chute bridle out of the top of the bag until the load-bearing ring on the top of the canopy seats against the grommet on the top of the bag. Clear out any extra fabric with your finger.
5. Stow the rest of the lines in 1" to 2" bights into the stow bands on the sides of the bag. Leave 8" to 15" of lines unstowed.

6. Set the bag in the tray of the container with the lines facing toward the bottom of the rig.



7. Tuck the bights of the line stows under the boxing of each corner of the main container.

8. Thread the pull-up cord through the closing loop.

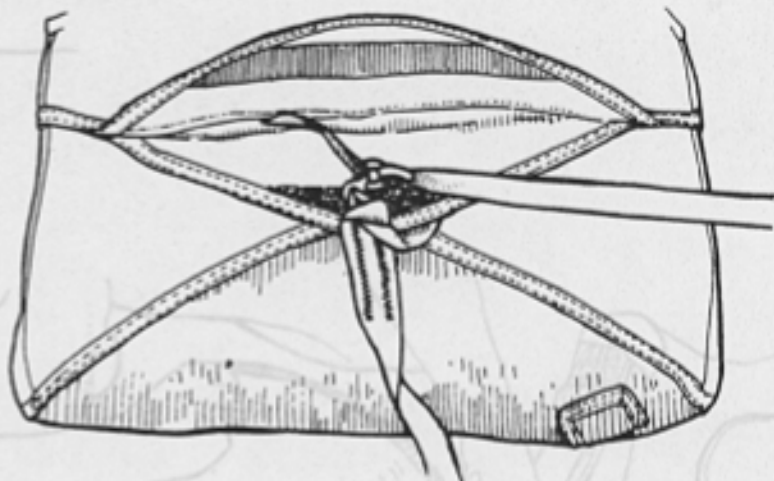
For Throw-Out:

A. Close the bottom three flaps, bottom, side, side. Insert curved pin temporarily.

B. Route the bridle out the top right.

C. Close the top flap.

D. Insert the curved pin through the closing loop from right to left. Remove the Pull-up cord. FAILURE TO REMOVE THE PULL-UP-CORD WILL PREVENT THE CONTAINER FROM OPENING AND RESULT IN A PILOT-CHUTE-IN-TOW MALFUNCTION.



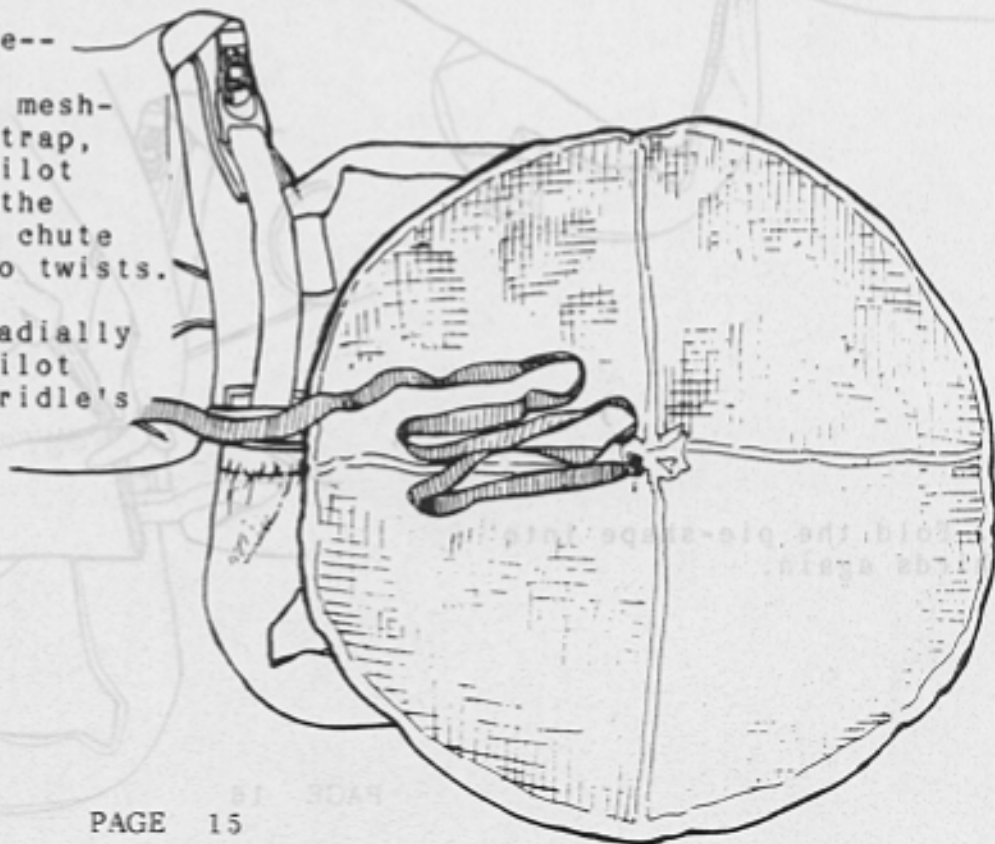
E. Mate the small velcro strips on the pilot chute bridle just above the curved pin. FAILURE TO MATE THE VELCRO STRIPS CAN RESULT IN A PILOT-CHUTE-IN-TOW MALFUNCTION. Close the pin-inspection flap.

F. Check to make sure the leg strap is not twisted. Mate the velcro on the pilot chute bridle starting from the top of the pouch on the leg strap and following along the side of the container. Stuff any extra bridle under the right-side container flap.

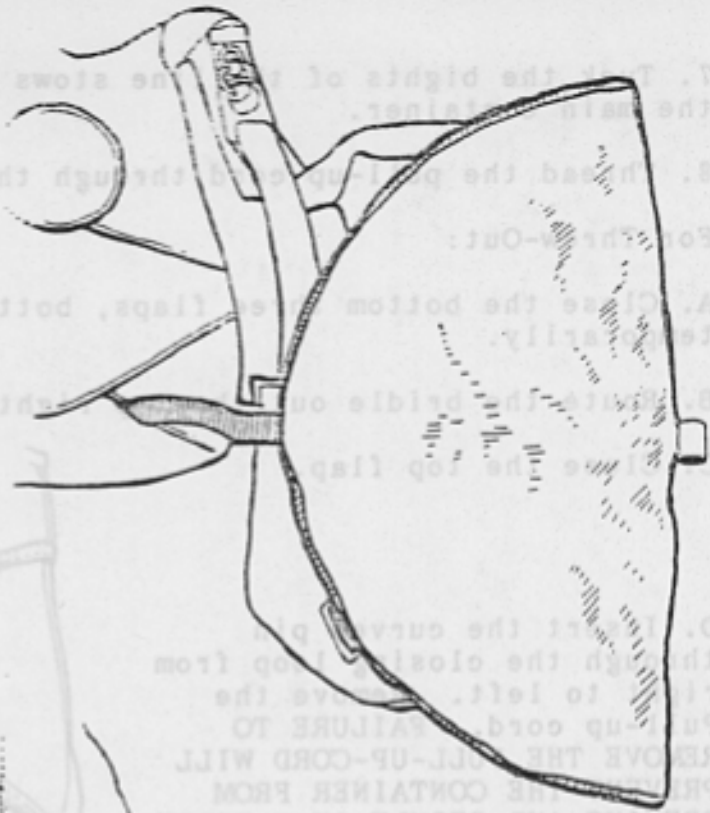
Folding the pilot chute--

A. Lay the pilot chute mesh-side-up over the leg strap, with the edge of the pilot chute at the mouth of the pouch. Turn the pilot chute until the bridle has no twists.

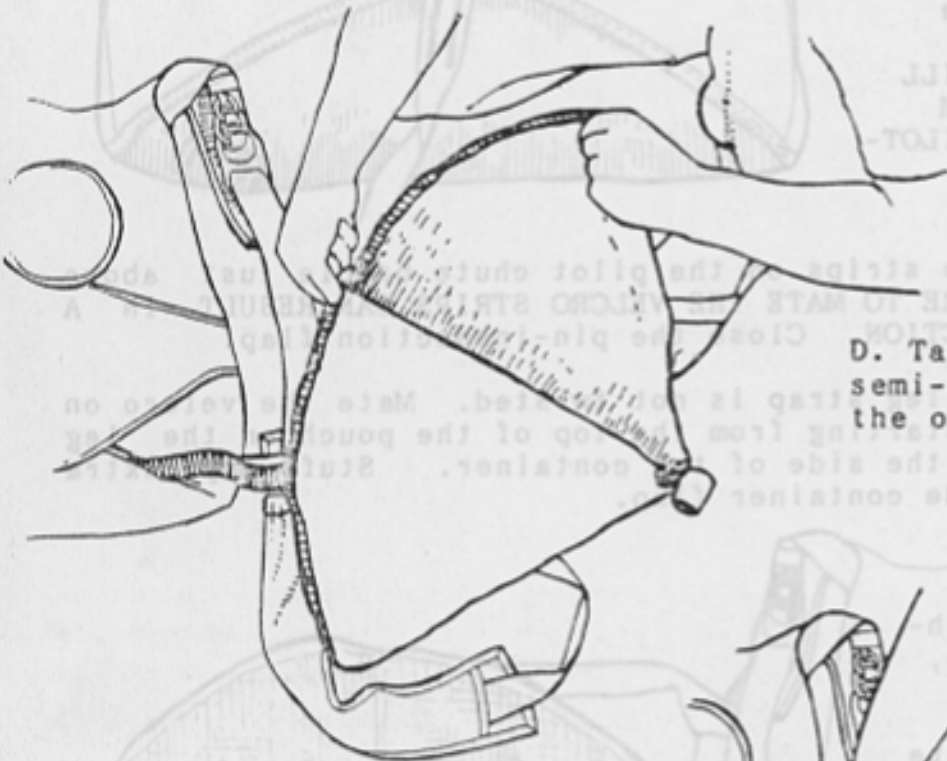
B. S-Fold the bridle radially over the half of the pilot chute closest to the bridle's entry.



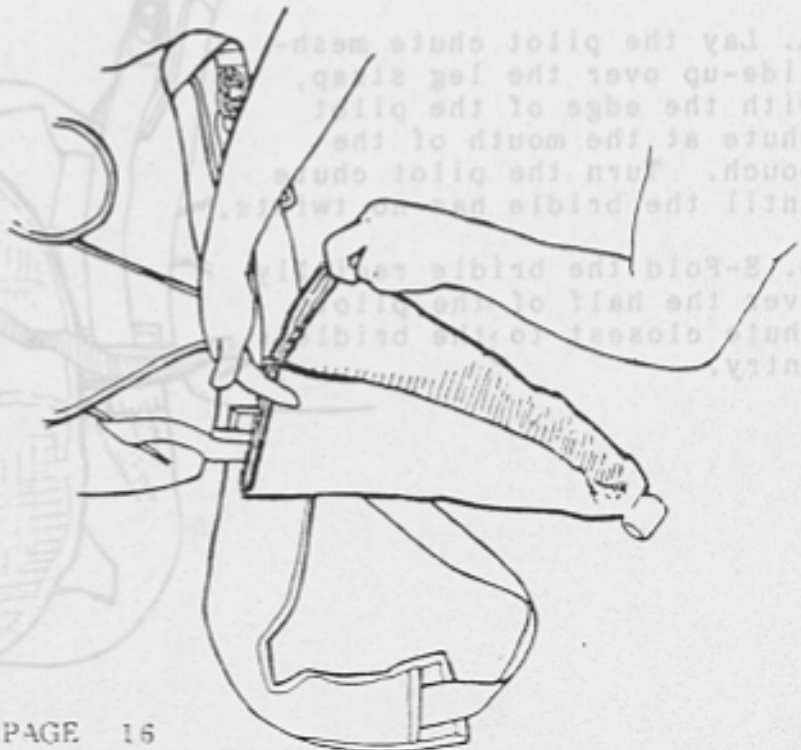
C. Fold the pilot chute in half
over the bridle.



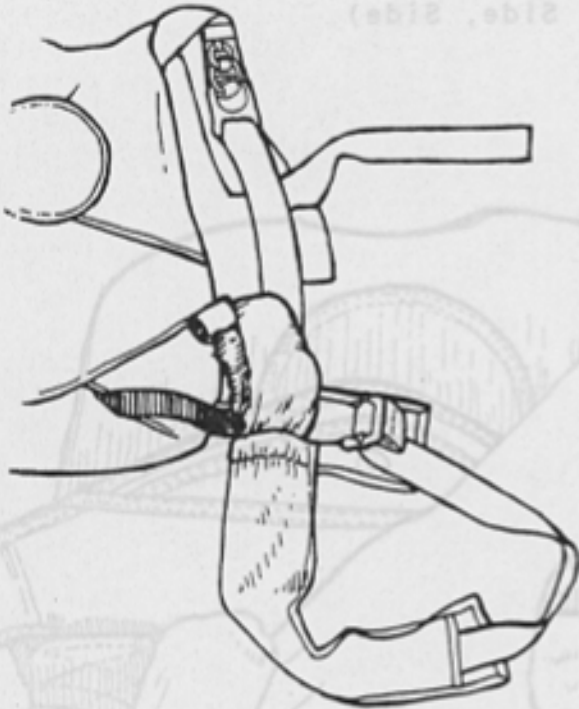
D. Take the corners of the
semi-circle and fold one over
the other into thirds.



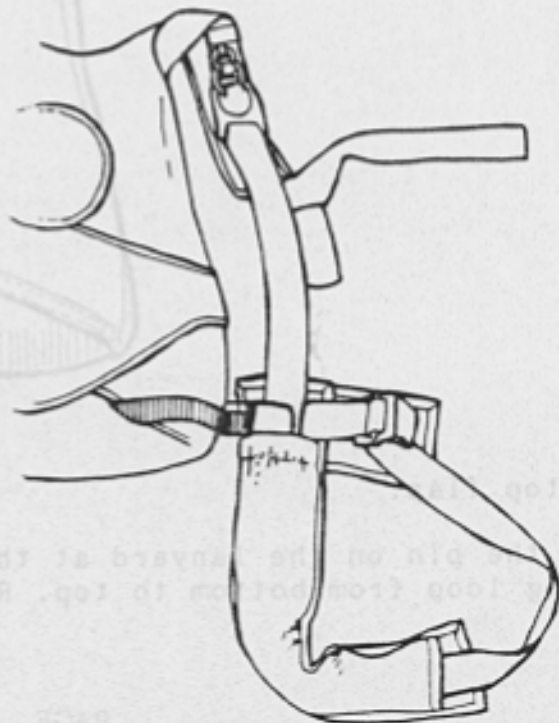
E. Fold the pie-shape into
thirds again.



F. Fold the new thin pie shape in half to make it even thinner. Fold the handle over to the mouth and place it into the pouch. (You will have to peel back a little bridle velcro to keep from pulling any bridle out of the folded pilot chute.)



G. Flatten out the bundle, and make sure nothing but the handle of the pilot chute sticks out of the pouch.



H. CHECK THE BRIDLE ROUTING. AN IMPROPERLY ROUTED BRIDLE WILL RESULT IN A PILOT-CHUTE-IN-TOW MALFUNCTION.

Always have your SST checked by someone competent after you put it on.

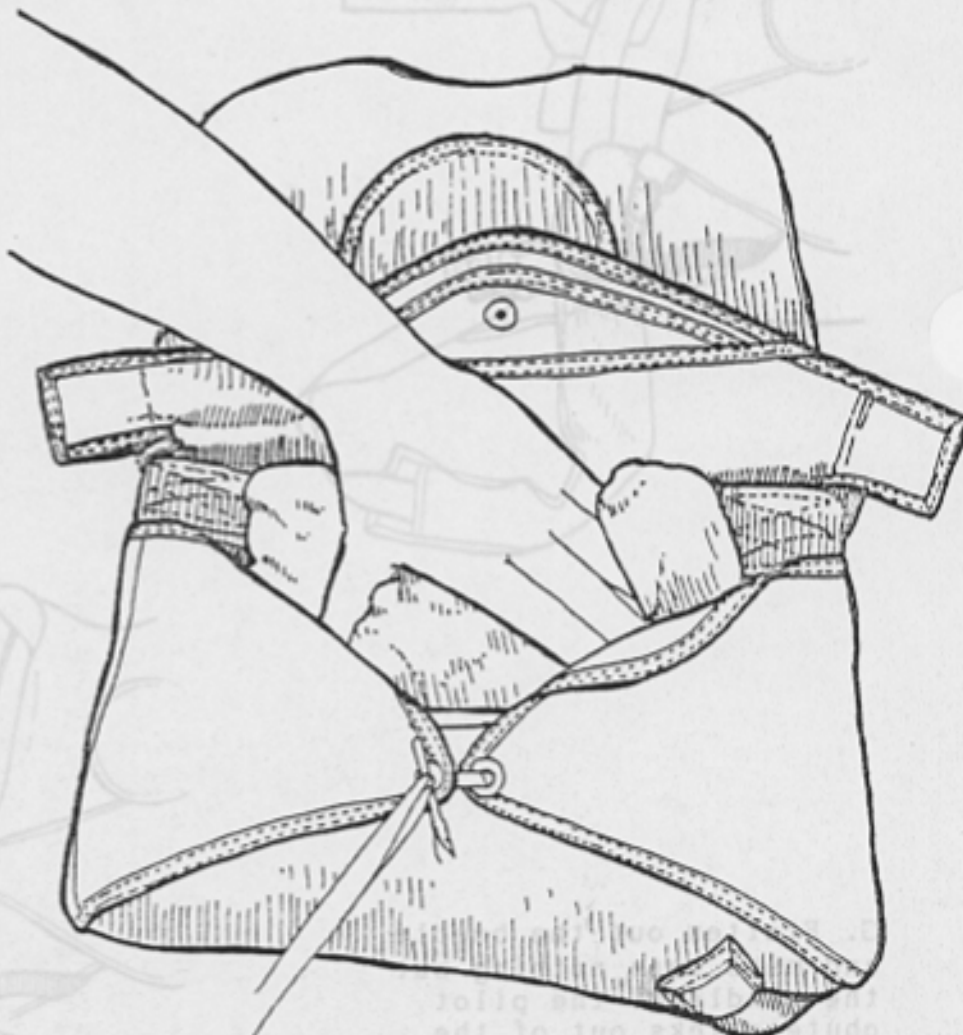
For pull-out--

A. S-fold the pilot chute bridle across the top of the container, and lay the pilot chute on the center of the bag with the base coming out of the right-hand bottom corner.

B. Place the lanyard end of the handle into the elastic pouch on the bottom right corner of the container. Bend the handle enough to slip the end tab into the other square pocket on the bottom of the container.

C. Close the bottom three flaps. (Bottom, Side, Side)

D. Tuck the pilot chute under the bottom flap at the pin location just as if it was spring loaded.



E. Close top flap.

F. Insert the pin on the lanyard at the base of the pilot chute through the closing loop from bottom to top. Remove the pull-up chord.

FAILURE TO REMOVE THE PULL-UP CORD WILL RESULT IN A PILOT CHUTE IN TOW MALFUNCTION.

G. Check to see that the velcro on the lanyard is mated to the velcro on the pilot chute retainer. This is to assure enough slack movement of the lanyard to be able to pull the pin without moving the pilot chute.

H. Stow any excess lanyard under the right side flap.

Always have your SST checked by someone competent after you put it on.

FOR RIPCORD

A. Thread the ripcord through its housing, and place the handle in its pocket.

B. Thread the pull-up cord through the closing loop.

C. Thread the pull-up cord through the bottom, left, and right, container flap grommets. Pull the closing loop through as you go, but don't overstress the grommets.

D. S-fold the pilot chute bridle neatly on top of the bag.

E. Compress the pilot chute and slide it under the bottom three flaps.

F. Close top flap.

G. Insert the ripcord pin. Remove the pull-up cord. FAILURE TO REMOVE THE PULL-UP-CORD WILL RESULT IN A TOTAL MALFUNCTION OF THE MAIN CONTAINER.

Always have your SST checked by someone competent after you put it on.

STATIC LINE DEPLOYMENT

A. Attach the static line to the webbing on the top of the deployment bag.

B. Tie the canopy's load bearing ring (or apex loop) from the inside of the bag through the grommet in the top of the bag and to the same webbing used in step "A", with two turns of 1/4" type I (80#) cotton break-cord.

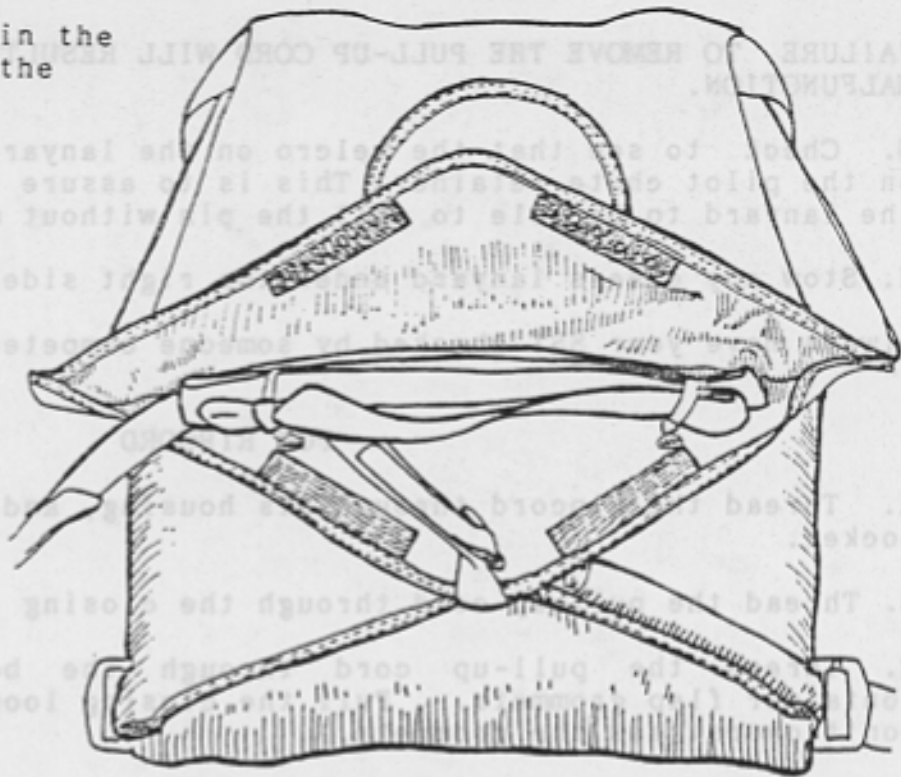
C. Refer to the general packing instructions on page 15.

D. Route the static line out the top of the container on the side opposite the door of the jump ship. (A right-side jump door usually calls for a left-side static line routing.)

E. Close container as you would for a ripcord rig. Insert static line curved pin.

F. Remove the pull-up cord. FAILURE TO REMOVE THE PULL-UP-CORD MAY RESULT IN A STUDENT-IN-TOW OR SEVERE CONTAINER DAMAGE.

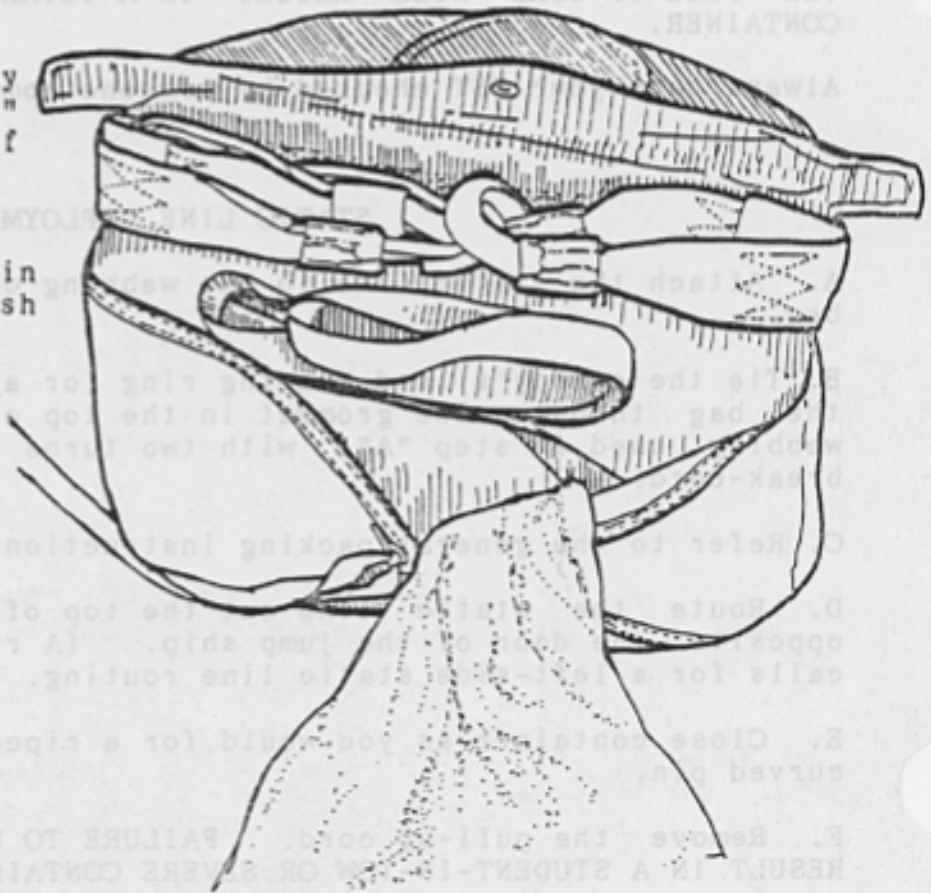
G. Stow the static line in the compartment provided in the elastic stow bands.



NOTE: The first stow in the rubber band of the static line should be doubled or trippled to prevent the prop blast from prematurely blowing the pin out and allowing an open container.

DRESSING THE CONTAINER

A. After closing the three bottom flaps the container may be accessed by "Saddlebagging" or lifting up on the middle of each side of the backpad to expose the verticle partition against which the main risers and links are placed. While in this configuration you can push the bag further down into the corners of the container and generally shape to fit.



B. After closing the top flap the rig is set up on it's side. With your thumb hold the main risers against the bottom side of the over the shoulder part of the harness. Place the risers in the riser covers and mate the velcro.

C. Pull the side flap over the edge of the risers and tuck it under the top flap making the side smooth. Mate the velcro of the mid-flap (top) to the sides of the container.

DONNING THE SST

1. Grasp the SST by the harness at one of the canopy release points, and put it on your back like a coat. Check for twists in the main lift webs (front straps) and leg straps.

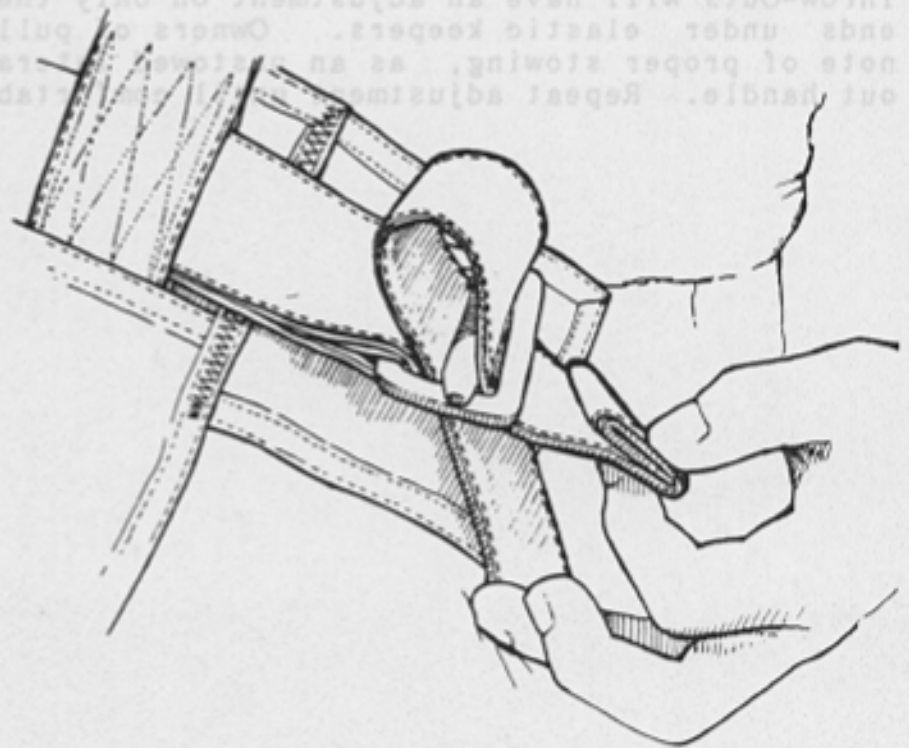
2. Hook up the leg straps.

With thread-through--

A. Check the leg strap for twists as you pass it under your leg.

B. Bring it through the friction adapter from the side against your leg and over the sliding bar.

C. Continue over the sliding bar and back through the friction adapter.



MIS-THREADING THE LEG STRAP THROUGH THE FRICTION ADAPTER MAY CAUSE YOU TO FALL OUT THE BOTTOM OF THE HARNESS.

D. Repeat with the other leg strap. Tighten the free ends until snug, and stow them away.

With B-12 snaps--

- A. Check the leg strap for twists as you pass it under your leg.
- B. Snap the hook onto the V-ring. It should "clink" when it closes the snap.
- C. Repeat with the other leg strap. Tighten the free ends until snug, and stow them away.

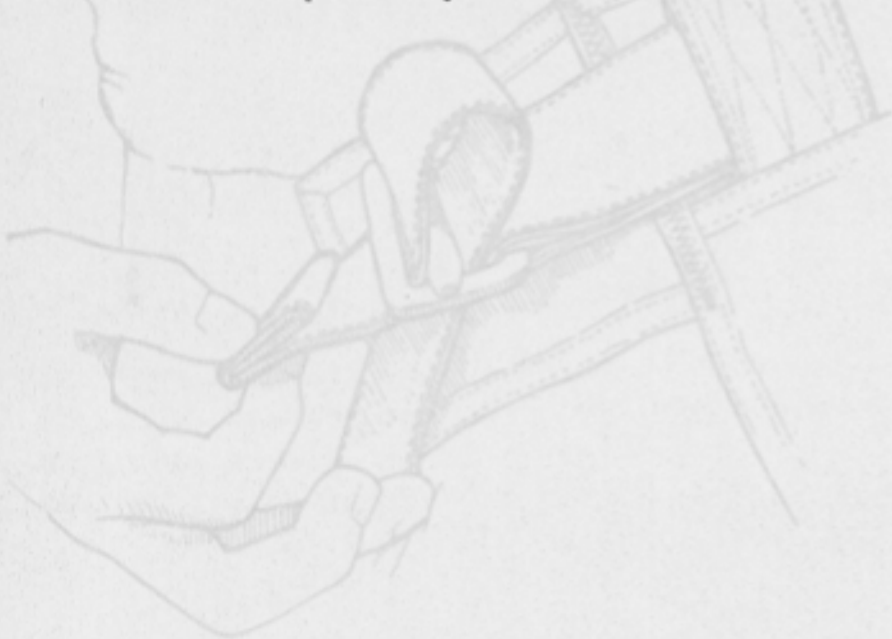
WITH THROW-AWAY HAND DEPLOYMENT, A TWISTED OR OTHERWISE MISROUTED RIGHT LEG STRAP WILL RESULT IN A PILOT-CHUTE-IN-TOW MALFUNCTION.

3. Locate the chest strap, and thread it like the leg straps.

MIS-THREADING THE CHEST STRAP MIGHT CAUSE YOU TO FALL FROM THE HARNESS.

Pull the free end until the main lift webs are parallel. Place the free end in the elastic keeper.

Should your system be equipped with adjustable laterals, bend at waist, setting rig so it is comfortable on your back. Tighten lateral free ends at container base until the SST fits snugly. (SST's equipped with Throw-Outs will have an adjustment on only the left side). Stow free ends under elastic keepers. Owners of pull-out should take special note of proper stowing, as an unstowed lateral feels much like a pull-out handle. Repeat adjustment until comfortable fit is obtained.



C. Continue over the sliding bar and back through the friction adapter.

MIS-THREADING THE LEG STRAP THROUGH THE FRICTION ADAPTER MAY CAUSE YOU TO FALL OUT THE BOTTOM OF THE HARNESS.

D. Repeat with the other leg strap. Tighten the free ends until snug, and stow them away.

RESERVE PACKING INSTRUCTIONS

There are many type of reserves on the market, and the SST will accept most of them. Jump Shack South has developed specific packing instructions for each one. It's the rigger's responsibility to use the appropriate method for any reserve he packs, and to pack according to the harness and container manufacturer's instructions. Deviating from Jump Shack South's procedures voids the TSO and results in an illegal pack job.

The Pop-Top-offers the jumper the simplest and most reliable means to deploy his reserve available, when it's packed according to the instructions. You as a rigger are legally and morally obliged to him to see that it is.

Certain points that are critical:

Compatibility--Make sure the canopy you're packing is the right size for the SST it's connected to. Even if it was in there before, someone else's mistake will become your's when you sign the packing data card.

Closing loop length--A too-short closing loop results in a dangerously hard pull. One that's too long looks messy and can snag protrusions on the airplane.

Pilot chute/closing loop assembly--You must use the specified materials to assemble the pilot chute, closing loop, and hat. Total malfunctions of the reserve have resulted from the wrong tacking cords.

Clear channel for the loops--Visually inspect the completed pack job from the back and the front (backpad) of the container. Make sure that no lines, canopy, or pilot chute material can hinder the closing loops' passage through the container.

You must possess a current FAA rigger's certificate for chest or back reserve to pack the SST. You may record the pack job in your log as either chest or back type.

Required Tools

SST Owner's Manual

Line Separator (ROUND RESERVE ONLY)

(3) Shot bags

(2) SST Bodkins

(2) Full gutted 550# (type III) pull-up cords 36" long

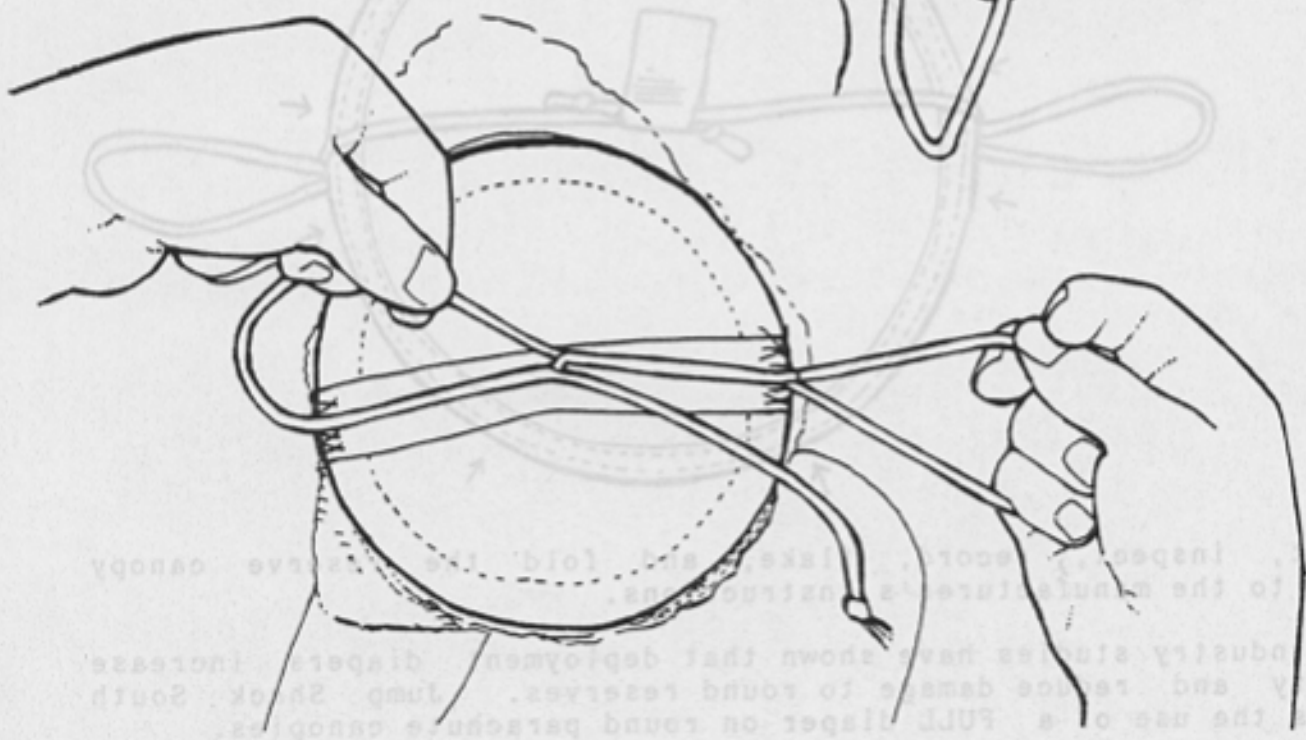
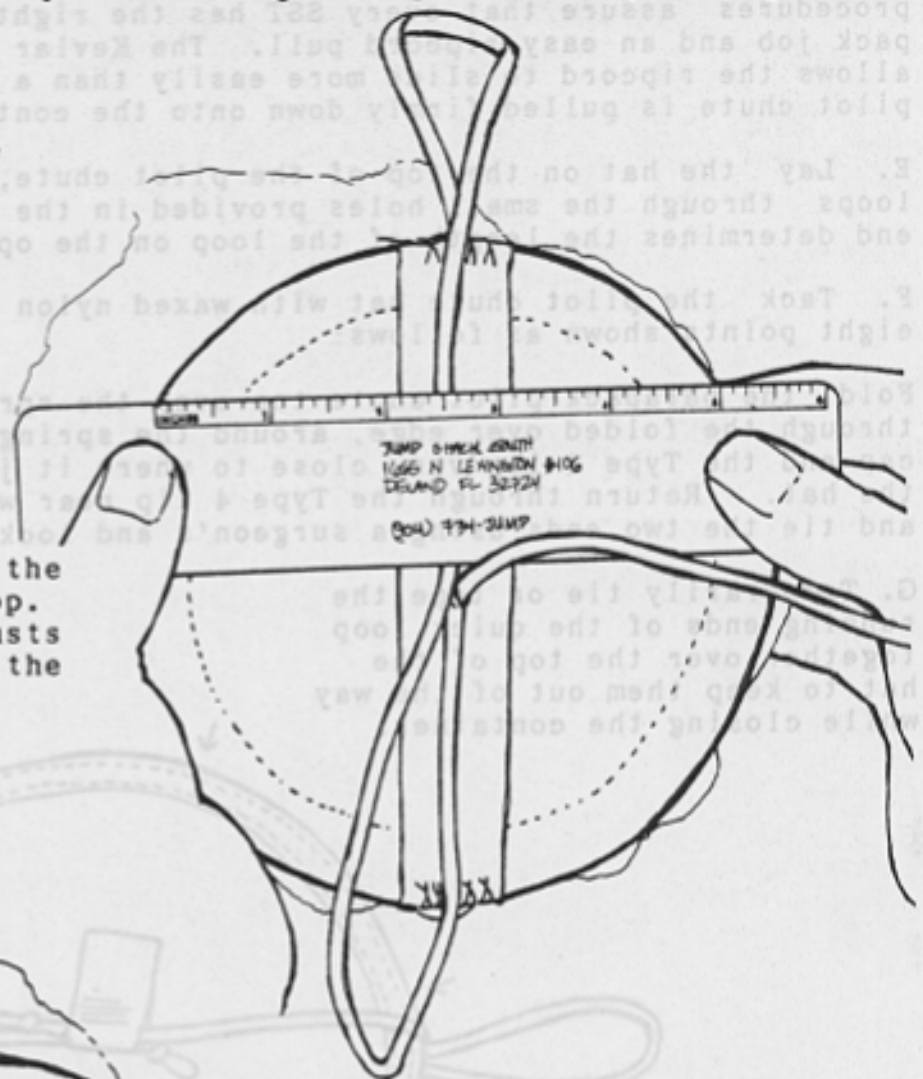
Packing paddle or fid

Ruler

Also remember, if you sew through the Kevlar loop, the running end must still be able to slide freely in the finger trap. Sew only through the standing end.

D. Center the loop across the top of the cap by placing a ruler across the cap at the ten and two o'clock position, perpendicular to the loop. The loop must be centered exactly, or the pilot chute will "tip over" after the finished pack job has settled. Experience has taught us to use a ruler.

Take a moment to evaluate the operation of the quick loop. Each knotted free end adjusts the length of the loop on the opposite end.



After the first closing of the reserve container, the running ends are pulled until the pilot chute seats snugly into a depression on the back of the container. Then release the pilot chute and tack the loop at its proper length.

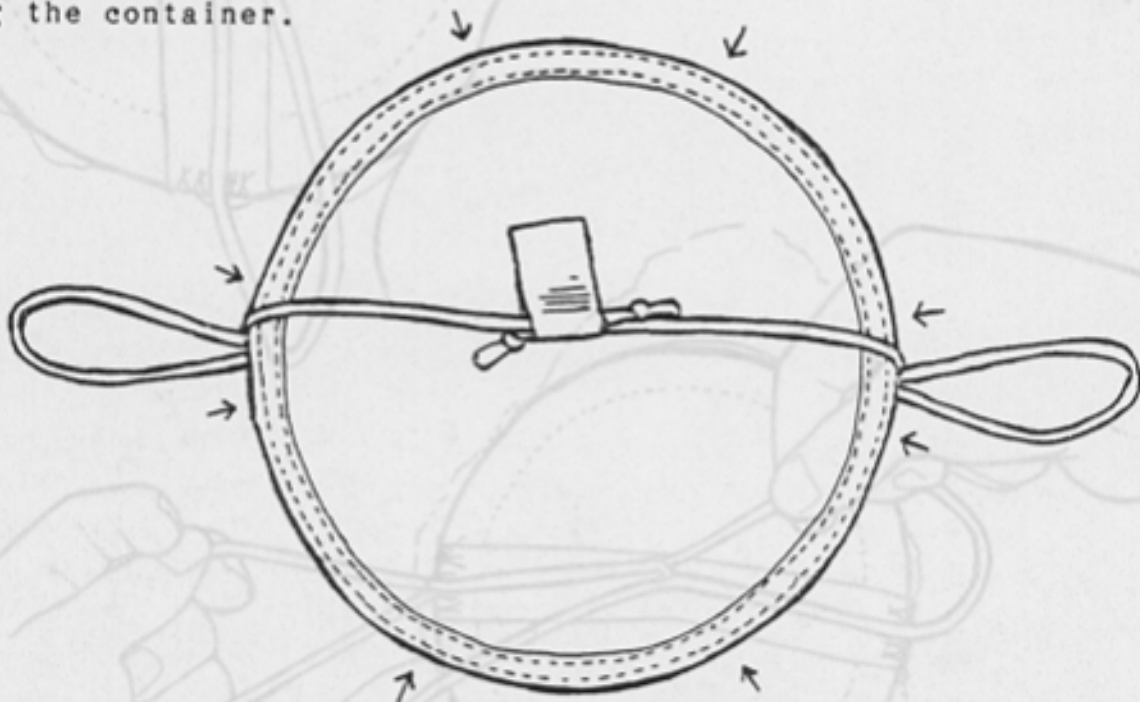
You will need to tack the finished loop together to within one-quarter inch of each end. The loop must be sewn together in that manner to prevent any canopy from working its way into the loop ends. These procedures assure that every SST has the right loop length for a good pack job and an easy ripcord pull. The Kevlar loop doesn't stretch and allows the ripcord to slide more easily than a nylon one, even when the pilot chute is pulled firmly down onto the container.

E. Lay the hat on the top of the pilot chute, and thread the closing loops through the small holes provided in the Type 4 lip. Each free end determines the length of the loop on the opposite side of the hat.

F. Tack the pilot chute hat with waxed nylon 5-cord in at least the eight points shown as follows:

Fold the parapack pilot chute top over the spring. Insert the needle through the folded over edge, around the spring, through the top of the cap and the Type 4 lip very close to where it joins the binding tape of the hat. Return through the Type 4 lip near where the tacking exited and tie the two ends using a surgeon's and locking knot.

G. Temporarily tie or tape the running ends of the quick loop together over the top of the hat to keep them out of the way while closing the container.



3. Layout, inspect, record, flake, and fold the reserve canopy according to the manufacturer's instructions.

Several industry studies have shown that deployment diapers increase reliability and reduce damage to round reserves. Jump Shack South recommends the use of a FULL diaper on round parachute canopies.

PROCEDURES

PART 2

ROUND CANOPIES

Line Stowage--

There are essentially four line stowage methods for round canopies:

TYPE I Canopy-first deployment. All lines stow in the container.

Examples: 24' T-10A, Navy Conical, early Security, Strong, and Pioneer Lopo's.

TYPE II Two-bight diaper. Two locking stows from one-half of the lines secure a wrap around the skirt of the canopy until full line stretch is achieved. The rest of the lines stow in the container.

Examples: Strong and Security Lopo's, Steinthal Nimbus, Pioneer K-series, early G.Q. Security SAC.

TYPE III (Piglet) diaper. All lines stow perpendicular to the radial seams at the bottom of the canopy. Sometimes an extra fold of canopy also goes into the diaper.

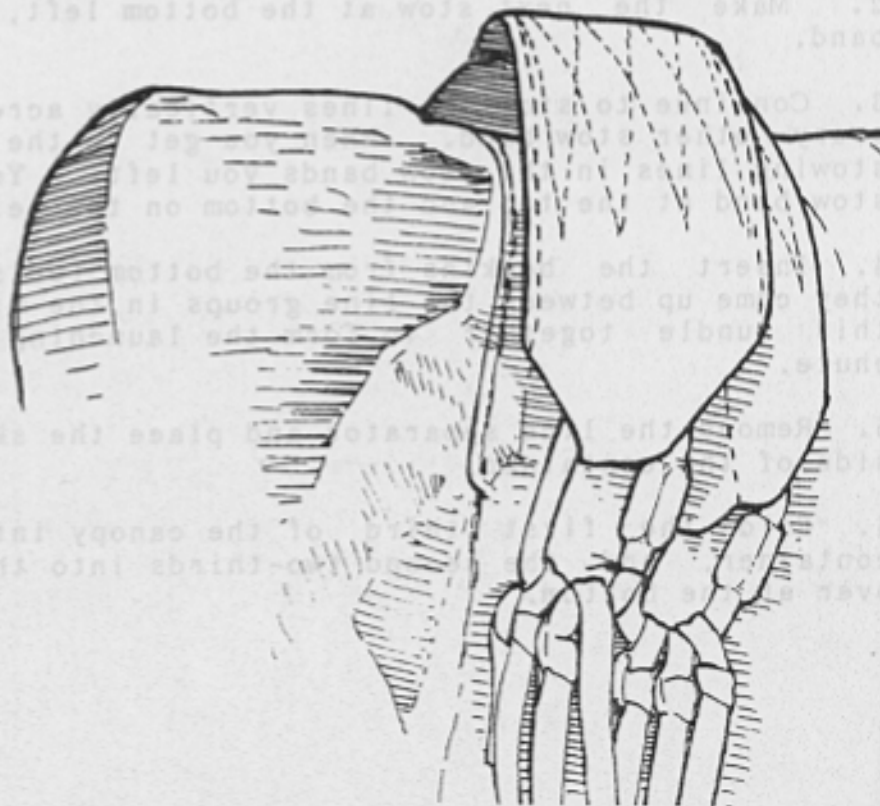
Examples: Featherlite, Piglet, National Phantom.

TYPE IV Handbury diaper. All lines stow parallel to the radial seams. Generally three full stows of lines secure a wrap around the skirt.

Examples: Later SAC, later Strong 26' and Lopo light and Preserve. Hobbit ram-air.

Secure Risers--

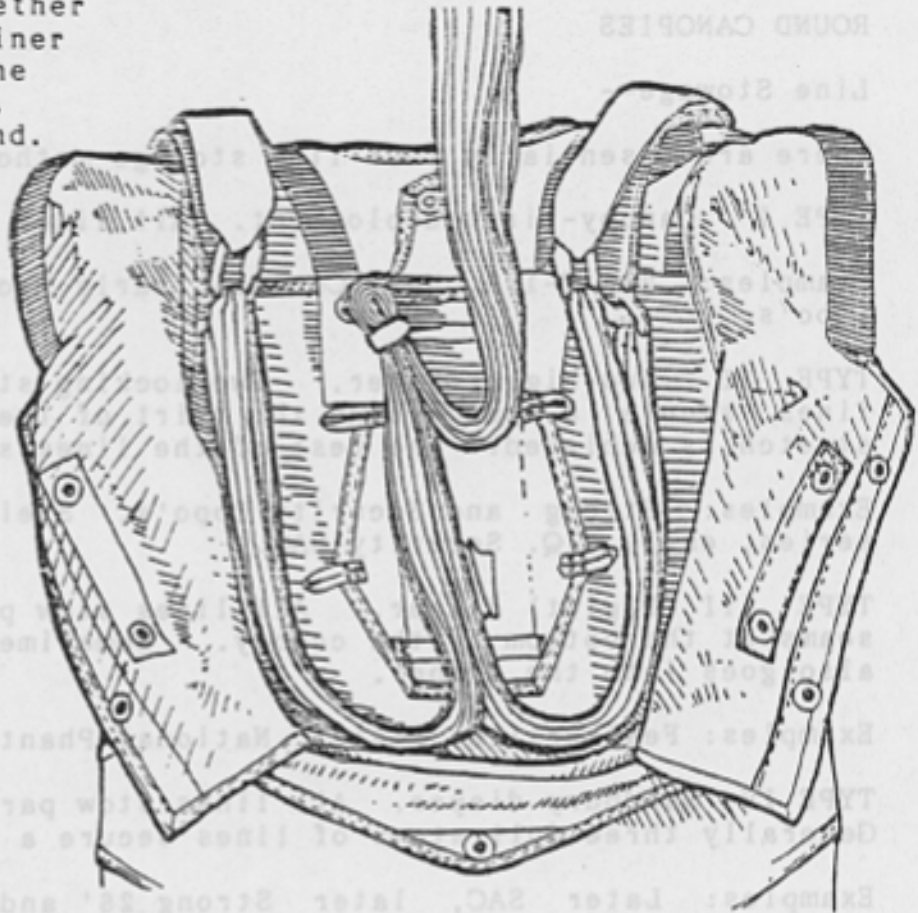
Lay the reserve risers flat along the harness and set them and the links into the container. Lay four links in next to each other so you don't form a bump in the wearer's back. Tack the links with one turn single of waxed nylon 5-cord, meant to break after deployment.



Packing TYPE I--

You'll get the best results if you make the stows at the top about one inch, and the bottom stows longer--to the bottom of the container at the dividing wall.

1. Bring all the lines together at the bottom of the container and turn them up to make the first stow at the top left. Stow in the SECOND stow band.



2. Make the next stow at the bottom left, also in the second stow band.

3. Continue to stow the lines vertically across the container, using every other stow band. When you get to the end, start working back, stowing lines in the stow bands you left. You may add only one extra stow band at the top and the bottom on the left side.

4. Insert the bodkins from the bottom (outside) of the container so they come up between two line groups in the middle of the bundle. Keep this bundle together to form the launching platform for the pilot chute.

5. Remove the line separator and place the skirt into the bottom left side of the container.

6. Fold the first third of the canopy into the left side of the container, and the second two-thirds into the right, after crossing over at the bottom.

Start with a short stubby fold first and each one after a little longer. Stowing progressively longer folds each time forms the wedge shape of the container without bumps. Keep the canopy fabric at least one inch away from the top of the container, or it will work out before the next repack.

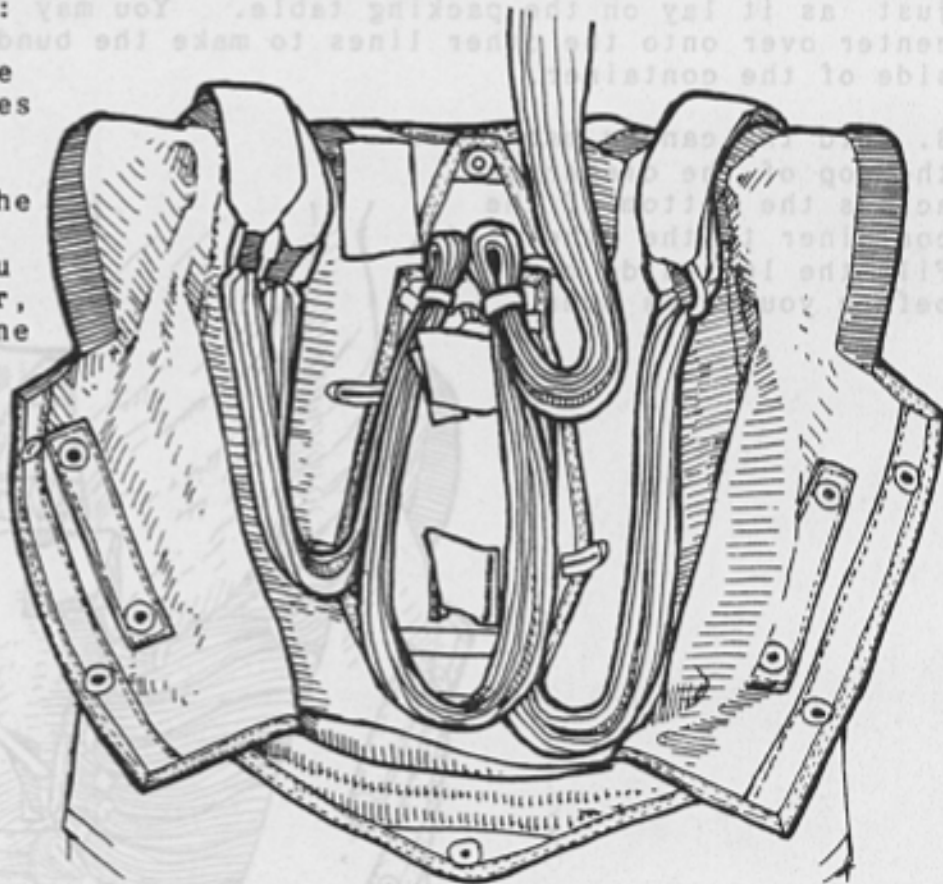
MOVE TO PART THREE

PACKING TYPE II--

1. Lock the diaper closed according to the canopy manufactures instructions. Install elastic stowbands on the tapes provided near the sides of the container. The lines will stow left to right.

NOTE: The lines may be stowed vertically as described in the TYPE I packing instructions, or horizontally as described below. In any event the first stow of the TYPE II must be a compensating stow to equalize the line group lengths. See canopy manufactures instructions. This stow may be made using the verticle accomodations as in TYPE I or in the horizontal accomodations:

3. Take the unstowed line from the half of the lines that didn't go into the diaper, and stow it into the right stow band at the bottom. Be neat and logical about it. If you still have line left over, move the right stow up one band as described in the last step, and stow the extra line in the first stow band on the left.



4. Continue to stow the lines from left to right. Make the stows wide, and taper them to follow the lines of the reserve container.

5. Thread the SST bodkins through the bottom of the container from the outside. Bring the bottom one up between two line groups.

6. Remove the line separator and place the skirt into the bottom left side of the container.

7. Fold the first third of the canopy into the left side of the container, and the second two-thirds into the right, after crossing over at the bottom. THINK AHEAD. Starting with a short fold and then stowing progressively longer folds each time forms the wedge shape of the container without bumps. Keep the canopy fabric at least one inch away from the top of the container, or it will work out before the next repack.

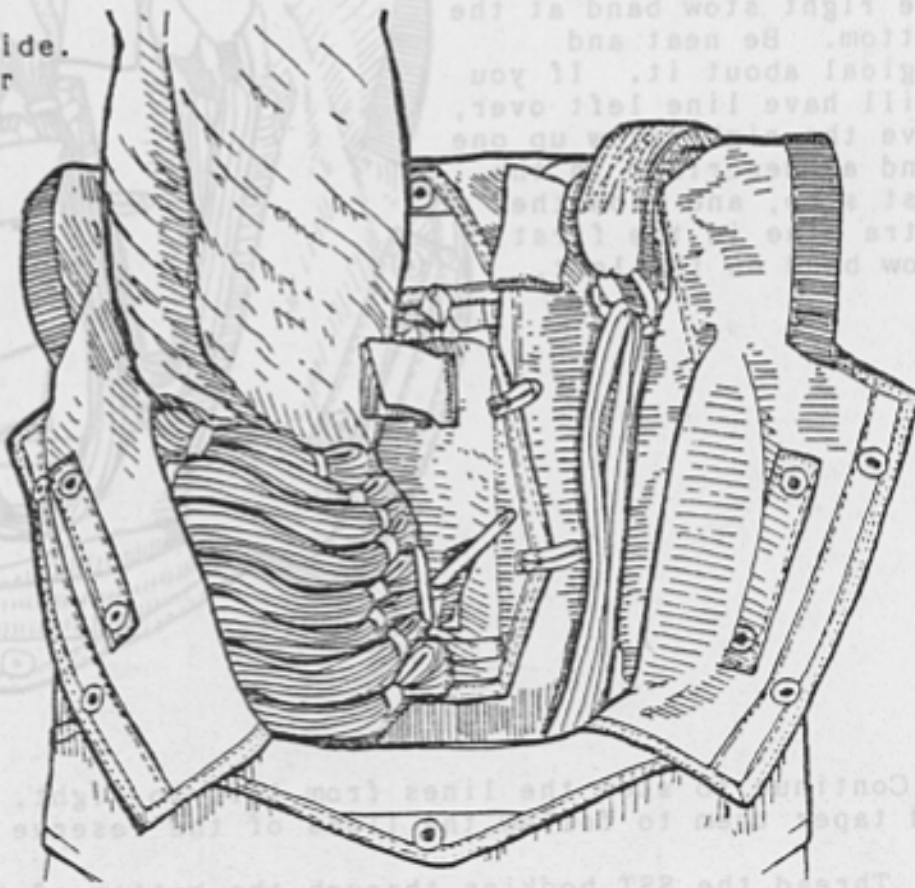
MOVE TO PART THREE!

Packing TYPE III--

1. Stow the lines on the diaper according to the canopy manufacturer's instructions.

2. Insert the bodkins through the bottom of the container from the outside. Place the diaper in the bottom left corner of the container just as it lay on the packing table. You may fold the lines near the center over onto the other lines to make the bundle as wide as the left side of the container.

3. Fold the canopy back over the top of the diaper and across the bottom of the container to the other side. Fill the left-side corner before you cross over.



4. Fold the remainder of the canopy in the right side of the container. Starting with a short fold and stowing progressively longer folds each time forms the wedge shape of the container without bumps. Keep the canopy fabric at least one inch away from the top of the container, or it will work out before the next repack.

MOVE TO PART THREE!

Packing TYPE IV--

1. Stow the lines in the diaper according to the canopy manufacturer's instructions.
2. Lay the reserve risers flat along the harness and set them and the links into the container. Lay four links in adjacently so you don't form a bump in the wearer's back. Tack the links with one turn of single waxed Nylon 5-cord, meant to break after deployment.
3. You may lay the diaper in horizontally across the bottom and continue packing as in TYPE II, or you may lay the diaper in vertically on the left side and continue packing as in TYPE III.

NOTE: The Hobbit ram-air reserve with the TYPE IV diaper has been tested and approved for this method. Or lay the diaper in vertically and pack like TYPE III.

MOVE TO PART THREE!

RAM-AIR RESERVE CANOPIES (Except Hobbit--see Type IV)

You must have a current ram-air rating issued to FAA riggers by the U.S. Parachute Association to pack a ram-air reserve into an SST.

1. Assemble, inspect, and check line rotation according to the manufacturer's instructions and Chapter 9.3 of the Parachute Manual by Dan Poynter.
2. Set the brakes according to the canopy manufacturer's instructions. Your riser brake system must be compatible with those instructions.
3. Set the bag near the top of the canopy with one T-handle through the bottom grommet and one through the left end of the safety stow.



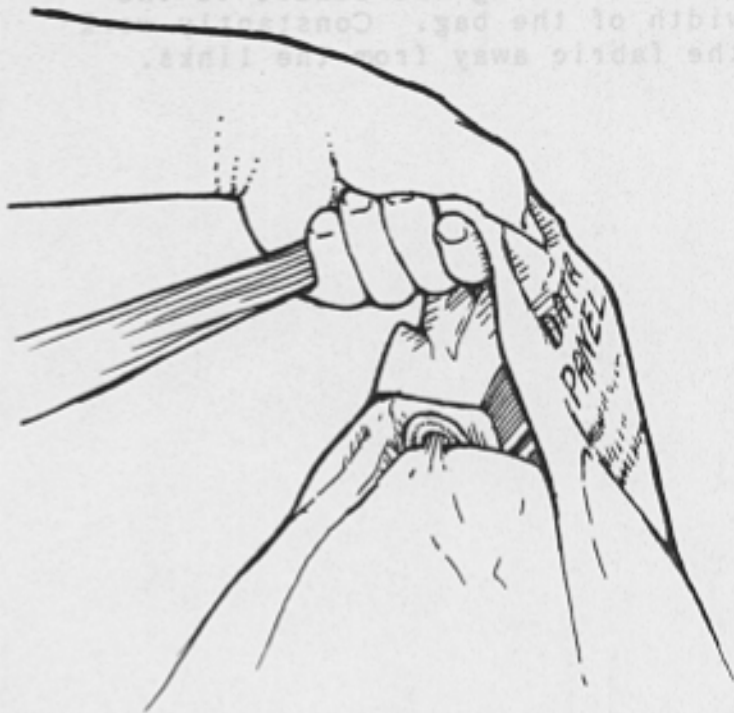
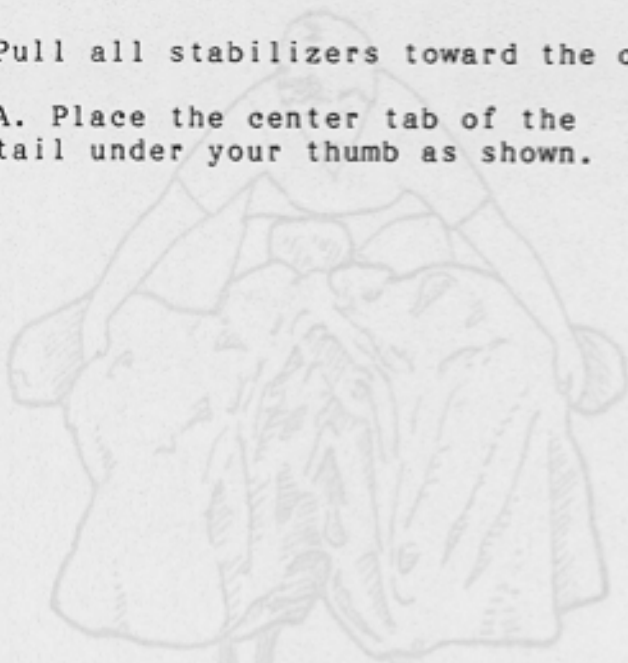
4. Separate the four line groups below the slider and walk the slider up toward the canopy while lifting the canopy off the floor. Seat the slider grommets against the slider stops.



5. Hold all the lines in one hand while standing, and organize the nose. It should now face the container.

Pull all stabilizers toward the outside of the bundle.

A. Place the center tab of the tail under your thumb as shown.



B. Sweep your forearm under the nose of the canopy and lay it on the floor. The bundle will spread out widely, but neatly.



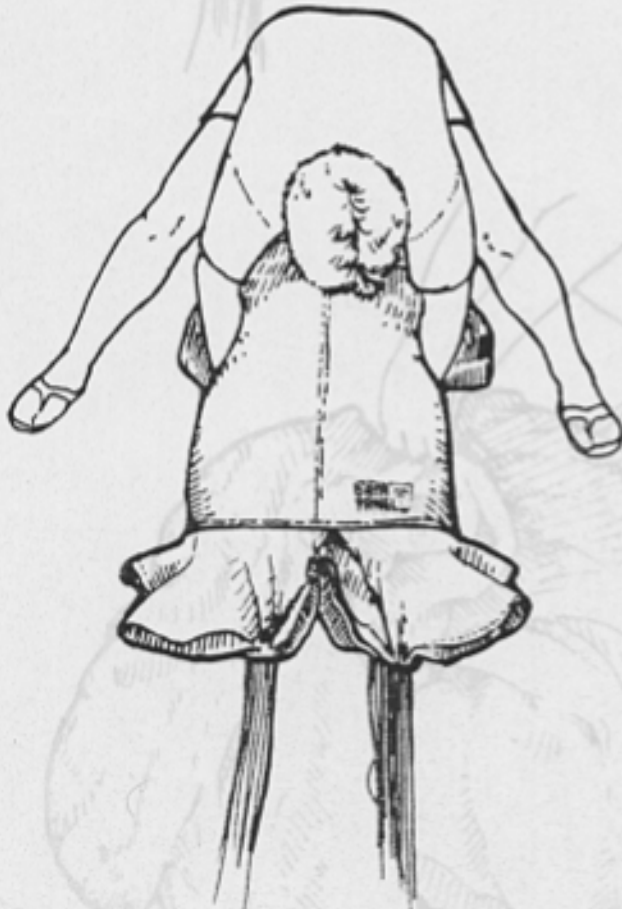
C. Kneel at the top of the canopy facing the container. Draw the canopy toward you while at the same time narrowing the bundle to the width of the bag. Constantly work the fabric away from the links.



D. Pull the center tab of the tail to the top exposing the air channel.



E. Fold one-half of the tail over the bundle to inspect the stabilizer folds. Dress the tail, stacking all chord seams neatly over the centerline (air channel) and neatly lay all stabilizer and tail fabric to the outside. Repeat with other half of tail back to the center.



F. Return the center tail tab to the bottom center of the bundle. Where the stabilizers attach to the main body of the canopy. "Cocoon" the canopy to the width of the bag.

G. Fold the exposed stabilizers back under the tail. Lay your hand 6"-8" from the bottom of the bundle and fold the canopy back over itself.



H. Fold each section of the nose outward from the center so it takes air quickly during deployment.



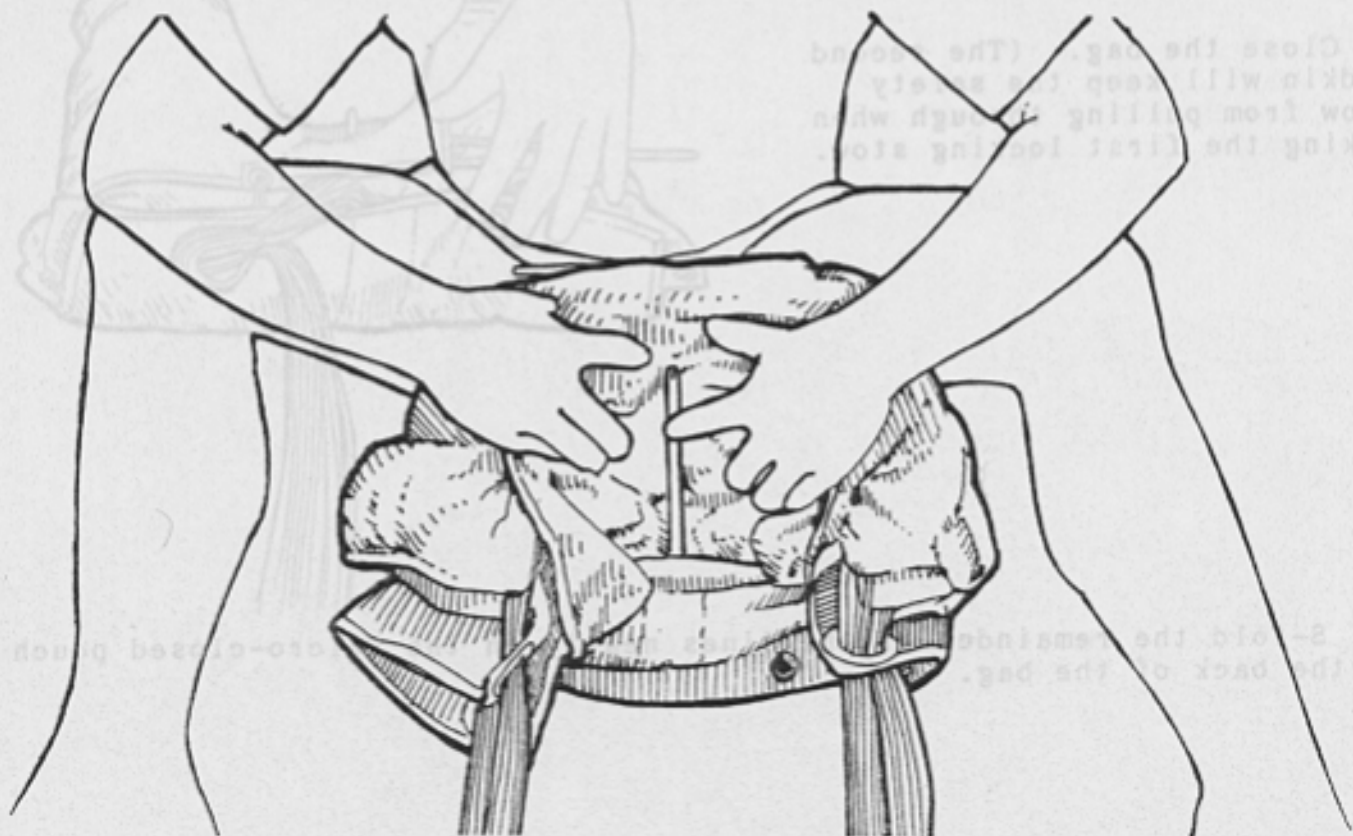
I. Fold the canopy back over so you now have an 8" S-fold at the bottom.

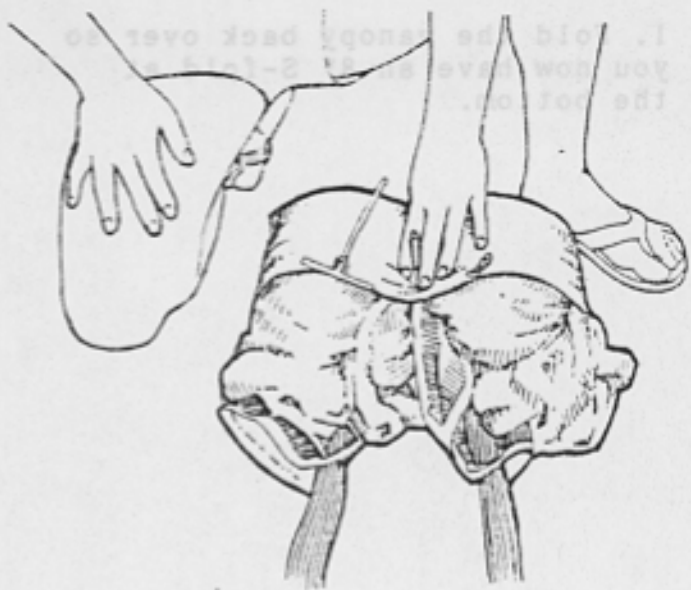


J. Tuck the remainder of the canopy under the bundle until it is the height of the bag.

K. Face away from the container and kneel on the packed canopy to keep it under control. Shape the bundle to resemble the bag, prepare the bag and install the canopy into it. The T-handle bodkin should protrude from the bottom at the center.

L. Make sure the buffer tabs are between the bodkin and the canopy fabric. Bring the bodkin between the right and left line groups. Form a V-shaped dent in the bottom of the bundle with the bodkin and thread it through the grommet on the top. Clear the buffer tab again.

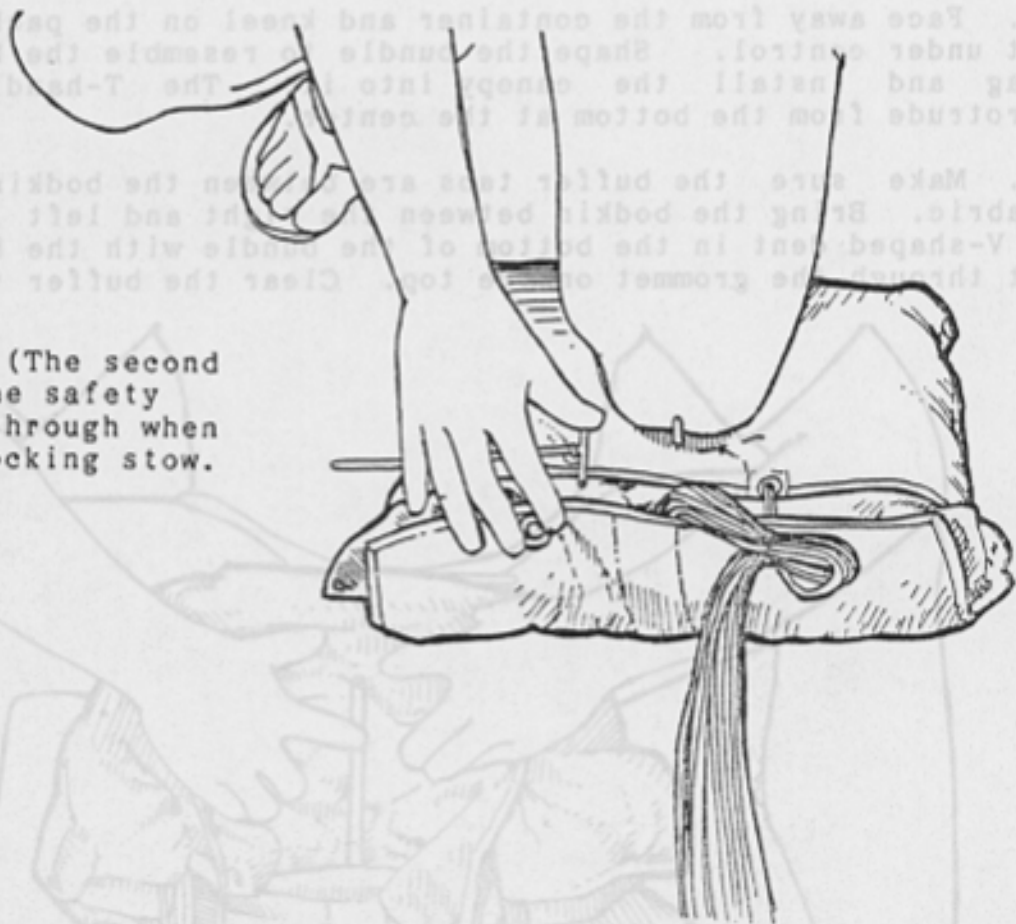




J. Tuck the remainder of the canopy under the bundle until it is the height of the bag.

K. Face away from the container and kneel on the packed canopy to keep it under control. Shape the bundle to resemble the bag. Prepare the bag and install the canopy into the T-handle bodkin should protrude from the bottom of the container.

L. Make sure the bullet is seated in the bodkin and the canopy fabric. Bring the bodkin between the right and left line groups. Form a V-shaped vent in the bottom of the bundle with the bodkin and thread it through the grommet on top. Clear the bullet tab again.



M. Close the bag. (The second bodkin will keep the safety stow from pulling through when making the first locking stow.)

N. S-fold the remainder of the lines neatly in the Velcro-closed pouch on the back of the bag.

INSPECTION TIPS FOR THE 3-RING RELEASE

SST/Racer Owner's Manual

SUPPLEMENT – JULY 1988

This document replaces pages 40-41
of the SST Owners Manual and authorizes modification to page 39.

On page 39, after Step R,
delete the instruction "GO TO STEP THREE!"

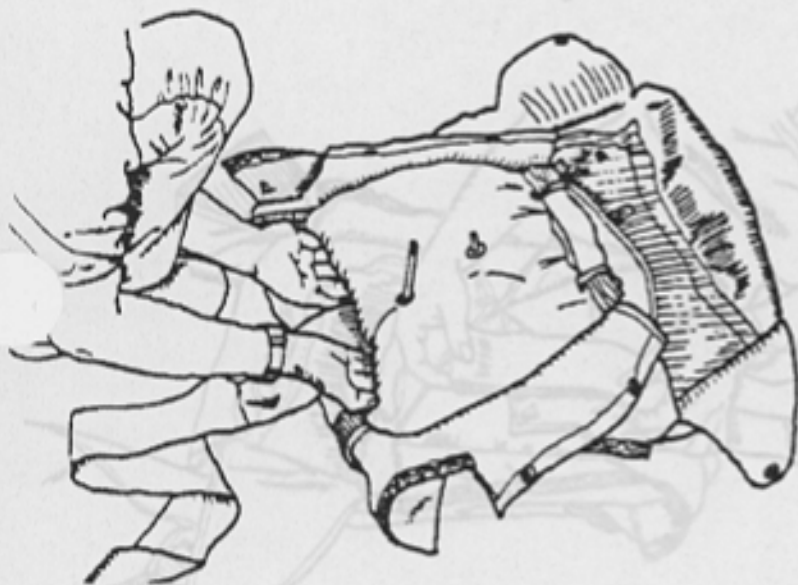
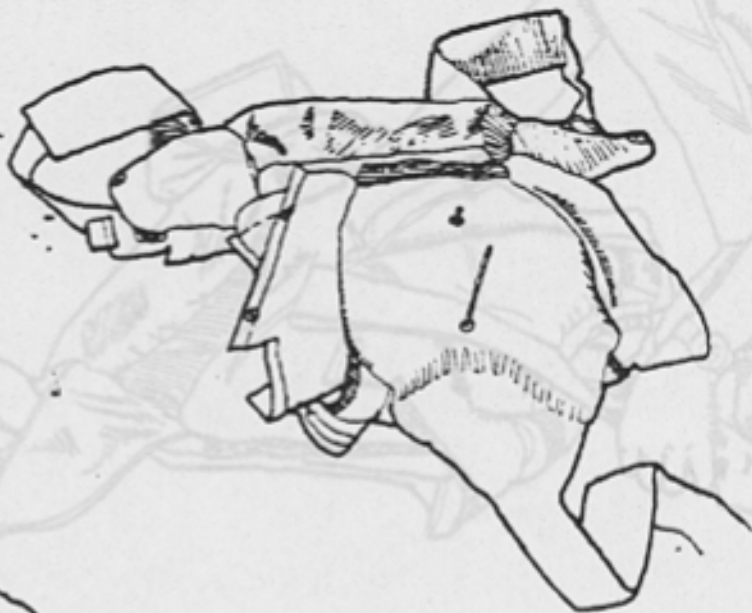
Jump Shack

1665 Lexington Avenue Suite 106

DeLand, Florida USA 32724

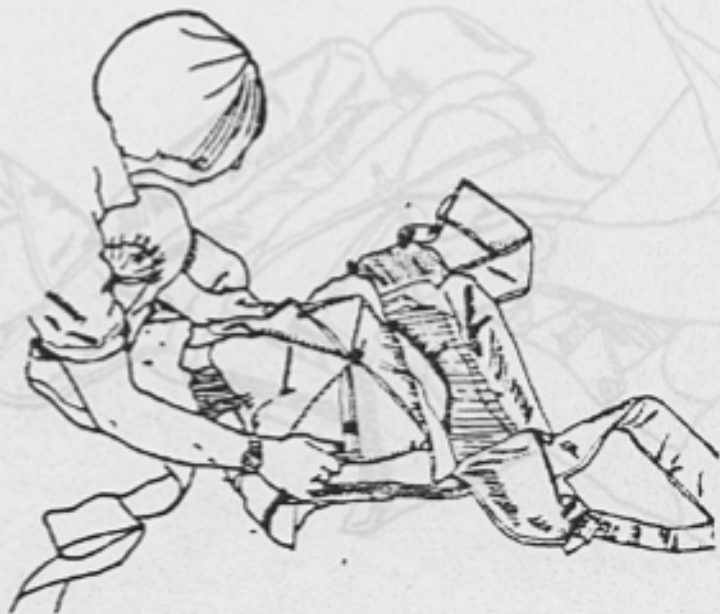
(904) 734-5867

V. Tuck lower corners
of bag into lower
corners of container.



T. Tuck yoke of bag under
bag at top of container.

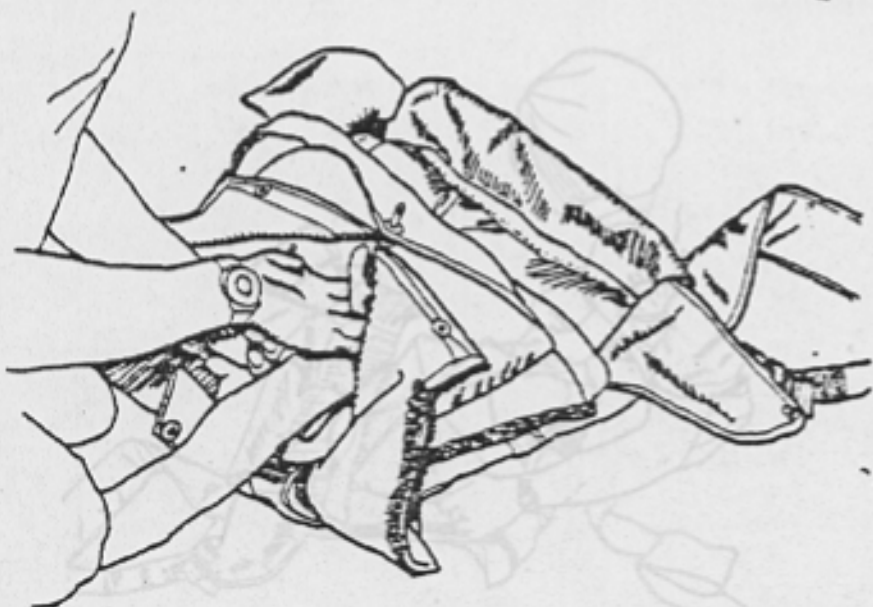
U. Close side flaps of con-
tainer over bottom bodkin.
Close bottom container flap
over bodkin. Spread side
flaps open to bodkin.





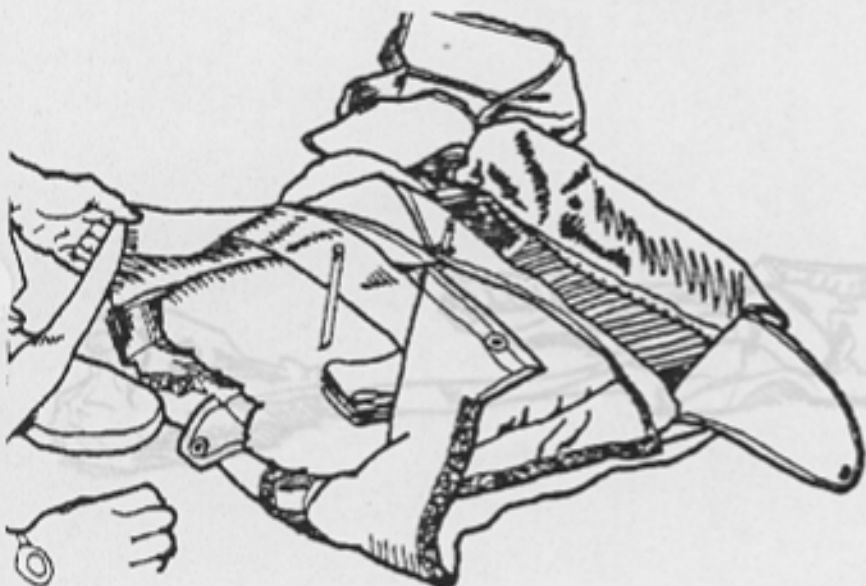
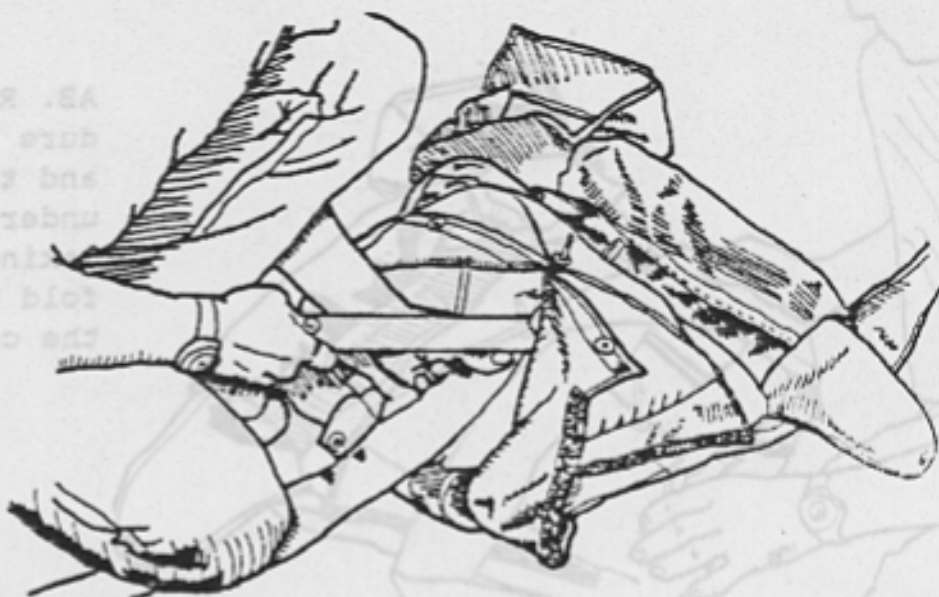
V. Lay bridle down over side flap to establish length of fold.

W. Make another fold on top of the previous fold.



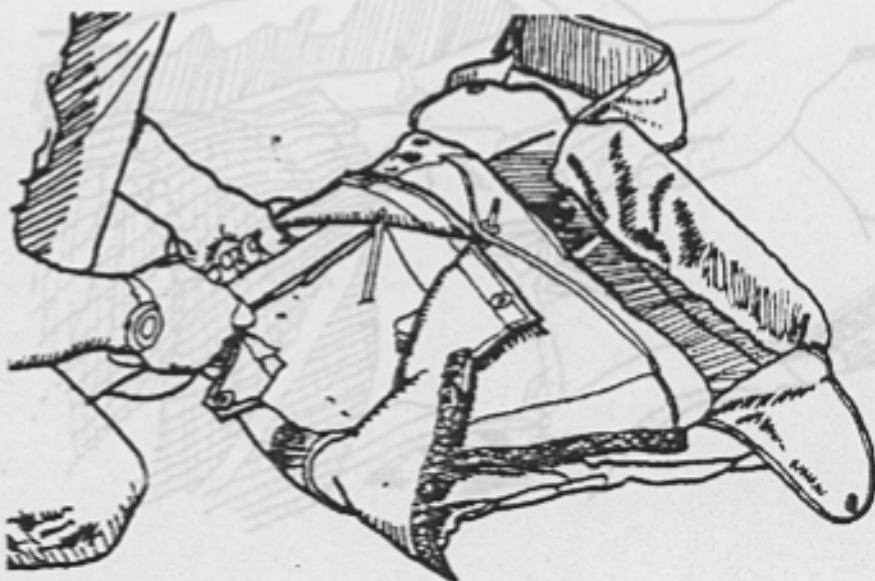
X. Tuck folds under side flap.

Y. Smooth folds of
bridle with packing
paddle.



Z. Make a 90 degree
fold in bridle at cen-
ter of container and
route across con-
tainer to opposite
side.

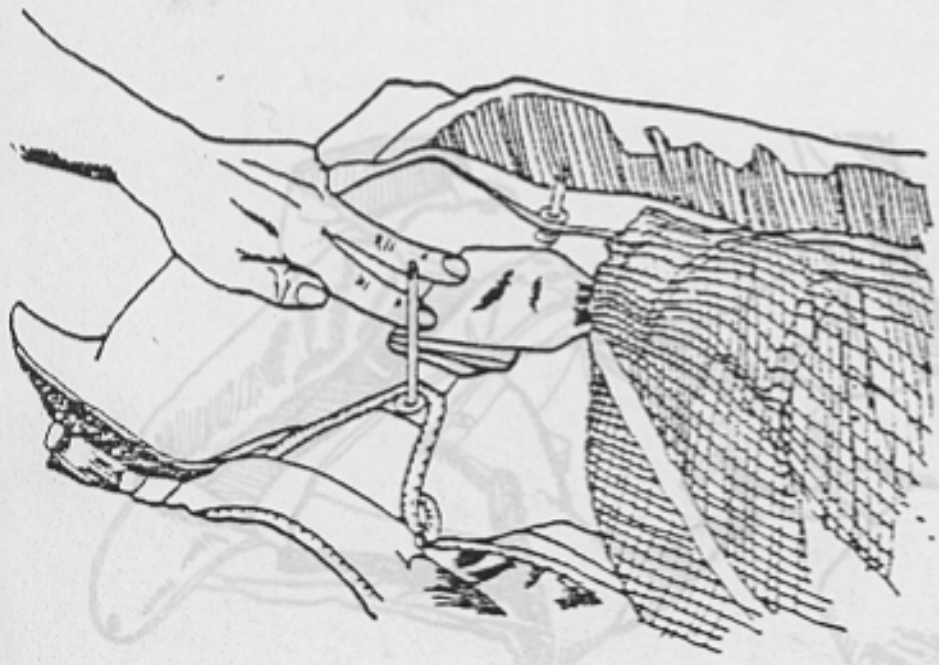
A. Make another 90 de-
gree fold in bridle
and tuck it under
side flap with pack-
ing paddle.





AB. Repeat folding procedure from previous side and tuck folded bridle under this side flap while making another 90 degree fold back to the center of the container.

AC. Close side flaps and top flap over top bodkin leaving bridle exiting container between bodkins as shown.



AD. Fold bridle in approximately 4 inch lengths in center of container between bodkins.

Go To Step Three.

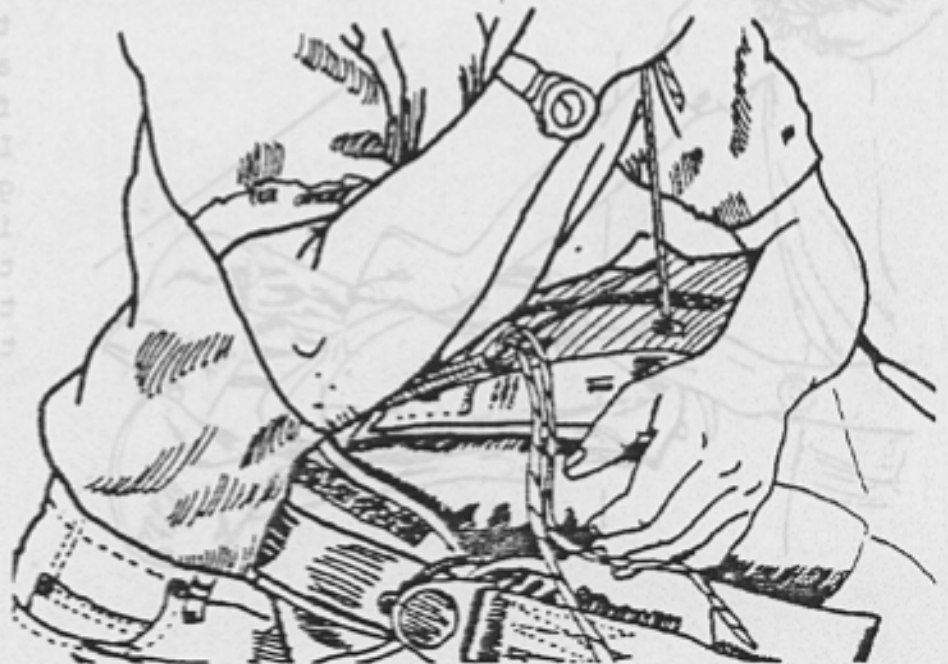
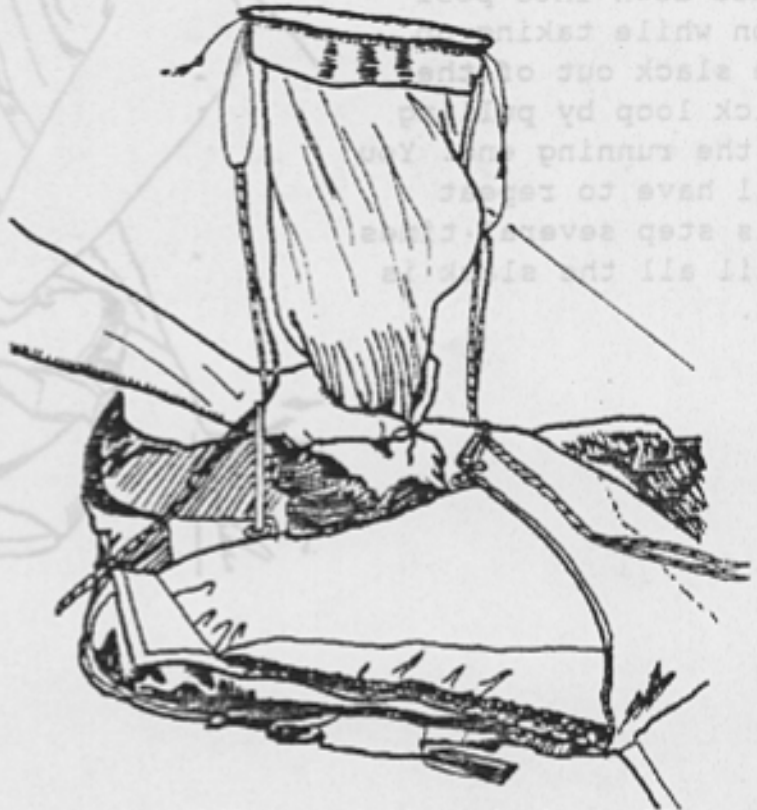
STEP THREE: CLOSING THE CONTAINER

Racer:

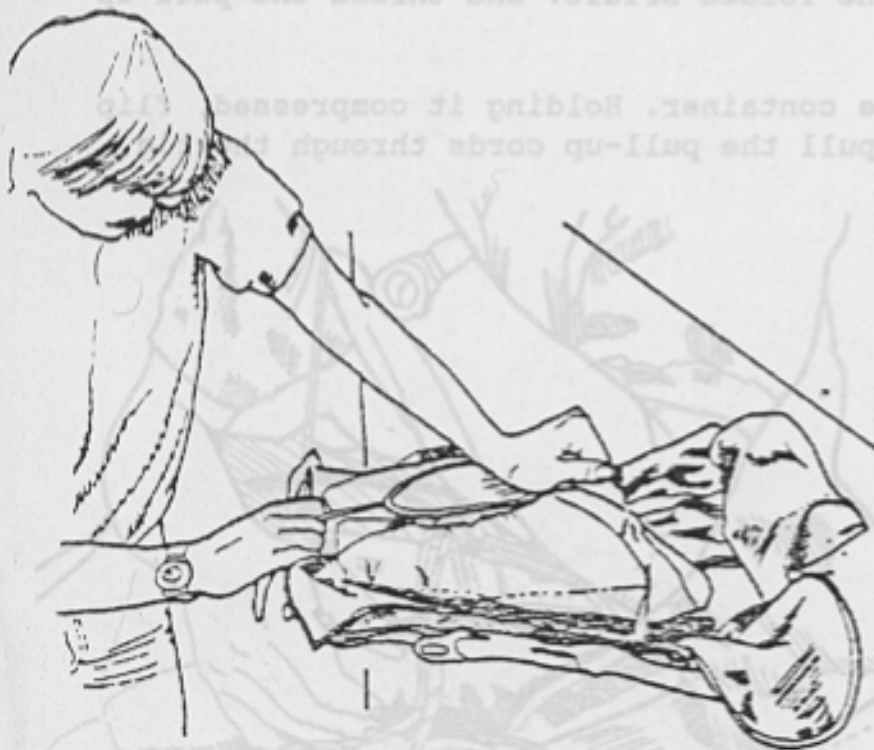
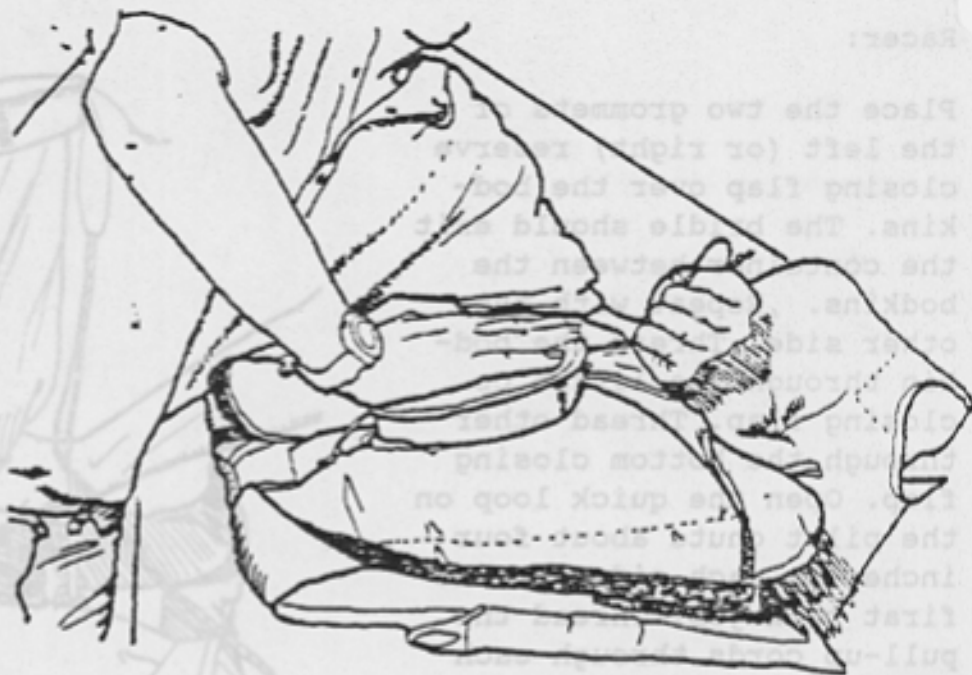
Place the two grommets of the left (or right) reserve closing flap over the bodkins. The bridle should exit the container between the bodkins. Repeat with the other side. Thread the bodkin through the little Cp closing flap. Thread other through the bottom closing flap. Open the quick loop on the pilot chute about four inches on each side for the first pack job. Thread the pull-up cords through each loop. S-fold the reserve pilot chute bridle neatly from left to right between the two bodkins. Make the S-folds about four inches long. Set the pilot chute on the folded bridle. and thread the pull-up cords through the bodkins.

Compress the pilot chute on the container. Holding it compressed, flip the rig on its back. Carefully pull the pull-up cords through the rig. Make sure no pilot chute or reserve canopy fabric comes through with the pull-up cords.

Remove the bodkins. Pull the closing loops the rest of the way through, starting with the top one, and secure them with ripcord pins.



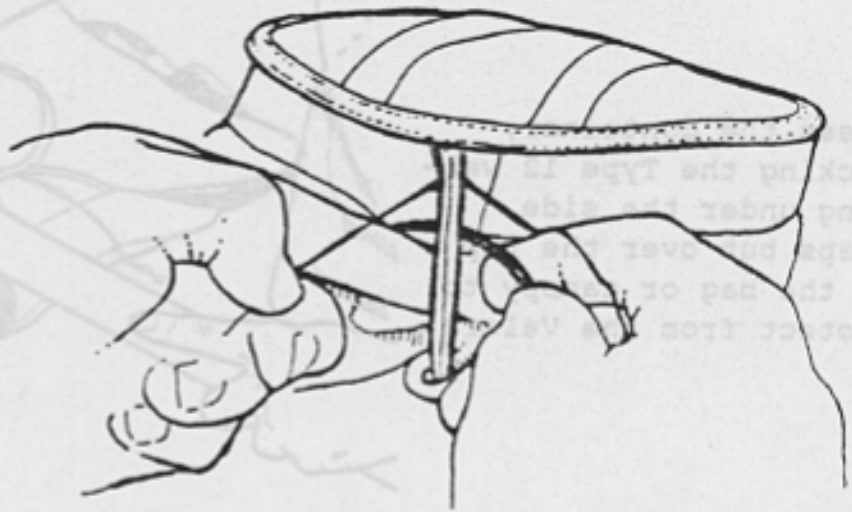
Untape or untie the running ends of the quick loop. Push the pilot chute down into position while taking up the slack out of the quick loop by pulling on the running end. You will have to repeat this step several times until all the slack is out.



This is your opportunity to seat the pilot chute and adjust the pull force. The SST "Quick Loop" is designed to give the rigger the ability to do both of these things. Remember: 22 lb. Pulling the pin is all that is required.

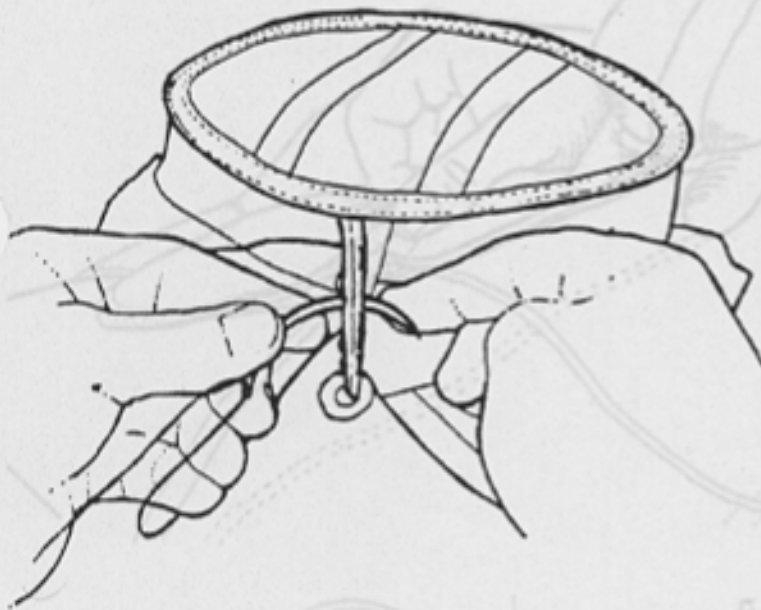
Tie the two pull-up cords together to prevent the pilot chute from traveling too far after the pins are released.

Release the ripcord pins, but keep the pilot chute under control.



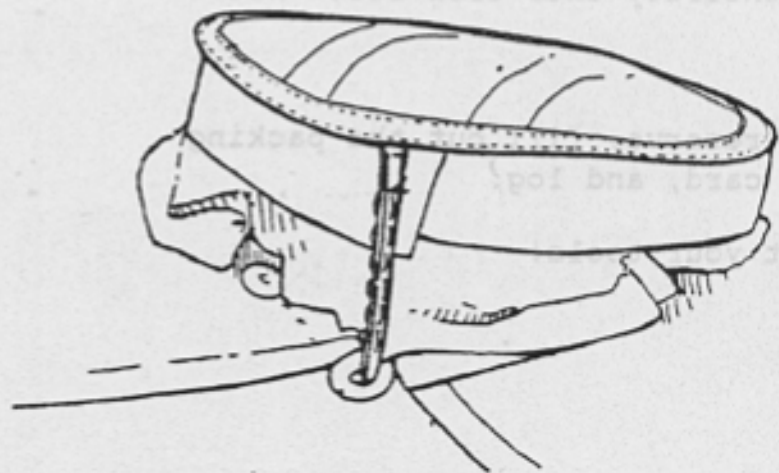
With little more than the quick loop exposed, you should be able to rock the pilot chute top to bottom as the pull-up cords slide. This allows you to access the loop ends for tacking.

Using red riggers seal thread, tack the loops with two passes of overhand stitching. The loop must be tacked within one-half inch of the end. USE ONLY SEAL THREAD.

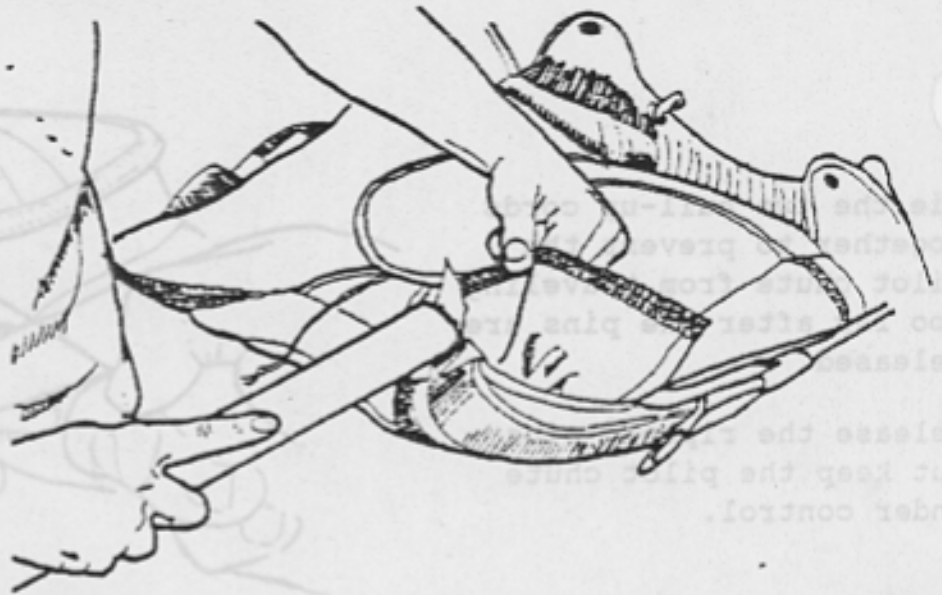


Reclose the reserve as above.

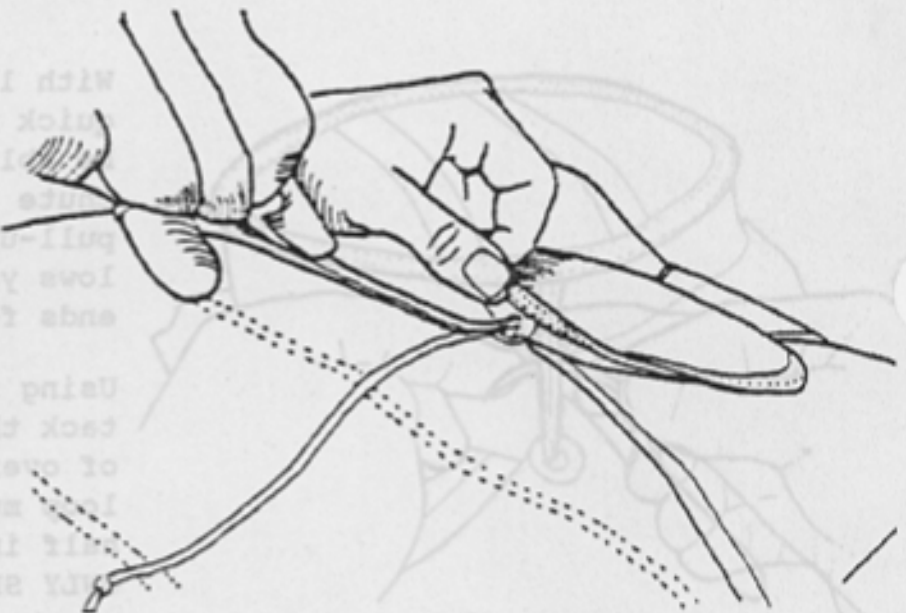
Remove the pull-up cords.



Dress the container,
tucking the Type 12 web-
bing under the side
flaps but over the top
of the bag or canopy to
protect from the Velcro.



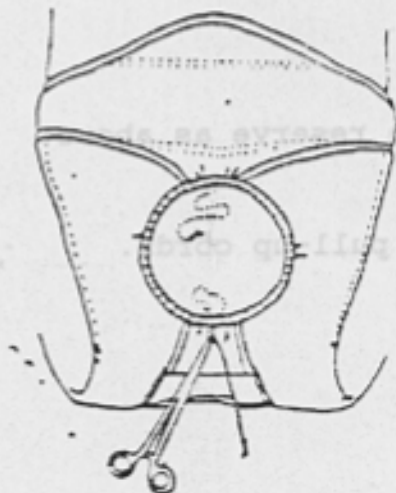
Using hemostats or needle
nose pliers grip "Quick
Loop" pull string about
1/4 inch back from edge of
hat and push slack through
hole in hat valance into
area between top of pilot
chute and bottom of hat.



Regrip pull string and insert it in
its entirety into area below hat.

Seal reserve, fill out the packing
data card, and log.

Count your tools!



Canopy Volume Chart

Main and reserve container sizes are stamped on the inside of the reserve ripcord protector door along with the data table. These are never exceed numbers that relate to the canopies listed below. If the canopy you desire to install is not listed contact the manufacturer of the harness and container for an accurate measure.

	Container Size	Canopy Name	Volume Cu. In
Reserves	350	PHANTOM 22	312
		PRESERVE IV	312
		HOBBIT W/KEVLAR	312
		PHANTOM 24	324
		FEATHERLITE (R-2-1)	338
		K-20	338
		PHANTOM 26	364
		K-22	364
		SWIFT RSV.	367
		PIGLETT II (R-1)	390
		PRESERVE III	390
		SECURITY AERO CON	390
		SPIRIT W/KEVLAR	416
		FIREFLY SQ. RSV.	416
		HOBBIT SQ GARGANO	416
		STRONG LOPO LITE	442
		X-210 R SQ. RSV.	442
		THE OTHER ONE	442
		SUPER 22 (LOW SPD)	442
		450	
SAFETY STAR	468		
K-26	468		
PHANTOM 28	468		
SUPER 22 (STD)	468		
WIZARD W/KEVLAR	494		
PHOENIX	510		
NATIONAL LOPO	520		
SECURITY LOPO	520		
STRONG LOPO	520		
STRONG G228R			
525			
		26' SUPER STEERABLE	572
650		T-10A(24' SURPLUS)	624
		NAVY CONICAL	624

APPENDIX "A" (con't)

Mains

440	BANDIT	416
	FIREFLY	416
	FIREFLY w/KEVLAR	338
	FIRELITE	416
	HOBBIT	364
	RAVEN 1	338
	PD 150	364
	RAVER 1 w/KEVLAR	312
	SPITFIRE	364
	RAVEN 2	364
	PD 170	N/M
	X-210 W/KEVLAR	364
	PD-190	N/M
	SWIFT	416
	WILDFIRE	416
	RAVEN 3	416
	MAVERICK	416
	SCORPION	373
	STINGRAY	364
	SIROCCO	416
	NIMBUS BETA	N/M
	RASCAL 7	390
	LASER	416
520	PD-210	442
	UNIT W/KEVLAR	442
	MERLIN LITE	442
	PEGASUS	468
	FURY	468
	RAVEN 4	468
	CIRUS	442
	X-210	442
	DRAGONFLY	468
	RAIDER	468
	CLIPPER	468
	UNIT F-111	468
	RENEGADE	468
	AVENGER	N/M
670	CRUISELITE	520
	NIMBUS	520
	KESTREL	520
	MINIFOIL	520
	RASCAL 9	494
	RASCAL 9 SPANWISE	520
	RASCAL 8	494
	LASER 8	520
	STRATOFLYER	520
	SPIRIT	520
	COMET 228	520
	TURBO	520
	PD-230	N/M
	LASER 8	520
	LASER 7	N/M
	RASCAL 9	N/M
	MARAUDER	N/M
	VULCAN	546
	VOYAGER	546

	WIZARD	572
	VIKING S/L	572
	OSPREY	572
	NIMBUS XL	598
	DC-5	572
	HERCULES	650
	PERSUIT 230 F111	598
	MERLIN	614
	UNIT 3	624
	TITAN	624
	CRUISEAIR 1.25	645
	LR-288	650
	MANTA	650
	LASER 9	572
780	STRATO CLOUD	676
	PERSUIT 230 (OLD)	676
	XL-CLOUD F111	676
	COMET 300	676
	RWPC F111	676
	PIGLET 2	676
	CLOUD LITE 1.25	702
	MOONRAKER	702
	252 LITE	780
930	MIGHTYMAC	865
	GOLIATH	832
	5-CELL FOIL	910
	STRATO STAR	910
	GEMINI	N/M
	272-FOIL	N/M
1020	252-FOIL 1.25	962
	CLOUD 1.55	1014
1400	TAFFETA PC S/L	1144
	PC W/SLEEVE & P.C.	1352
	T-10 W/NET	1404

N/M=NOT MEASURED

APPENDIX "B"

APPROVED PILOT CHUTES

- MA-1
- LITTLE GRABBER
- NORTH AMERICAN 36" HIGH DRAG
- RACER PILOT CHUTE

INSPECTION TIPS FOR THE 3-RING RELEASE

1. CHECK THE LOCKING LOOP ON EACH RISER. It should be made from Type IIA nylon sheathing, a flat material with a dark trace spiraling along it. Other materials could increase the release force requirements.

2. CHECK THE RISER RELEASE FORCE. Grasp the riser about halfway up it's length and the main lift web below the harness ring. Have someone pull the release handle and see how much force is required to pull the riser off the ring. It should be only about 10 pounds. If you have old risers, or if the wrong locking loop material was used it could be much more. If it is consult a rigger because it might be dangerously high; the risers might not release a low drag malfunction such as a streamer.

3. CHECK FOR SLACK IN THE HOUSINGS. In a suspended harness check to be sure both metal housings are not putting any tension on the locking loop. You should be able to lightly grip each housing and find an inch or so slack.

NOTE: If there is any tension on the locking loops and housings, opening shock might break the locking loop causing a premature riser release. Or, the locking loop might bind on the release cable, making it difficult to pull the breakaway handle during an emergency.

4. CHECK THE OPERATION OF THE BREAKAWAY HANDLE. In a suspended harness with a helmet on, simply pull the release handle to jettison the risers. If the pull force seems to high, it could be because of a wrong release cable, a dirty release cable or because the housings are incorrectly installed. Check with a rigger of contact the manufacturer.

5. CHECK THE INSTALLATION OF THE SMALL RING ON THE RISERS. The small ring should be attached with 1"wide SQUARE WEAVE Type 4 tape.

6. PERIODICALLY INSPECT AND FLEX YOUR 3-RING SYSTEM. At the end of each weekend or at least every 25 jumps disassemble inspect and flex the webbing on the risers. Use a nylon brush to remove the deposits on the webbing and reassemble and test.