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# Prestige<sup>TM</sup>

## Harness and Container System

THE ADVENTURE LOFT, INC.  
Carrollton, TX U.S.A.

Prestige P/N PHC AFG

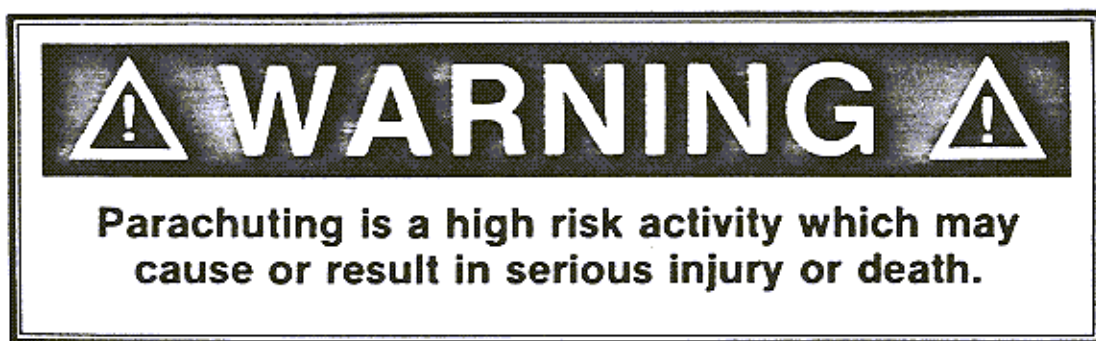
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### The Adventure Loft, Inc.

1425 Century Lane Suite 100  
Carrollton, TX 75006  
(214) 245-4256 Fax (214) 245-0598



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Parachutes sometimes malfunction, even when they are properly designed, manufactured, assembled, packed, maintained and used. The result of such malfunctions may be serious injury or death.

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# PRESTIGE OWNER'S MANUAL

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## I. INTRODUCTION

The Prestige harness and container is not only the culmination of two years of design and test work but also the result of my personal involvement in skydiving for 26 years. The Adventure Loft, Inc. was started in 1980, and in 1981 we introduced our first harness and container, the Brief Case. Our eleven years of manufacturing has given us a complete understanding of the manufacturing process.

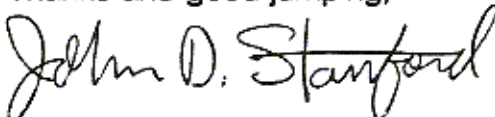
We have specifically tried to design features that make the Prestige superior to all existing harness and containers available today. We have paid very close attention to the performance of the reserve pilot chute. The Prestige reserve container and Zenith pilot chute provide outstanding launch characteristics. One of our goals for our test program was to complete the program without any pilot chute hesitations, which we accomplished. This included dummy drops as low as 200 feet, breakaways, and live terminal reserve freefall jumps. My personal belief is that when you need your reserve, you need it right then without any hesitation of any kind.

A clean, attractive appearance is a must. All pins and risers are protected and covered with a minimum of Velcro. The harness is unique in that the webbing crosses in an X across the back and wraps around your hips and legs in a manner that pulls the main container into your back when you tighten your leg straps. The harness is fully padded. There are pads under all hardware. Comfort and durability were high priorities. Your rig should work well consistently, look good, feel good and last a long time.

We have attempted to incorporate as many safety features as possible. However, no parachute system is idiot proof. **Do not ever forget skydiving can be dangerous.** It is up to you to use common sense and good judgement. Conduct your jumping activities in a safe manner.

Please call us if you have any problems or suggestions. Your feedback helps us improve our product and promote safety.

Thanks and good jumping,



John D. Stanford  
President

## II. OPERATIONAL LIMITATIONS

### A. Technical Data - TSO Testing

The Prestige harness and container system has been certified with the Federal Aviation Administration Technical Standard Order program. We have been granted TSO approval under TSO C23C Category B. The Society of Automotive Engineers, Inc. have established a set of standards for personnel parachutes. This standard is referred to as (SAE), Aerospace Standard (AS) 8015A, "Minimum Performance Standard for Parachute Assemblies and Components, Personnel," dated September 30, 1982. This document lists the specific types and quantities of ground tests, dummy drops and live test jumps required. There are three weight/speed categories (A,B and C) that can be tested. We tested to category B. The maximum for category B is 115 Kg (254lb) at 150 knots. This means that the Prestige harness and container is limited to use by persons up to 254 lbs. fully equipped and up to 150 knots. The actual test for this was three dummy drops with a dummy weighing 300 lbs. at 175 knots (201 mph). We had no failures of any kind during these three tests. They were all done on the same harness, container and canopy. Our other tests consisted of a variety of dummy drops at 60 knots, 85 knots and 110 knots. Many live jumps were made including terminal freefall reserve deployments and breakaway jumps. Extensive video and motorized still photography was taken during the live portion of the testing. Our entire test program went extremely well and gave me the personal confidence to introduce the Prestige harness and container fully knowing the structural and functional design is more than adequate.

### B. Modifying Your Prestige Harness and Container

You should never modify any harness and container without first contacting the manufacturer. Each manufacturer designs and tests the harness and container as a complete system. Making an unauthorized modification could cause the system not to work. We might have already tried your idea and found it not to work. On the other hand, your idea may be a great improvement which we would like to know about. We welcome your ideas but need to be involved in testing any changes.

### C. Compatibility

We make a variety of different size containers and harnesses to accept the wide array of canopies available. Each container is sized to fit a specific group of canopies with a specific volume range. Likewise, each harness is sized to fit a specific group of body sizes.

There is a danger in trying to put canopies that are too large or too small in containers that are sized for a different volume. Canopies that are too large for the container can cause excessively hard pulls or excessive bag extraction forces where the deployment bag will not come out of the container, resulting in a pilot chute in tow. Either

of these situations are very dangerous. Canopies too small can be dangerous by not providing adequate tension on the reserve rip cord pins or the main closing pin. This situation can result in premature deployment while climbing out of the aircraft or in freefall, either of which can be disastrous. Too small a volume can also cause out of sequent deployment. Most containers are designed to hold the deployment bag in the container until the pilot chute extracts it from the container. Call us if you have a question about compatibility. We can assist you in determining proper volume capacities. A final check can be done by your rigger by packing up your canopies and testing on the ground how much force it takes to release your reserve rip cord pins and your main closing pin. He should also grasp the bridle line on your main and reserve and check the force required to extract the deployment bag.

A harness can be re-sized slightly and can be accomplished at our facility. We may allow another manufacturer or master rigger to do the work on a one at a time basis. Contact us if you need this done.



### III. OPERATING INSTRUCTIONS

#### A. The Reserve System

##### 1. Total Malfunctions

One of the main design priorities for the Prestige harness and container was fast reliable deployments in all environments. This, of course, starts with the reserve rip cord activation. In a total malfunction situation, we recommend that you first make visual contact with the reserve rip cord. Historically, skydivers get killed in emergency situations because they do not make the necessary visual connection with the rip cord so that they can put their hand on it to pull it. There have been accounts of people pulling on their main lift web or chest straps all the way to the ground. Remember the golden rule - any rip cord you pull - look at it. Grasp the rip cord with both hands and pull vigorously out and down. Pulling with both hands helps eliminate any excessive time spent dealing with a pull that requires more force than you anticipated. After you pull, look up to make sure you have good pilot chute launch and canopy opening.

##### 2. Breakaways

Make the decision after you open at a higher, safer altitude. Do not wait till you are at a lower altitude that may not be sufficient to get your reserve fully deployed. People get killed every year because they pull their reserves too low. There are several different breakaway procedures that work well. Ultimately, you have to decide which method is best for you. If you have just started skydiving, the advice of your instructor should certainly be considered. The procedure we used during live test jumps was to grasp the cutaway handle with the right hand and grasp the reserve rip cord with the left. We started the breakaway by separating the Velcro cutaway handle from the main lift web and then pulling the cutaway handle out and slightly down to full arms length. Throw the cutaway handle away making sure both risers have separated from the harness and pull the reserve rip cord with both hands. Then, of course, check your pilot chute launch and canopy opening.

##### 3. Reserve Lanyard

The reserve lanyard, when used, is attached from the wearer's left riser to the reserve rip cord cable via a Velcro nylon tape lanyard. When a breakaway is accomplished, as the left riser releases from the harness, the Velcro lanyard separates from the harness and the ring at the end of the lanyard pulls the reserve rip cord cable. The reserve lanyard is a back-up. You should attempt to pull your reserve after breakaway even though the reserve lanyard may pull the reserve rip cord before you can. There are several notes of caution to remember when using a reserve lanyard.



a. When you breakaway, you are counting on both risers releasing simultaneously or the right riser slightly before the left. If the left riser releases first or only, it will activate the reserve causing a possible main/reserve entanglement. Therefore, it is important to check for proper sequencing on the ground. Simply suspend your main risers and slowly pull your cutaway handle. Make sure your risers release simultaneously or the right riser first. You can have your rigger adjust the sequence by cutting the yellow cable slightly to assure a simultaneous release or right side slightly advanced. Make sure the yellow cable is long enough to prevent accidental premature release. While hanging under your harness your yellow cables should be at least four (4) inches beyond the white three ring loop. If you cut your yellow cables make sure they are heated and finished smoothly.

b. In high wind landings, you may have to cutaway your main to prevent being dragged. With the lanyard attached, this may open the reserve container. To prevent this, pull the tab on the snap shackle to release the reserve lanyard from the left riser. Do this after your main is fully open and you are clear from all other opened canopies.

c. CRW - If you are going to participate in canopy relative work you may elect to disconnect your reserve lanyard. If you experience a "wrap" and have to cutaway you may not want your reserve deploying immediately after you cutaway.

#### 4. Automatic Activation

Any installation of an AAD should be done at our facility. Any installation outside our facility will only be done with our permission on a one at a time basis. All AAD's should be sent back to their respective manufacturer at least once a year for maintenance, calibration and update. Do not put yourself or other people in a possibly dangerous situation by wearing and using an AAD that is not maintained properly. AAD's do save lives but they are a mechanical device that must be maintained.

FXC AAD's can be functional checks at repack to assure that they do properly pull the rip cord pins. Simply place a plastic bag over the sensing unit (turned to the "on" position), blow air into the bag, pinch the bag off around the hose to capture the air, and squeeze the bag. This will cause a pressure change and activate the AAD pulling the rip cord pins. The FXC AAD should not be checked this way unless the reserve container is packed and the rip cord pins are in the closing loops. Activating the AAD without the resistance of the closing loops can damage the AAD.

### B. The Main System

#### 1. Throw Out Deployment

The location of the tube handle on top of the throw out pilot is at the top of pouch mounted on the back of the right leg strap. You may not be able to see the

tube handle in freefall but regardless of whether you can or not, make an attempt to see the handle so you know exactly where to place your hand to grasp the handle. When you grasp the tube handle, be deliberate. Get a good grip on the handle. You do not want to lose your grip on the handle. If you get the pilot chute out of the pocket and lose your grip, the pilot chute will blow back behind you and lay down on your back resulting in a pilot chute hesitation. When you throw your pilot chute out, throw it out directly to your side as hard as you can. The further you throw it to your side, the less chance there is of it blowing back over your back and hesitating. Do not pull the pilot chute out and hold it then simply letting go of it. One of the dangers of the throw out system is entangling with the bridle line or misrouting the bridle line. Always check the routing of the bridle on the ground and make sure the bridle can separate from the Velcro and release the curved pin. When you pull the pilot chute out of the pouch you expose the bridle to the air passing around your body. It is absolutely imperative that you are in a flat and stable position when you pull the pilot chute out of the pouch. If you are in a bad body position you increase the chance of entangling the bridle with your equipment or body resulting in a towed pilot chute. If that happens and you cannot immediately clear the pilot chute, pull your reserve. There is a chance that your reserve could entangle with your trailing throw out pilot chute, but if you do not pull your reserve you do not have any change of survival.

When you throw the pilot chute out, watch it go away so you know it is inflated and working properly. Do not continue to watch your canopy open by looking over your shoulder. This will tip your body up on one side and cause your bag to leave your back with one side lower than the other resulting in a bag spin and twisted lines. After you see your pilot chute leave you and know it is inflated, square your shoulders and body with the ground and start sitting up slightly and bend your head up to watch your canopy open. Watch your canopy open so you know immediately what it is doing. Do not lay there waiting for an opening.

## 2. Pull Out Pilot Chute Deployment

The pull out pilot chute handle is mounted on the bottom right corner of the main container. The advantage in this system is when you pull the handle you open the pack by extracting a straight closing pin that closes the main container. As you continue to move your right hand and arm out to your right side you expose your pilot chute to the airstream. Since the handle is connected to the base of the pilot chute, instead of the top, like a throw out pilot chute, you get pretty fast pilot chute inflation. It is important to extend your arm as far out from your body as possible and toss the pilot chute away from you as far as possible. If you drop the pilot chute next to your side it may blow over your back and hesitate. The disadvantage of a pull out pilot chute is not being able to see it. Be deliberate when you grasp the handle. If you drop the handle, or for some reason have difficulty grasping it, remember you are moving toward the ground at 120 miles per hour. If you cannot locate the handle quickly, pull your reserve. It is better to get your reserve out than to lose track of time and altitude and get too low to get either canopy open.



### 3. Rip Cord Deployment

With rip cord deployment you have a spring launch pilot chute in the main container instead of a soft springless pilot chute like a throw out or pull out pilot chute. The main container can be closed with either a metal rip cord or a tube handle rip cord similar to the tube used on a throw out pilot chute. The rip cord pocket can be mounted at different positions on your right side. Remember the golden rule, any rip cord you pull, look at it first. Get a good grip on it and pull it out and away from you. If you have difficulty with one hand use both hands. If you have excessive trouble pulling it, pull your reserve. Remember, you are moving toward the ground at 120 miles per hour.

### 4. Familiarization

Whether you have ten jumps or a thousand, when you use new equipment you should go through a period of familiarization. This familiarization should start on the ground. Look the rig over. Learn the location of rip cord handles and all adjustments. Put the rig on and practice locating and pulling all your handles. Make sure you understand the proper threading of your hardware. It is a good idea to practice your emergency procedures in a suspended harness. You should always put your rig on and pull it when you take it in for a repack. This may be the only chance you get to actually pull your reserve.

It is a good idea, especially if you are a fairly new jumper, to make a few solo jumps on your new gear. Make a couple of freefalls and practice locating your handles in freefall.

### 5. Pre-jump Inspection

Certain common sense things should be done before and on every jump.

a. Always check your pins, main deployment system and three ring assembly before you put your rig on.

b. Get an equipment check by a competent fellow jumper before entering the aircraft. Unfortunately, there are many experienced jumpers who think they are so good that they could not possibly make a mistake. Contrary to what some people believe, it is cool to get a rigger check or equipment check by another jumper. Some jumpers are not with us anymore because of a simple overlooked equipment problem.

c. Give yourself a final equipment check before you leave the airplane. Make sure all your handles are in the right places.

d. Have a good skydive, but get yourself clear and open at a reasonable altitude (2,000 feet).

#### IV. ASSEMBLING, INSPECTING AND PACKING THE RESERVE SYSTEM

##### A. Parts List - Reserve

Qty	Description	Part No.
1	Prestige harness/container	PHC1( )
1	Zenith reserve pilot chute	Z2
1	Square reserve freebag and bridle	FB3( )
1	Round reserve bridle	RB4
1	Reserve rip cord	R5( )
2	Square reserve toggles	T6
2	Reserve closing loops	RCL7
1	Safety stow loop for freebag	SS8( )
1	Prestige Owner's Manual	OM9

##### B. Required Tools

1. Harness and container instructions
2. Reserve canopy instructions
3. Wrench for connector links
4. Tacking needle
5. Rigger's safety tie thread
6. Two pull up cords
7. Two temporary pins with flags
8. Packing paddle
9. Two Velcro line protectors
10. Two cord locks (optional)
11. One molar packing strap (optional)
12. Seal press and lead seals

##### C. Qualifications Of Rigger

A senior or master rigger with a back type rating is qualified to assemble, pack and maintain the Prestige harness and container.

A senior rigger is limited to minor repairs. All major repairs must be done by a master rigger, a qualified parachute loft, or the manufacturer.

##### D. Assembling The Reserve

Lay the canopy down and straighten all the lines. Lay the harness and container down and spread and straighten the reserve risers. Open the connector links and attach the appropriate risers. Close the connector links by hand until tight and then turning them another 1/4 turn with a wrench. Do not overtighten the links. It can break



the nut. Make sure the steering lines are routed properly through the grommets on the slider and through the keeper rings on the risers. Tie the toggles on by passing the steering line through the grommet and around the toggle, back through the grommet and tie the free running end to the steering line with a bow line knot.

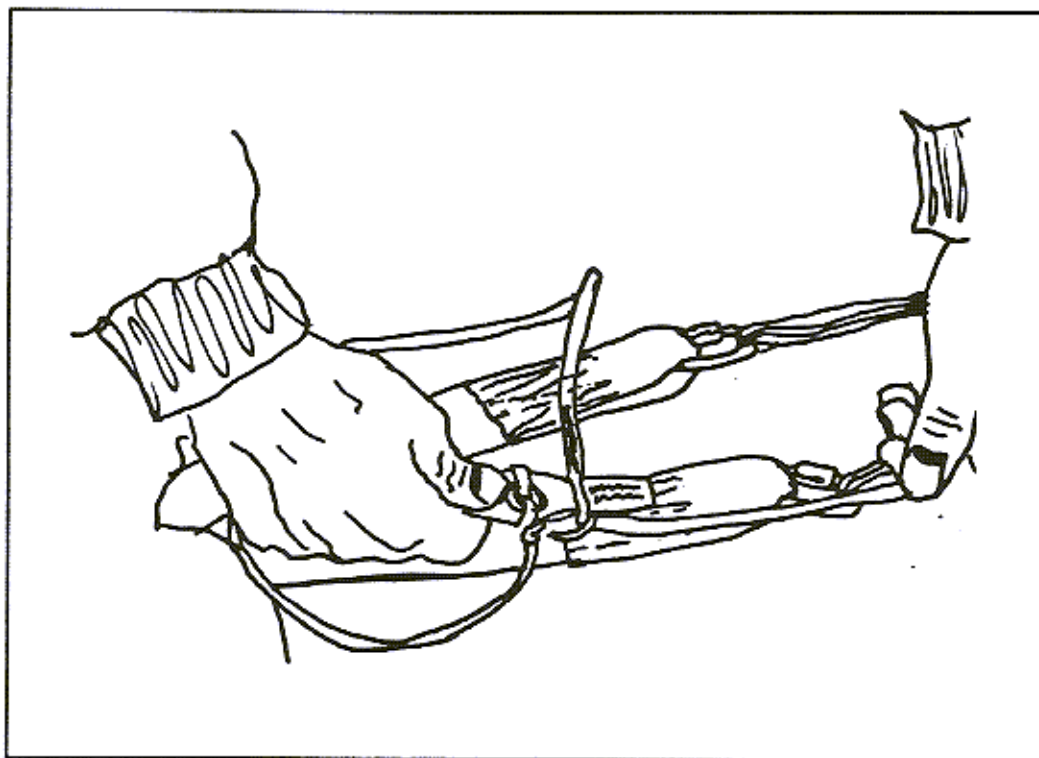
#### E. Inspecting The Reserve System

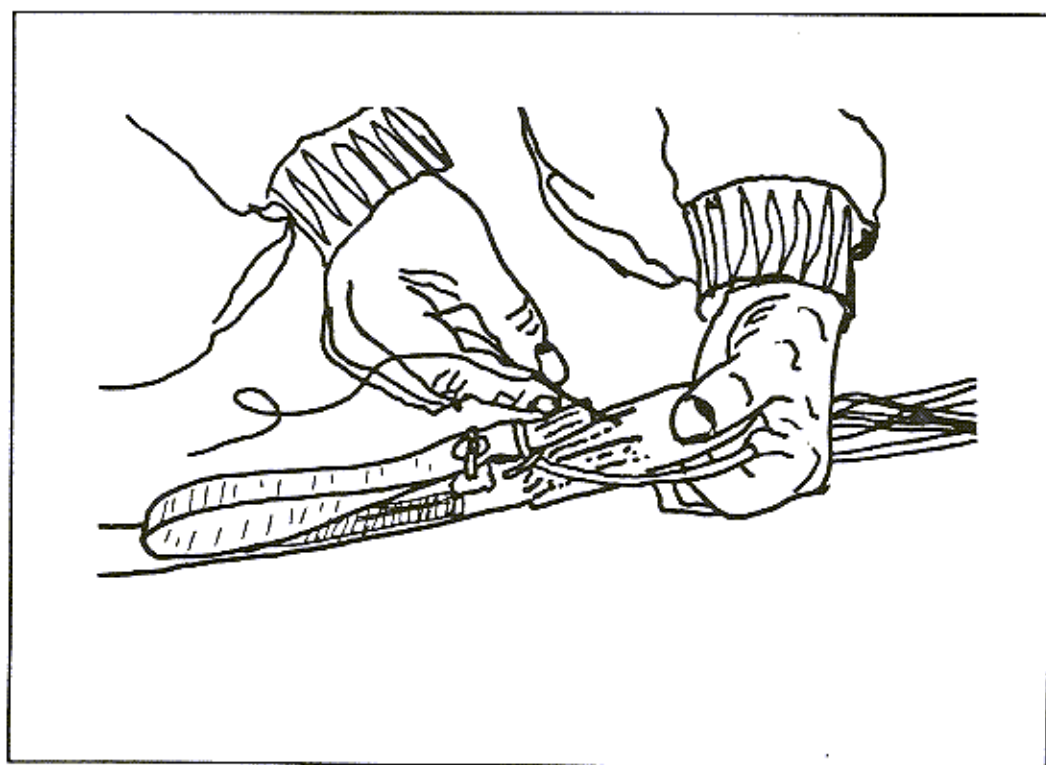
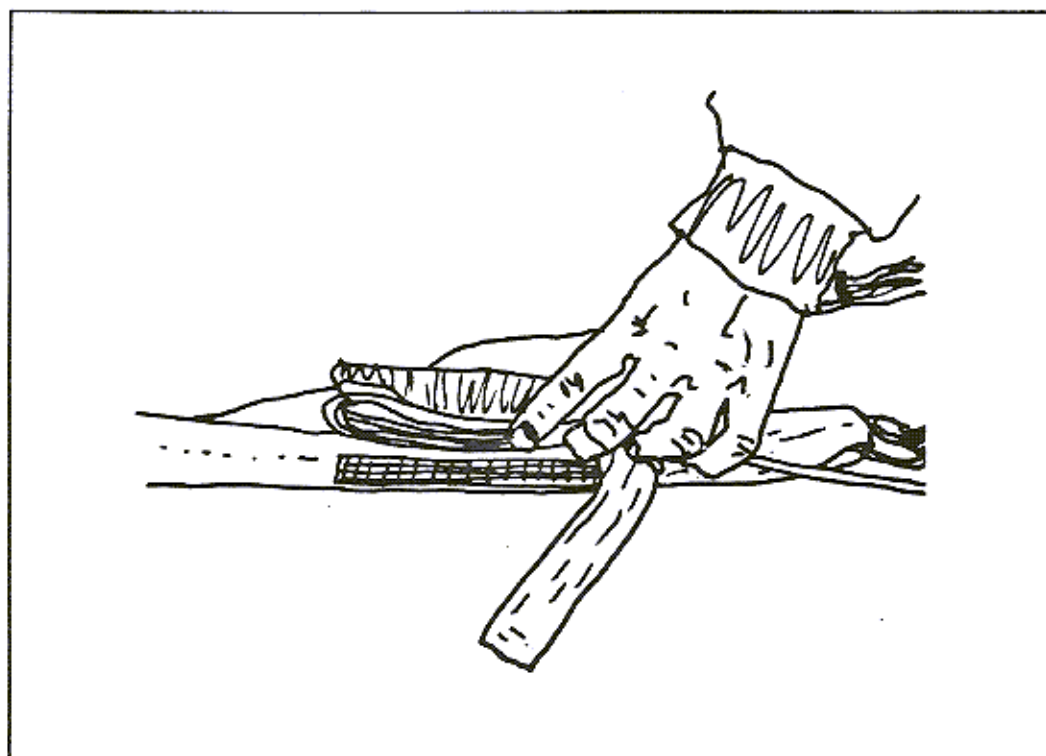
Now that the reserve canopy is attached to the harness and container properly, do a complete inspection from one end of the system to the other i.e. start with the harness and container checking all the stitching, webbing, grommets, fabric, plastic stiffeners, Velcro, hardware orientation, tacking and general appearance. Move up through the reserve risers, toggles, connector links and slider. Check the condition of the lines and presence of bar tacks at cascade points. Just because the reserve canopy may be new, do not assume that everything is perfect. Inspect all the line attachment points and the canopy itself. Check the top and bottom surface and the vertical ribs including the seams. Inspect all the components including the reserve pilot chute, bridle line, deployment bag and reserve rip cord. **Remember - as a rigger, you are responsible for all components or parts of the system. If any link in the system fails, the whole system may fail.** Once you have completed the inspection on the whole system, lay the canopy and harness/container down and restraighten the harness, risers and lines of the canopy. Do a complete line check making sure that proper line continuity is correct. **Never pack a Prestige harness and container unless you have done a complete line check and you are 100% sure the lines are in proper order.** Make a written list of any needed repairs and their locations so you do not forget.

#### F. Packing The Reserve

1. Lay the canopy out according to the canopy manufacturers directions. Make sure you have completed a thorough inspection and line check.

2. Pull the steering lines down and set the brakes. When setting the brakes, pull the steering line down so that the finger trapped loop is below the steering line keeper ring. Insert the toggle into the finger trap loop and pull on the steering line above the keeper ring to make sure the toggle will not prematurely release. Stow the excess steering line in the Velcro keepers at the risers and mate the Velcro on the toggles with the Velcro on the risers. Hand tack the tip of the toggles to the risers. Use one turn double of safety tie thread.



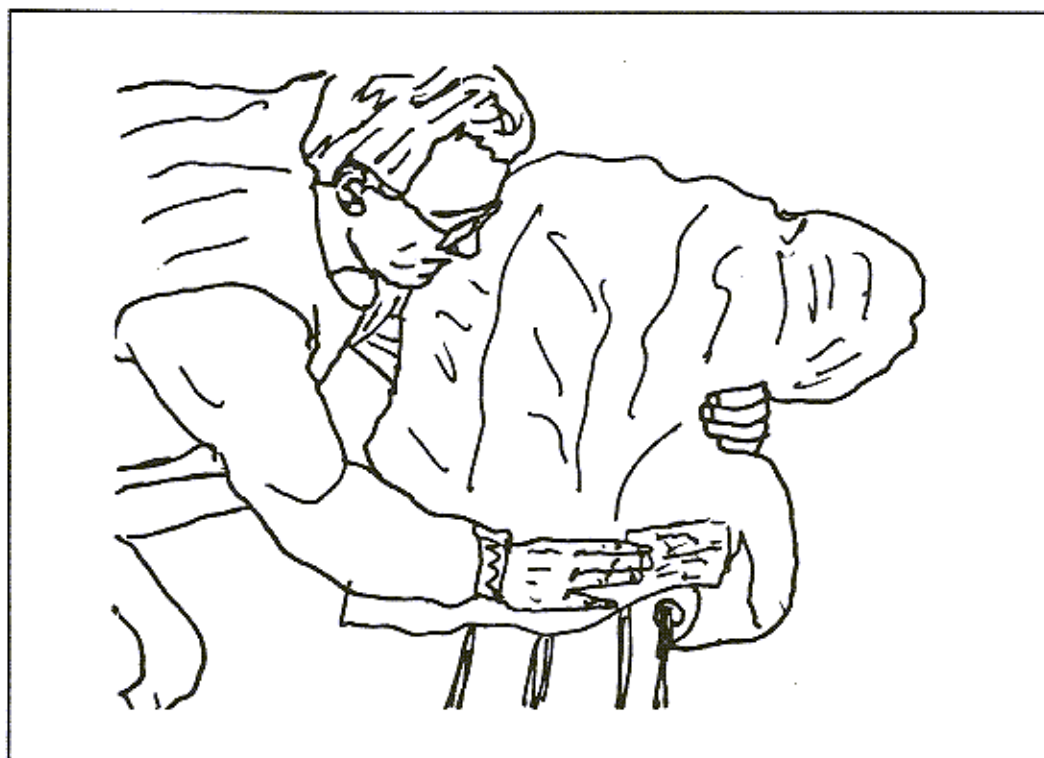


3. Fold the canopy according to the canopy manufacturer's directions.
4. Clear and straighten the stabilizers.
5. Flake and fold the tail and dress the line groups.
6. Pull the slider up. Make sure the slider is oriented correctly to the way the air will hit it during opening.
7. Fold the stabilizers over the slider and pull the tail down over the slider.
8. Wrap the tail around the canopy.
9. Make one short fold with the slider and lower portion of the canopy. Spread the grommets on the slider evenly.



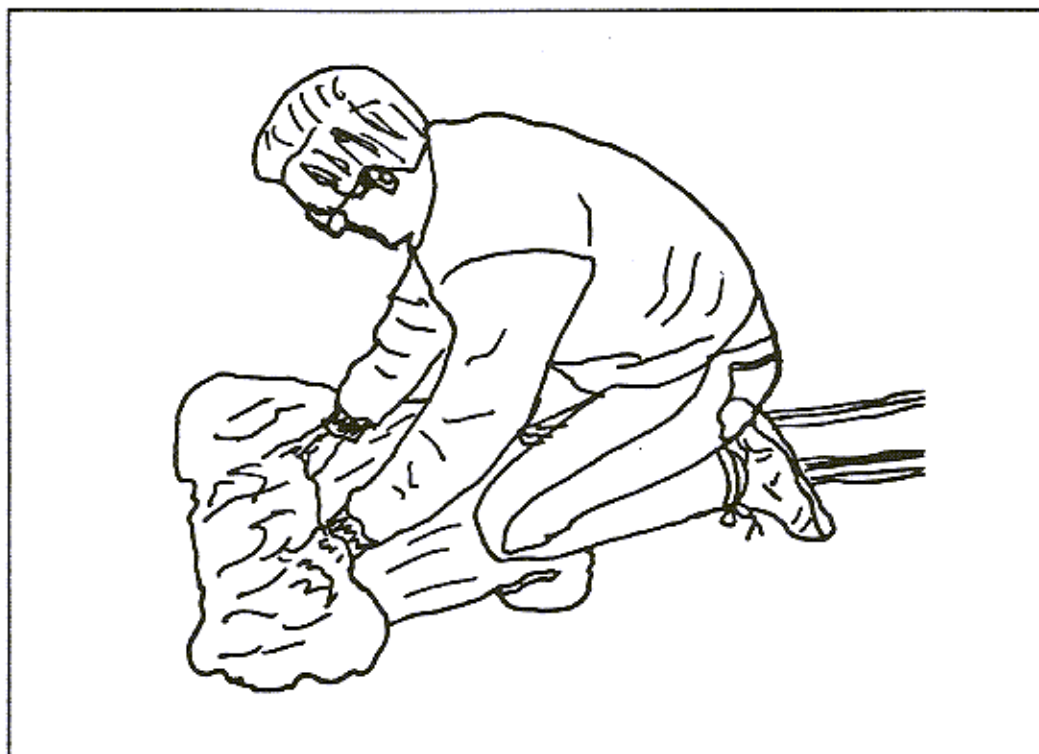


10. Make one more short fold on top of the first fold.



11. Wrap and tuck the tail around the two short folds.

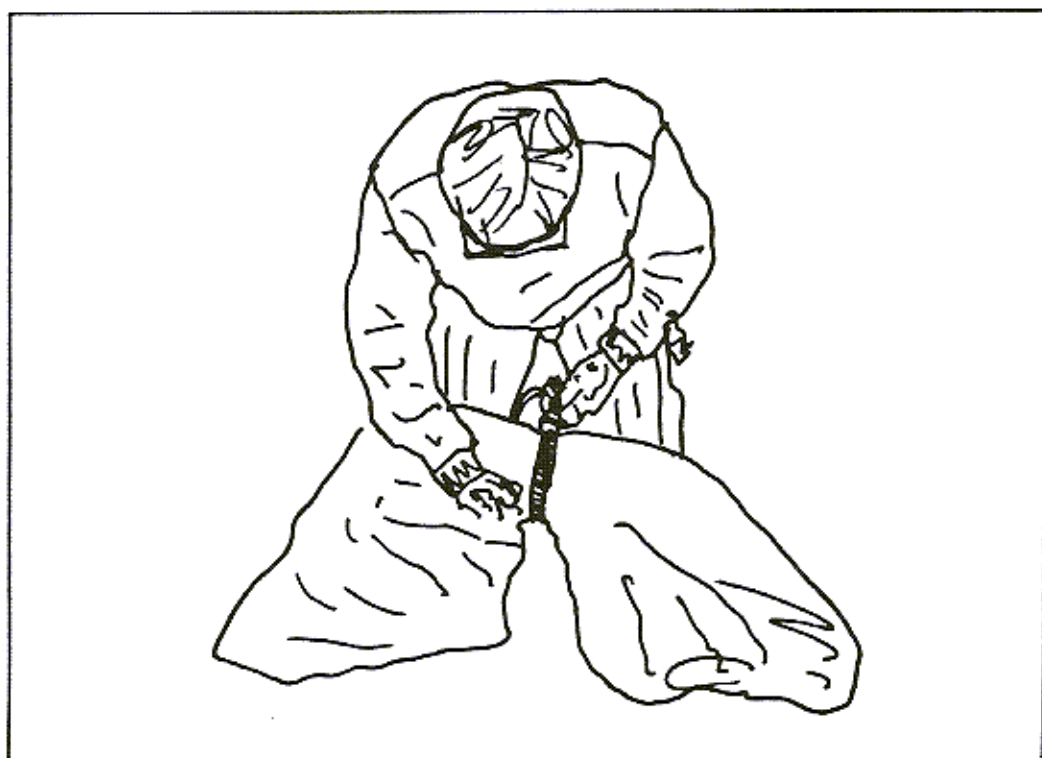
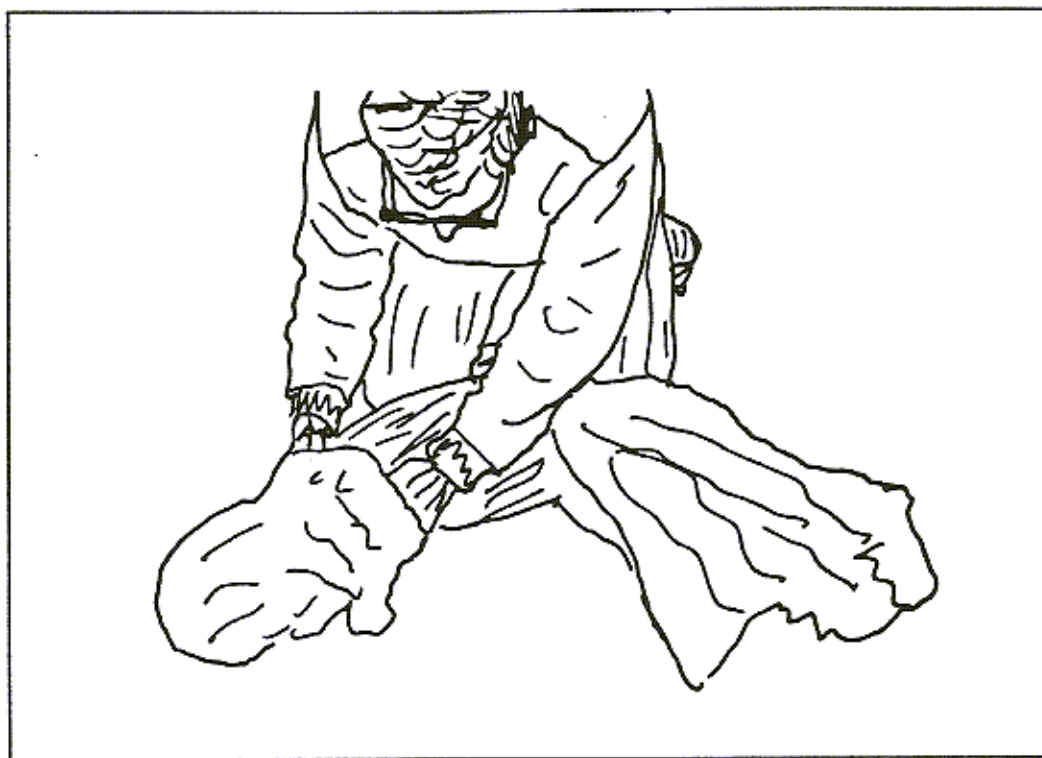
12. Kneel on the folds and tail to stabilize it and press all the air out of the upper canopy.



13. Spread the top of the canopy to the right and left with three cells on one side and four cells on the other.



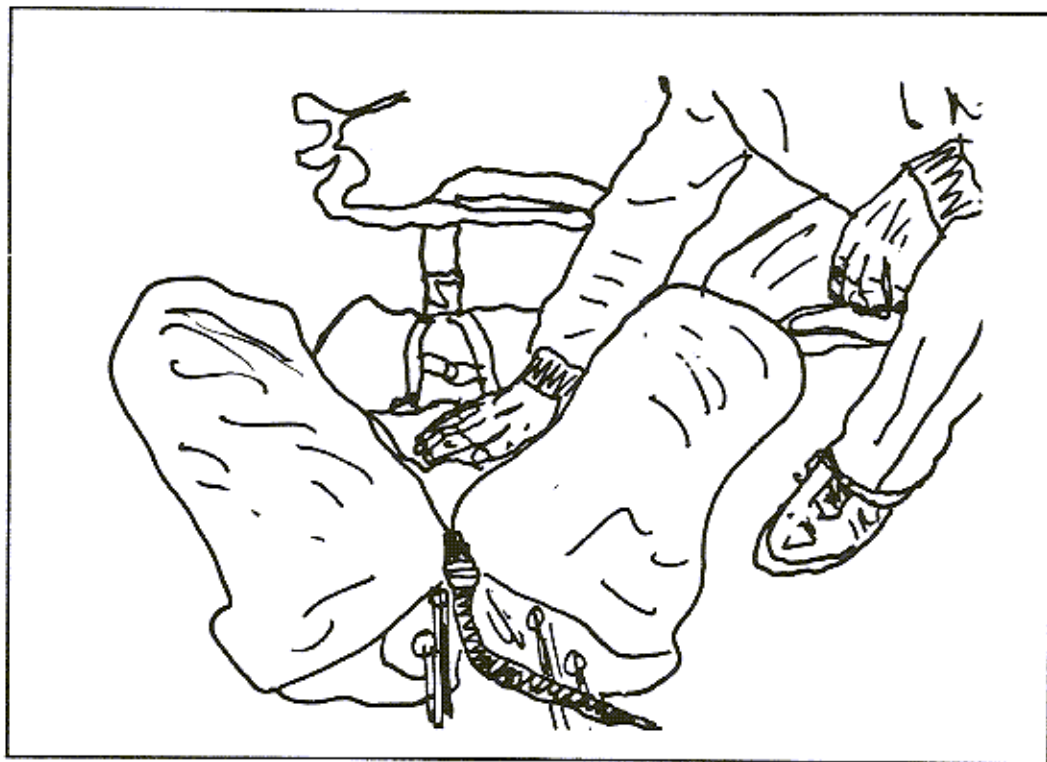
14. Form the ears with the upper portion of the canopy. Keep the nose exposed. Place the molar strap in the middle around the canopy. The strap should go in the middle of the lines group.

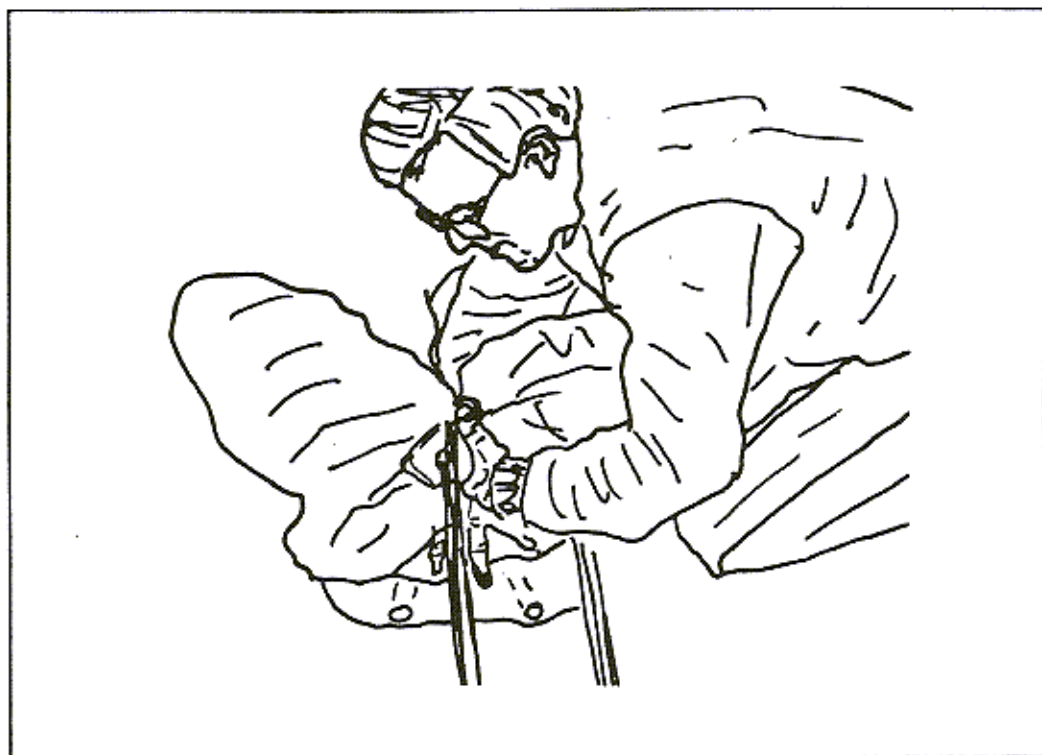




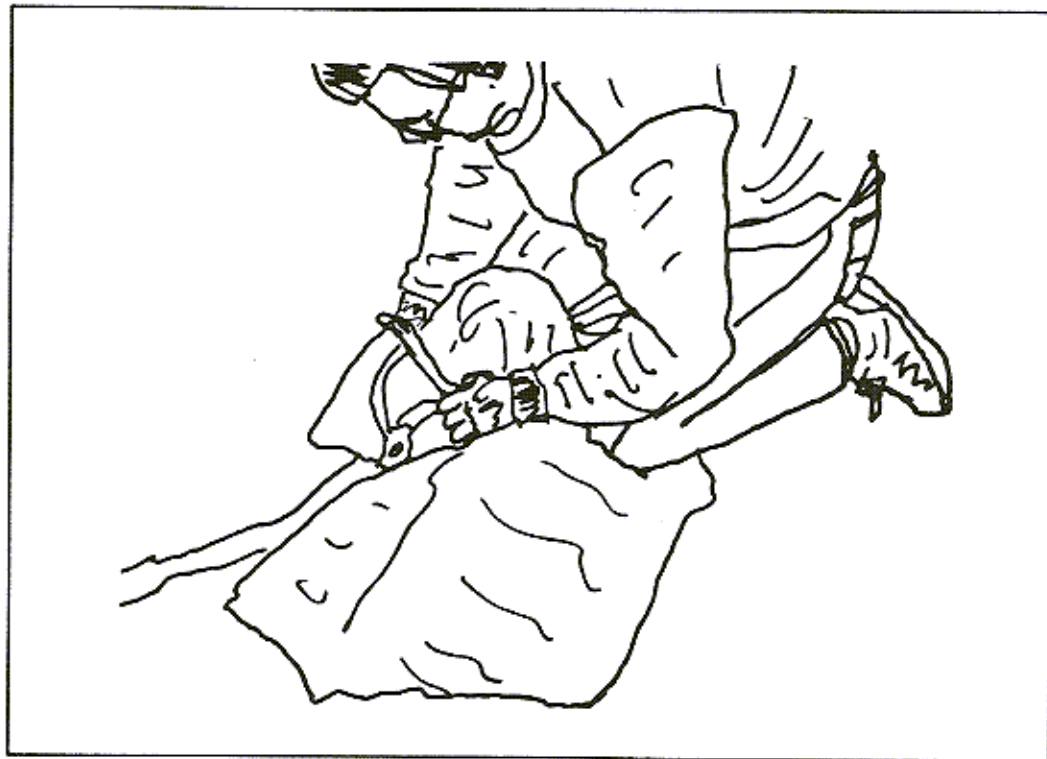
**NOTE:** Molar straps are optional and should be a bright contrasting color and long to prevent accidental failure of removal. Failure to remove a molar strap could be catastrophic. Always count your tools.

15. Lift the canopy slightly and slide the deployment bag under the canopy.



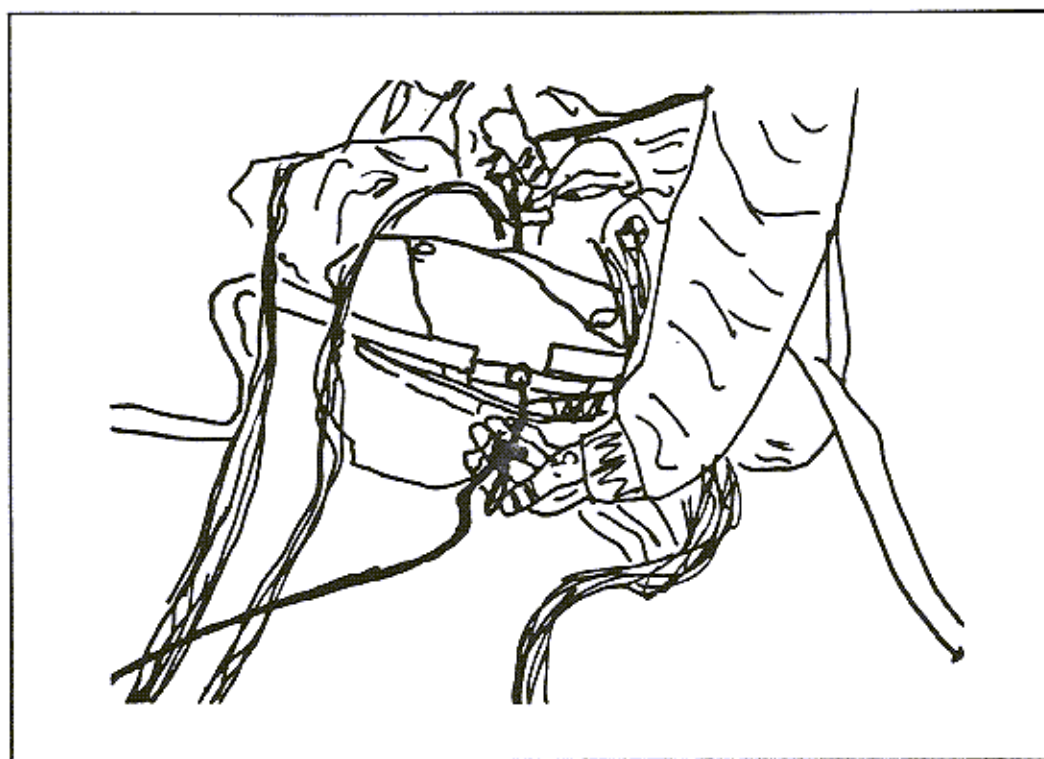


16. Kneel on the grommets of the deployment bag to stabilize it and fold and stuff the ears into the upper part of the bag. Make sure you fill the corners of the bag completed.



17. Push any remaining canopy up into the bag.

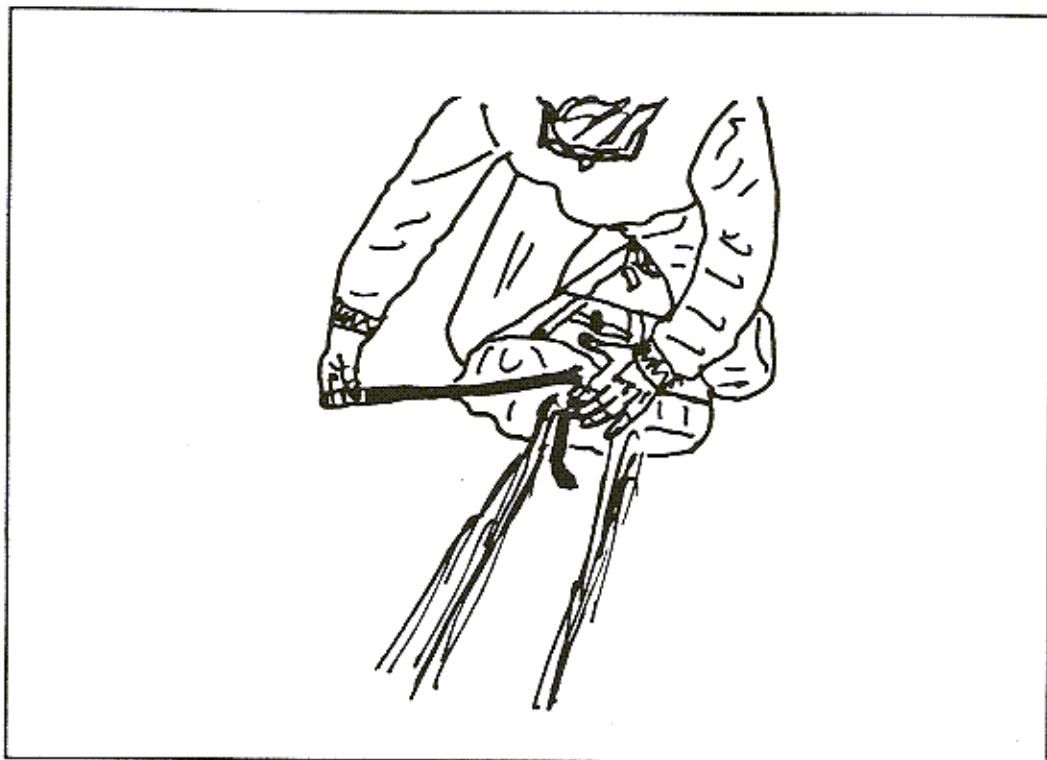
18. Open the line pouch and mate the Velcro protectors. From the bottom side (line pouch), thread a long pull up cord through the grommet on the bag. Leave at least 18-24" of pull up cord extended beyond the grommet. Slide a Fastex cord lock on the pull up cord and tie a slip knot so the cord lock will not slide down the pull up cord.



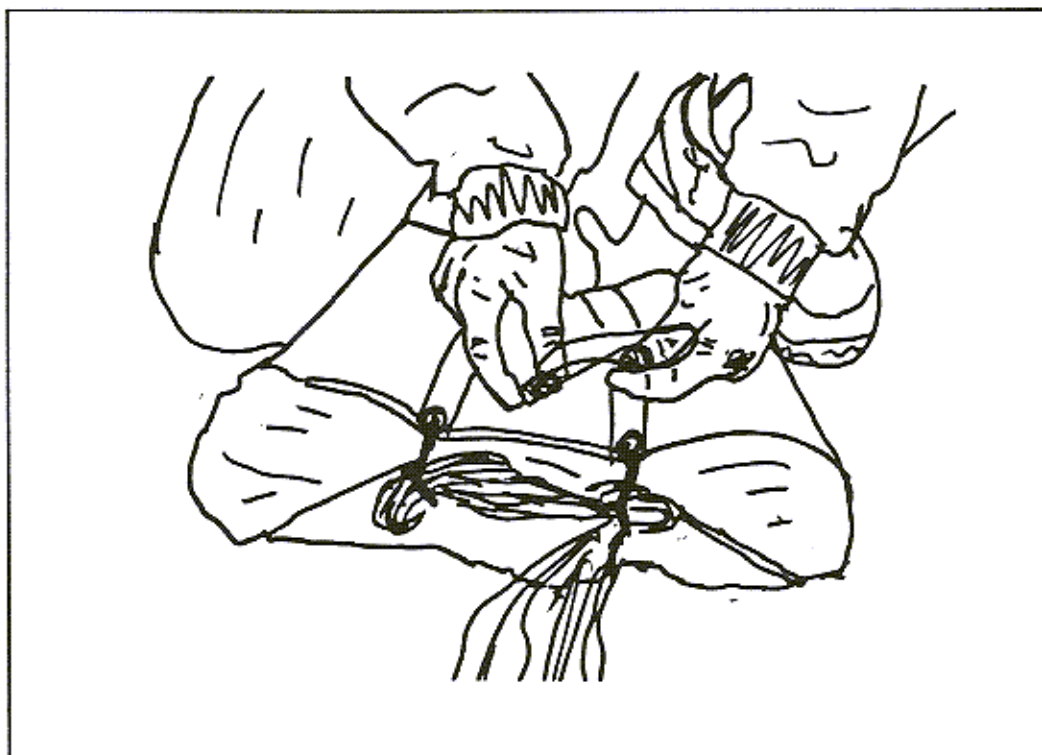
19. Thread the pull up cord through the grommet on the other side of the bag. Make sure the pull up cord is in the middle and has as direct a route as possible through the bag.



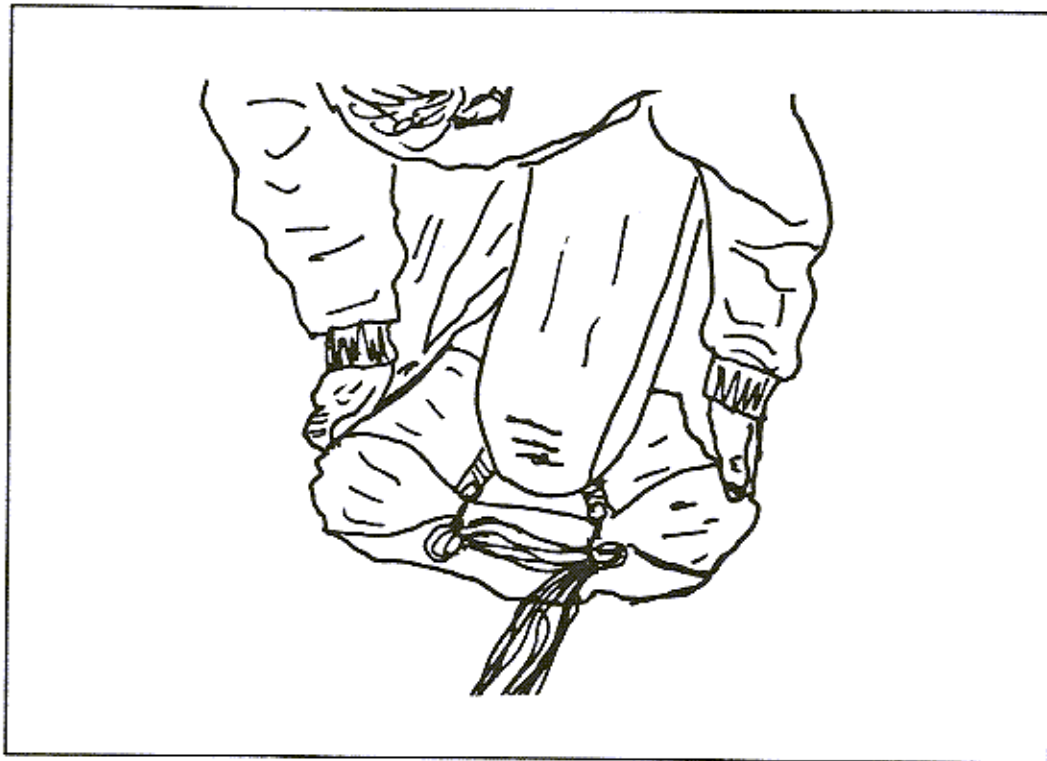
20. Remove the molar strap if you use one. develop a systematic process whereby you always check this. **COUNT YOUR TOOLS!**



21. Slide a Fastex cord lock on the pull up cord and slide it down tight against the grommet.



22. Put your knee in the middle of the bag and grasp the sides of the bag, rocking the bag as you press with your knee. This should push a lot of the bulk out of the middle of the bag where the pilot chute will be located.



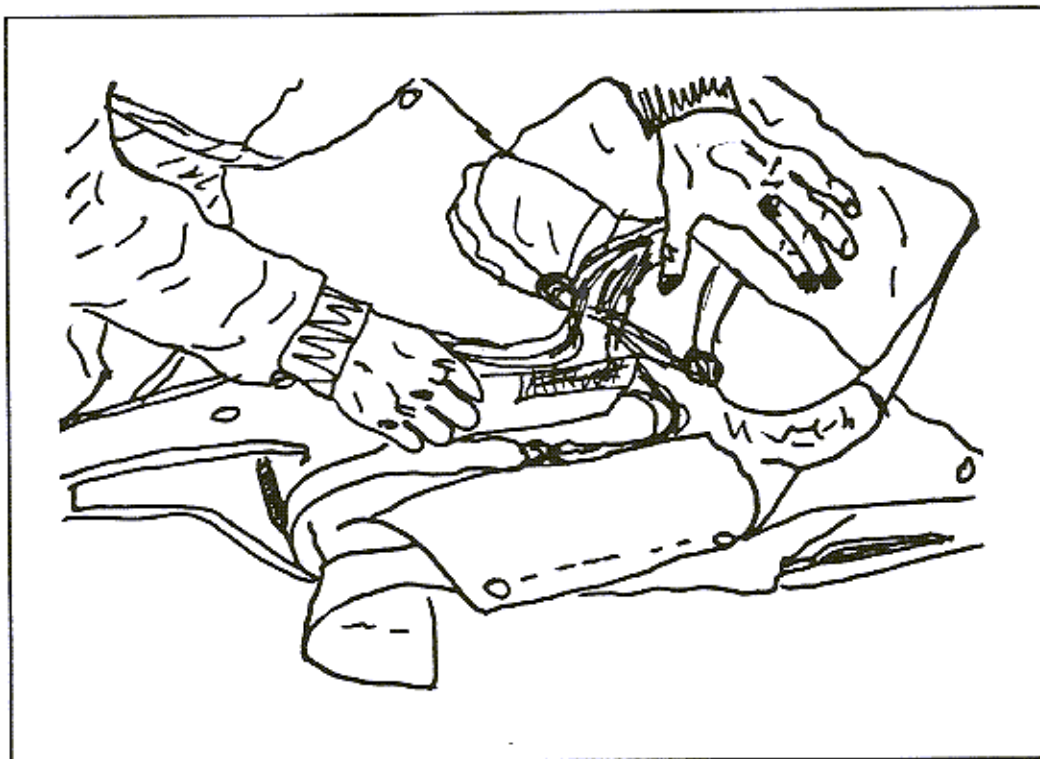
23. Slide the cord lock down as tight as you can get it and tie a slip knot so it will not slide out of position.

24. Stow the lines neatly in the line pouch. Make sure your Velcro protectors are in place.

25. Remove the cord lock from the pull up cord and thread the pull up cord through the grommet on the line pouch.

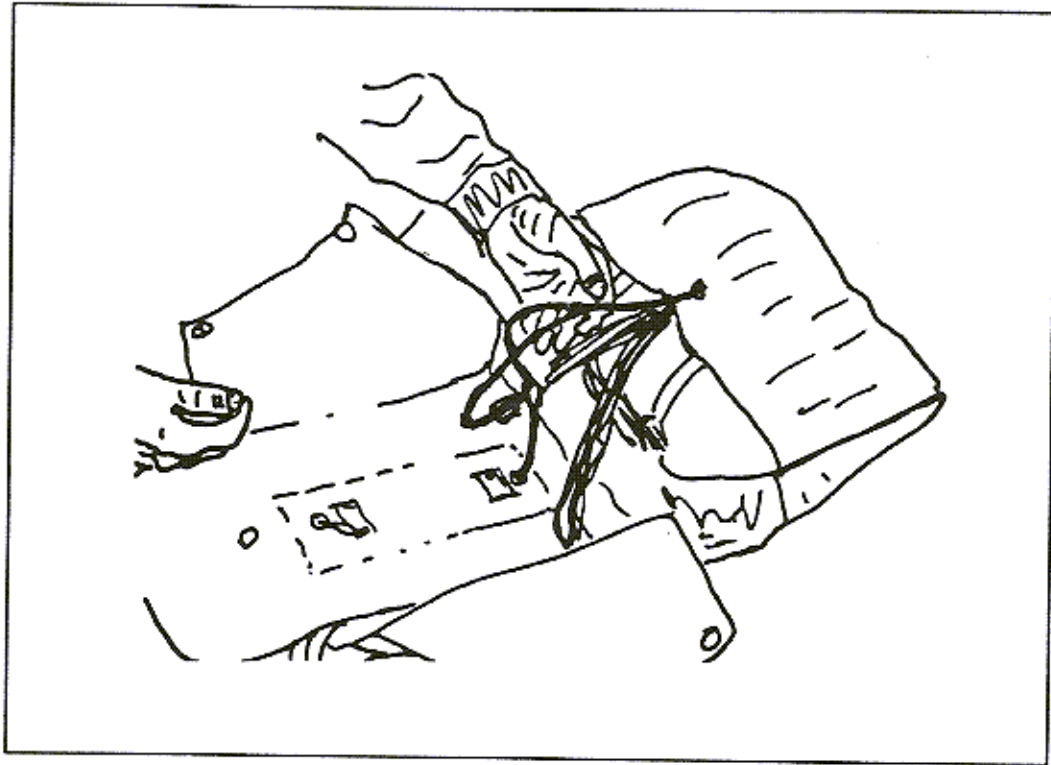
26. Prepare the harness and container for the deployment back by straightening the harness and opening the flaps on the container.

27. Lay the deployment bag on the main container and bring the reserve risers neatly over the shoulders and into the reserve pack tray. Open the reserve riser covers and spread the reserve risers laying them under the covers. Fasten the Velcro in the reserve riser covers.



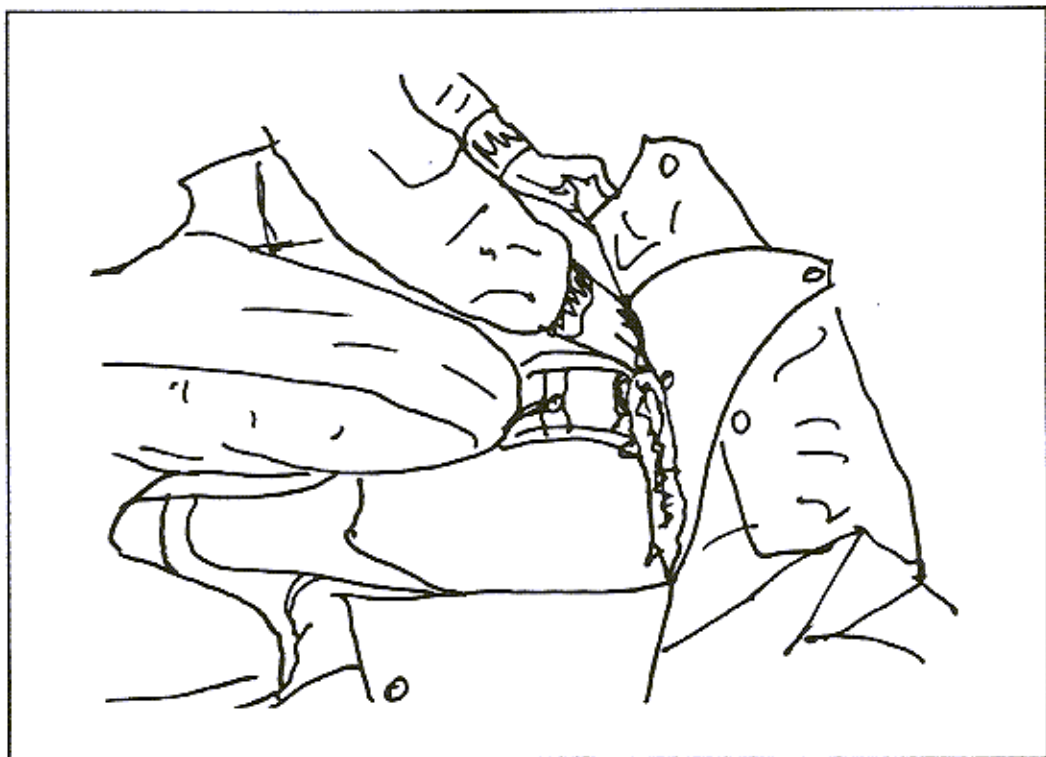


28. Take the pull up cord from the bottom of the deployment bag and thread it through the lower closing loop. Tie the pull up cord to itself with a bow line knot. Make sure you tie the knot far enough up the pull cord so that it will come all the way through the bag and be exposed so you can untie it.

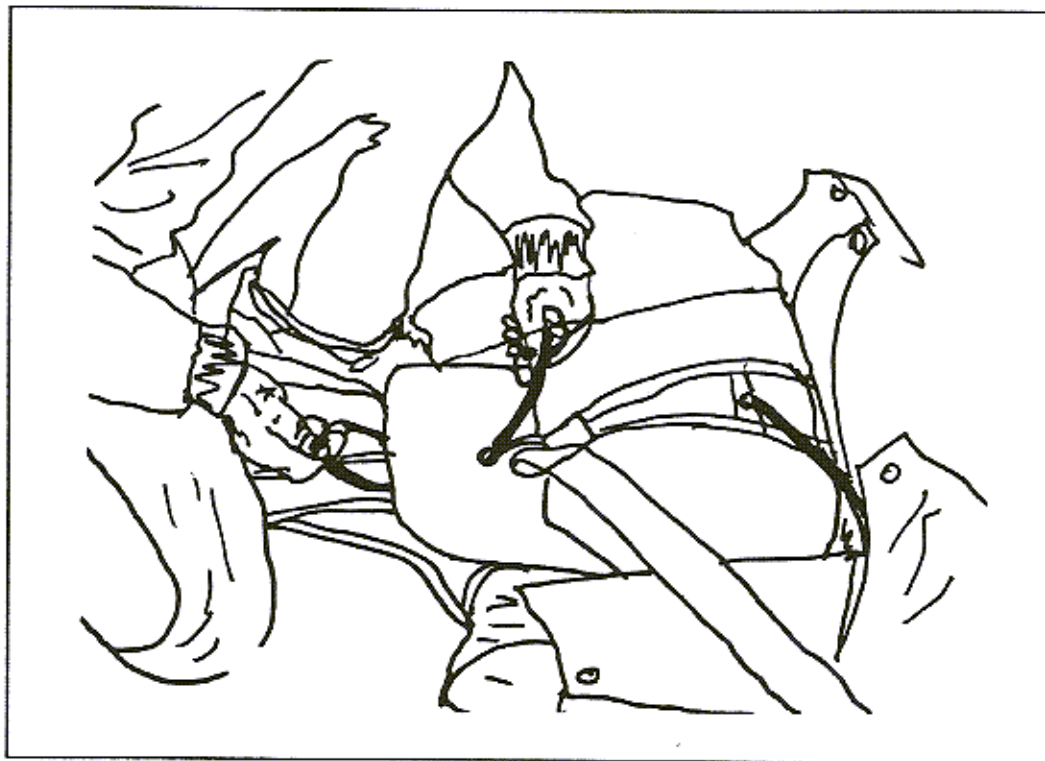


29. Take another pull up cord and thread it through the top closing loop. Thread this pull up cord through the grommet on the top of the bag.

30. Lay the back in the container and straighten the lines under the bag. Push the ends of the bag up into the corners of the container making sure the corners are completely filled.

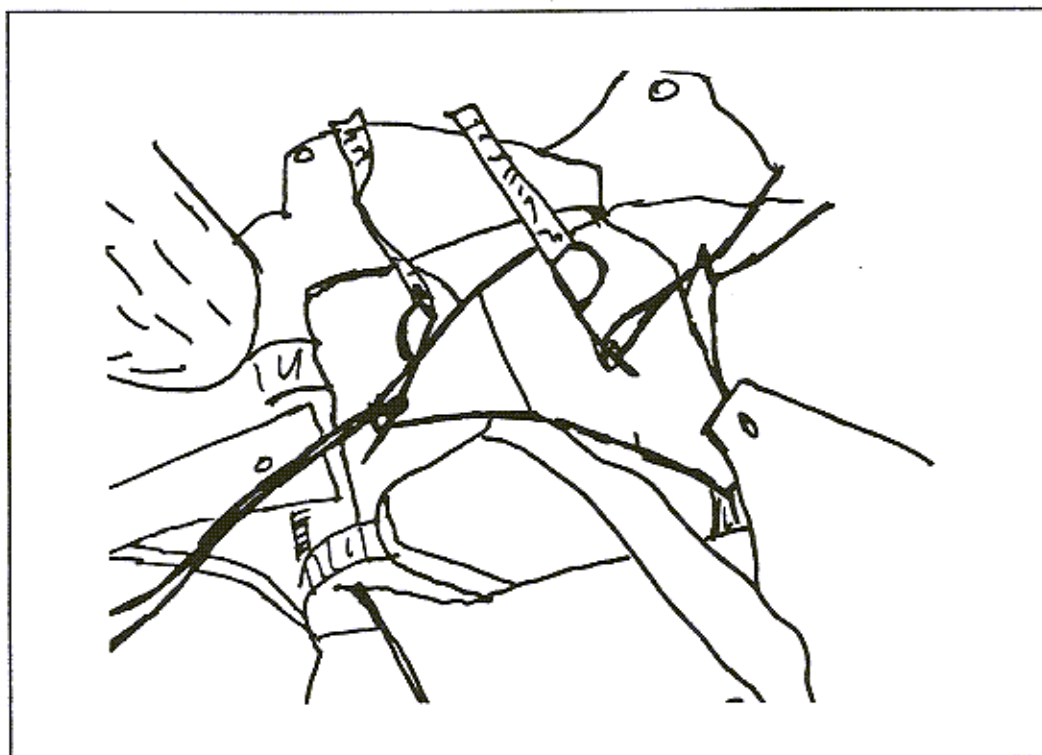


31. Lay the bridle to one side of the bag and thread the pull up cord through the upper internal flap. Close it with a temporary pin. **Make sure your pins are brightly flagged so you will not lose track of them. COUNT YOUR TOOLS!**



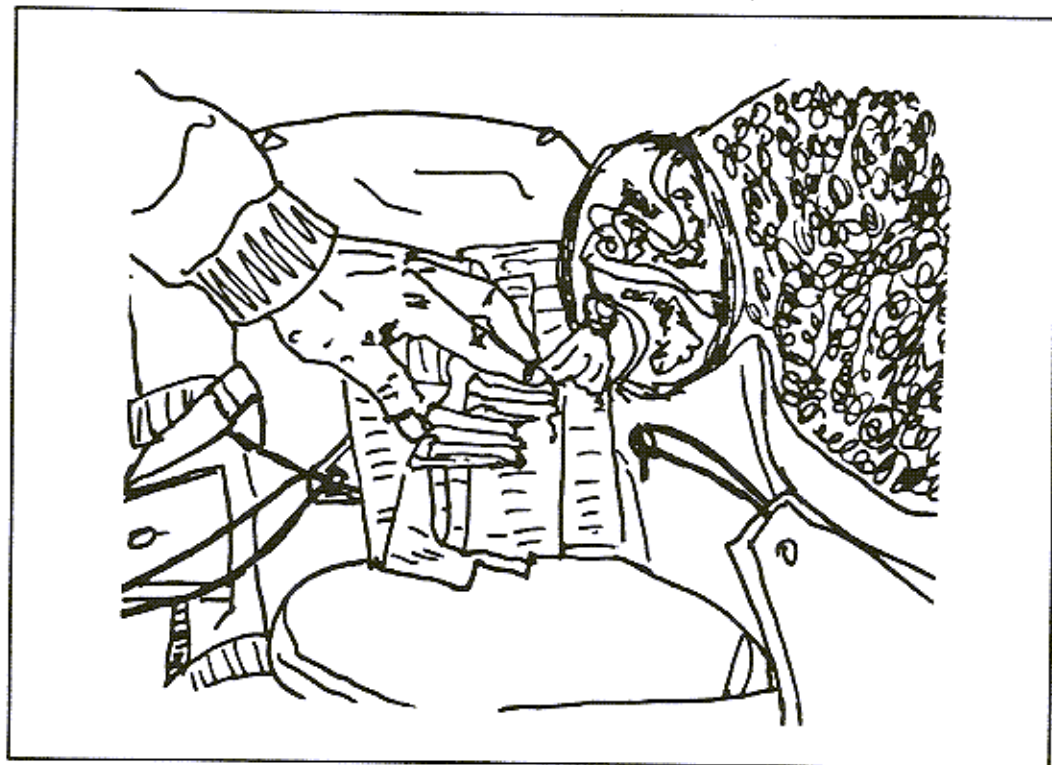
32. Thread your lower pull up cord through the grommet on the bottom internal flap. Pull the closing loop up and insert a temporary pin.

33. Thread the top pull up cord through the grommet on the top of the bottom internal flap. Remove the temporary pin, pulling up on the pull up cord and reinsert the temporary pin.

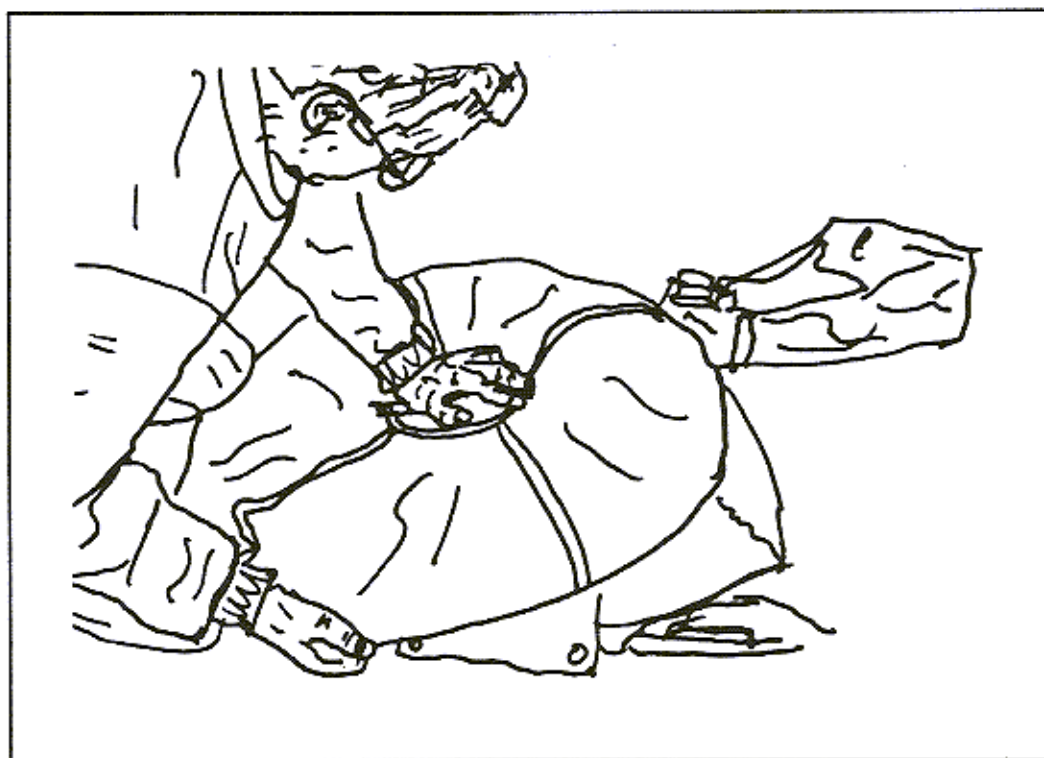




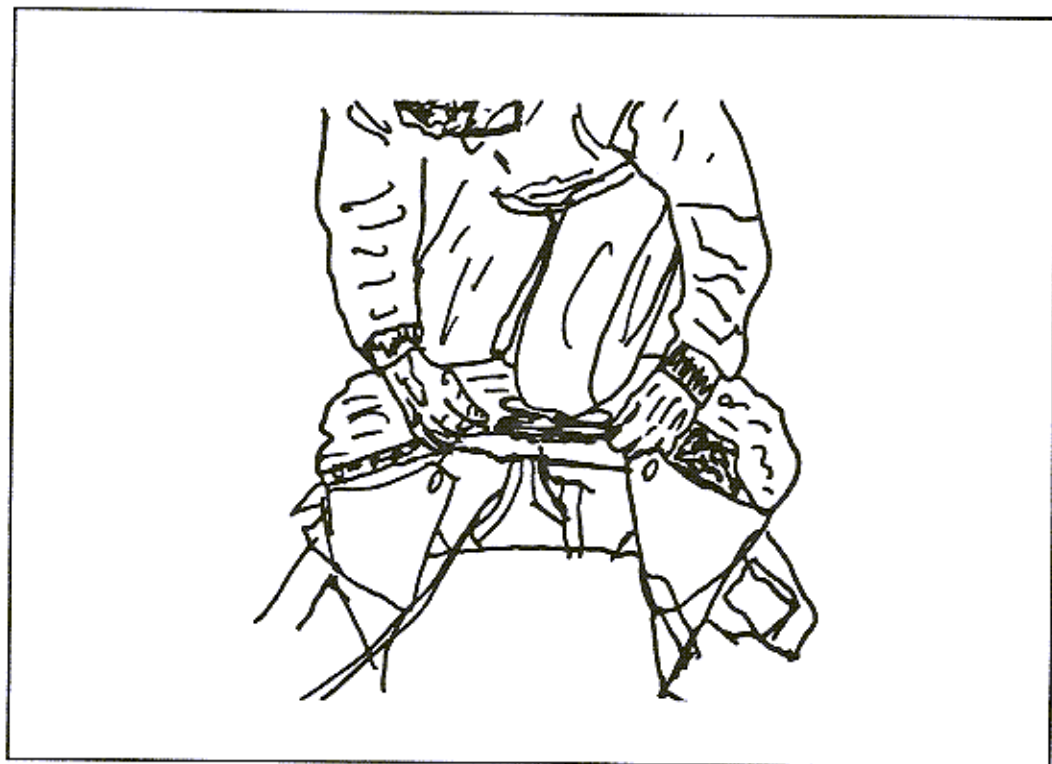
34. Neatly fold the bridle the width of the container. Spread the bridle between the upper and lower grommets to eliminate bulk. The last six feet of bridle, make short folds that will be directly under the base of the pilot chute.



35. Compress the pilot chute making sure the grommet tabs are aligned with the grommets on the internal flags. Pull out the canopy fabric and mesh.



36. Place your knee on the top of the pilot chute to stabilize it. Neatly S fold the canopy fabric and mesh and place it between the spring coils on the pilot chute. Do not place the fabric under the bottom coil. This could retard the pilot chute launch.

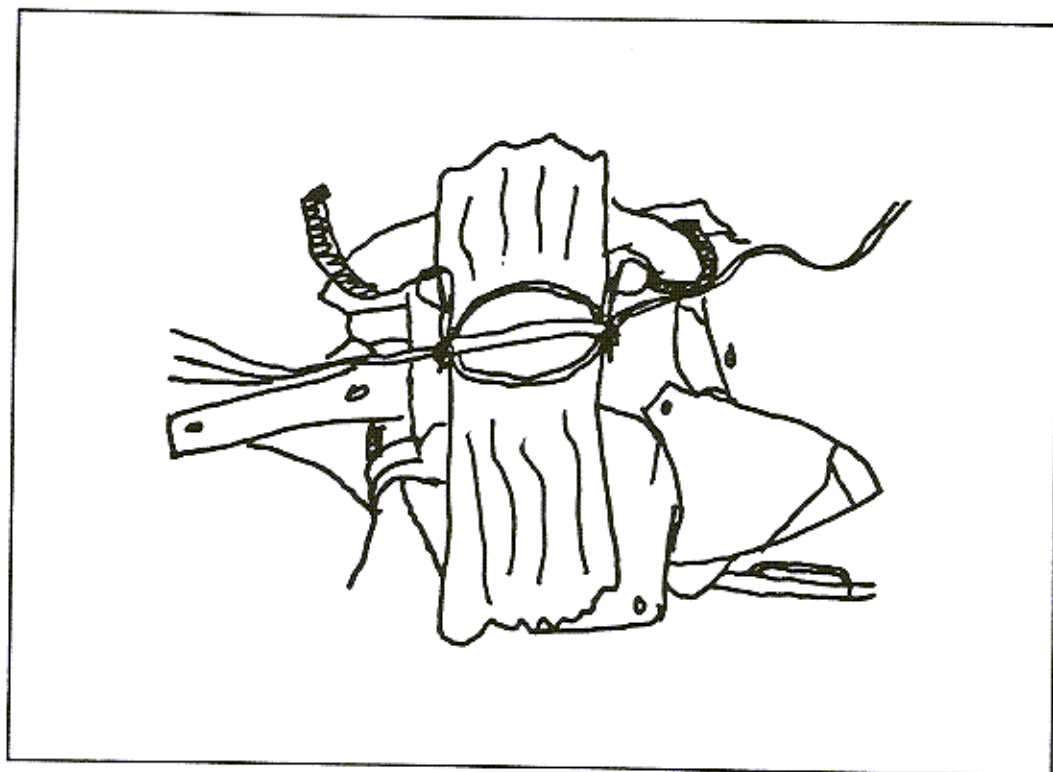


37. Thread the bottom pull up cord through the grommet tab on the pilot chute and pull up the closing loop, reinserting the temporary pin. Do the same thing on the top closing loop.

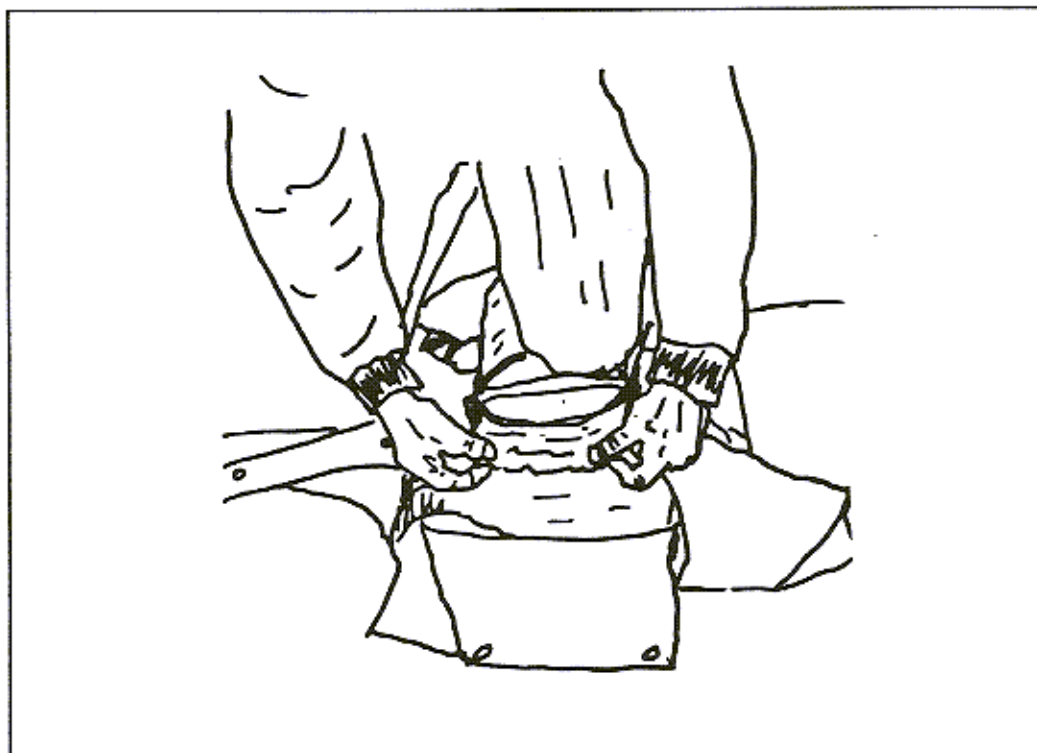




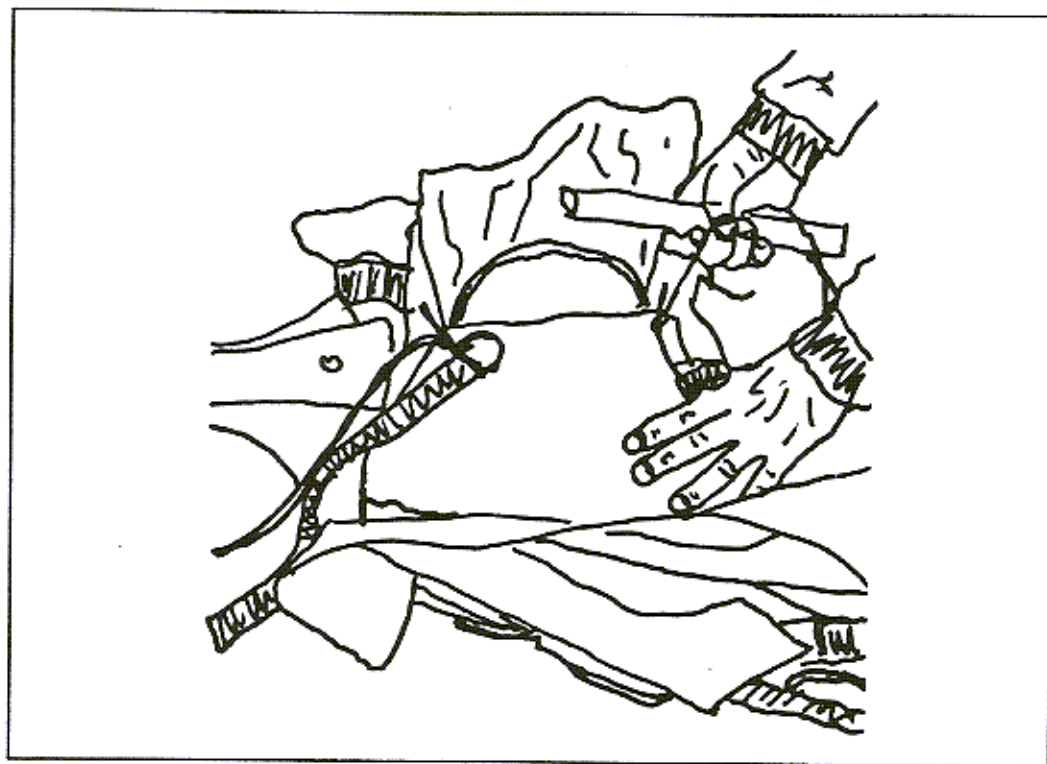
38. Neatly bunch the pilot chute fabric and mesh to each side of the container.



39. S fold the pilot chute fabric and mesh under the side flap. You can start with either side flap. Make sure you do not place the pilot chute fabric down under the deployment bag.

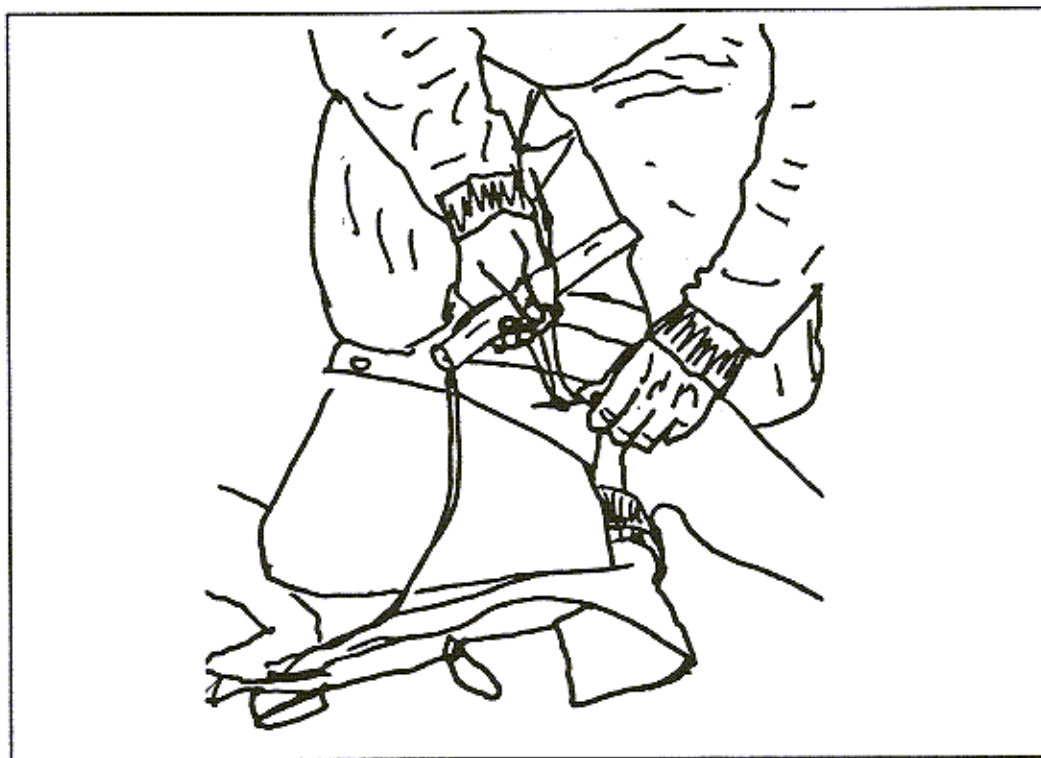


40. Close both grommets on the side flap.

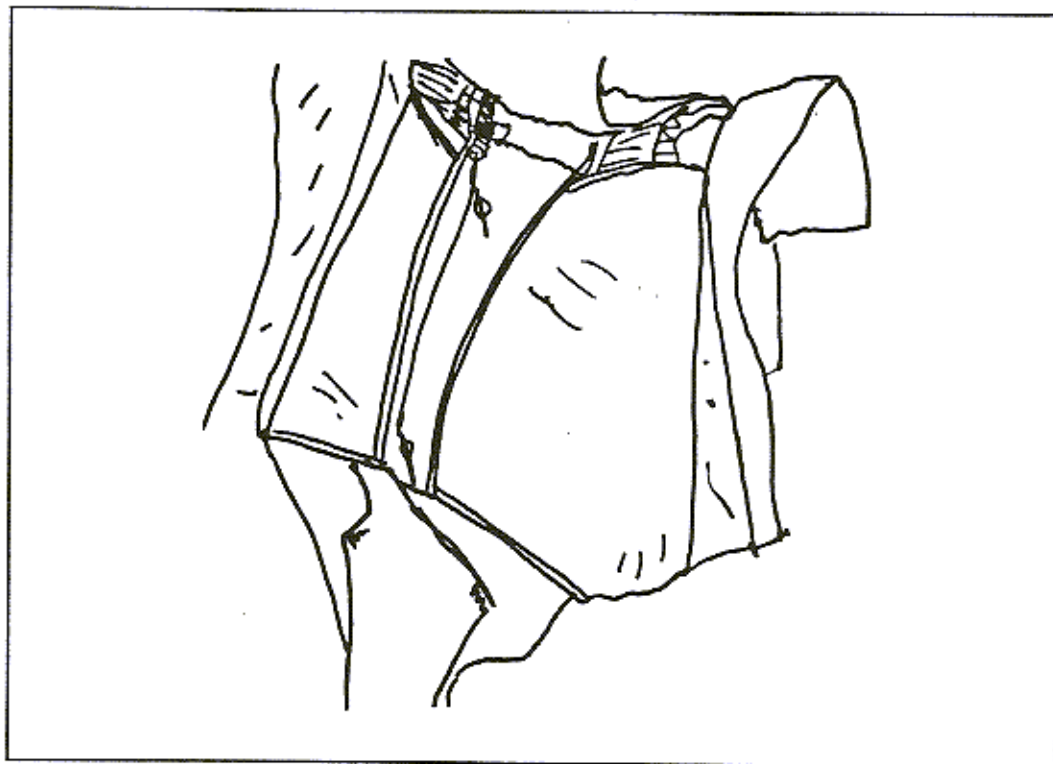


41. Do the same on the other side. Run your hand under the side flap to smooth out any fabric as you close it.

42. Insert the top pull up cord through the grommet on the top flap and insert the first rip cord pin.



43. Thread the bottom pull up cord through the bottom grommet on the top flap and close it inserting the second pin. **NOTE: The plastic stiffener in the top flap is two separate pieces to provide a hinge effect.**



44. Press and smooth the container. Seal the last pin with safety tie thread and a lead seal. Record your packing information on the data card and in your rigger log book.

#### G. Loop Length

We do not give specific loop lengths because there are too many variables for a specific length to work in all conditions. The temperature and humidity in our part of the country may influence the volume of a repack where it could be very different in another part of the country. Packing techniques of riggers vary and may influence the length of the loop needed. The important thing to remember is that you, as a rigger, are responsible to assure that the pull force does not exceed 22 pounds. You must check this when your customer brings the rig in for a repack. Have them put their rig on and pull it. You should be able to determine if the pull force is excess. Measure it with a scale if you are not sure. Always adjust the loop length to stay within the 22 pound limit.



After you finish packing the reserve, you should also check the tension on the pins by seeing if you can move them slightly with your fingers. If you cannot move the pins at all, then they are probably too tight and you need to extend the loops. **Remember, reserve deployment starts with extracting the pins from the closing loops. Struggling with an excessive hard pull wastes critical time.**

#### H. Safety Stow Length

Common sense applies to the length of the elastic cord used in a safety stow. Reserve canopies are available with different kinds of lines that vary in size. Some riggers have more success than others placing the canopy in the deployment bag which influences the tightness of the elastic loop on a line stow. Use common sense; when you close the deployment bag with the two locking stows, make sure the stows are not excessively loose or tight. The lines should not easily fall out of the elastic closing loops. If they do, it could cause bag strip or an out of sequence problem. On the other hand, if the stows are excessively tight, it could cause bag lock. If you need to adjust the elastic loop length, you can do so by removing the zigzag stitching, alter the length, and resew it with a zigzag machine (with nylon size 69E thread). If you do not have the proper equipment to do this, call us and we will send you what you need.

## V. ASSEMBLING, INSPECTING AND PACKING THE MAIN SYSTEM

### A. Parts List - Main

Qty	Description	Part No.
2	Main risers with toggles	MR10( )
1	Three ring cutaway handle	CH11( )
1	Main deployment bag	MD12( )
1	Main pilot chute	PC13( )
1	Main pilot chute bridle	MB14( )
1	Main closing loop	MCL15

### B. Assembling The Main

1. Lay the canopy out and straighten the lines and connector links.
2. Lay the harness and container down and attached the main risers as per the three ring instructions.
3. Loosen the connector links and attach them to the appropriate risers. Thread your steering lines through the guide rings on the rear risers. Tie your toggles on. Most canopy manufacturers provide a mark to indicate where to tie the toggles. Tie the toggles on by passing the steering line through the grommet and around the toggle, back through the grommet and tie the free running end to the steering line with a bow line knot.
4. Tighten the connector links as tight as you can by hand, and then tighten them another 1/4 turn with a wrench. Do not over tighten them.
5. Thread the main bridle line loop through the grommet in the top of the deployment bag. Stick the bridle loop through the ring on the top of the canopy. Take the pilot chute and deployment bag and thread them through the loop on the end of the bridle. Pull on the bridle until it cinches up tight against the ring on top of the canopy.

### C. Inspecting The Main

Once you have everything assembled, it is time to inspect. The best way to inspect is to start at one end and go to the other. Look everything over carefully. Whether your equipment is new or used, do not assume everything is perfect. Look for damage, wear, broken stitching, absence of stitching, and proper order. Do a complete line check. Check every single line to make sure all lines are in order. Do not settle for a four line check.

Make a written list of any repairs and their locations. This is helpful to the rigger and helps assure all the work gets done.

D. Packing The Main

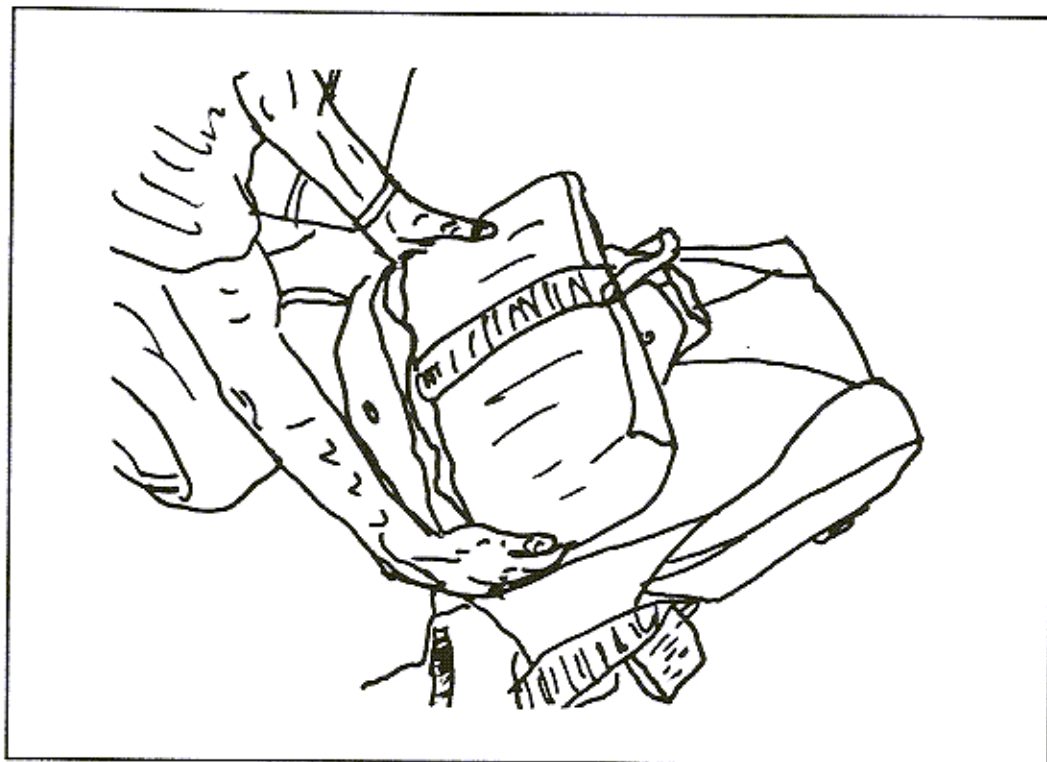
1. Pack the main canopy according to the directions the canopy manufacturer provides. **Always make sure the canopy and lines are straight. Failure to do this could result in a reserve ride. Take the time to do a good job packing your main. Poor packing can cause the need for your reserve, which results in more rigging expenses. Your reserve is your last chance; you do not want to have to go to it unless it is absolutely necessary. Keep your primary equipment in tip top shape and pack properly and you probably will not need to use your reserve as often.**

2. Pack the canopy wide and flat. Make your folds into the bag short so that you do not have a lot of canopy hanging out of the bag after you close it. When you place the canopy in the bag, make sure you make an effort to fill the top corners of the bag with the canopy.

3. Stow your lines neatly. Make sure you have proper tension on the line stows. Obviously, you do not want the lines to fall out of the rubber bands or tube stows prematurely. If they are too loose, change rubber bands or double stow the rubber band to hold the lines properly. Avoid the other extreme where the lines may have trouble releasing because they are held too tightly.

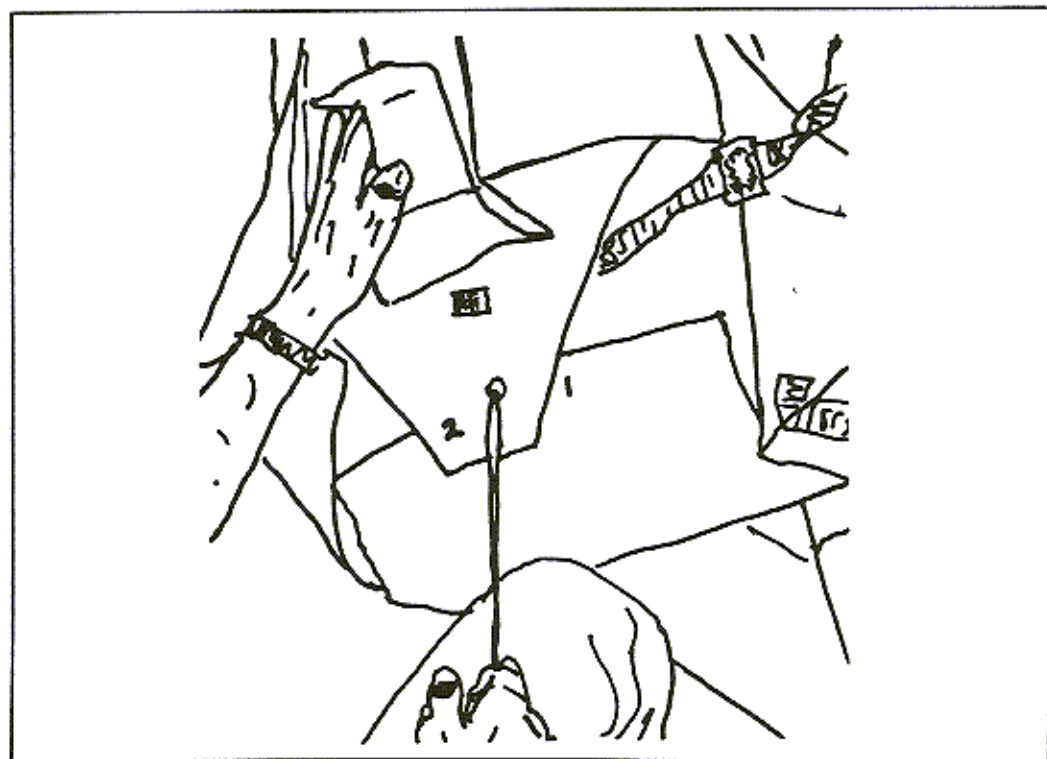
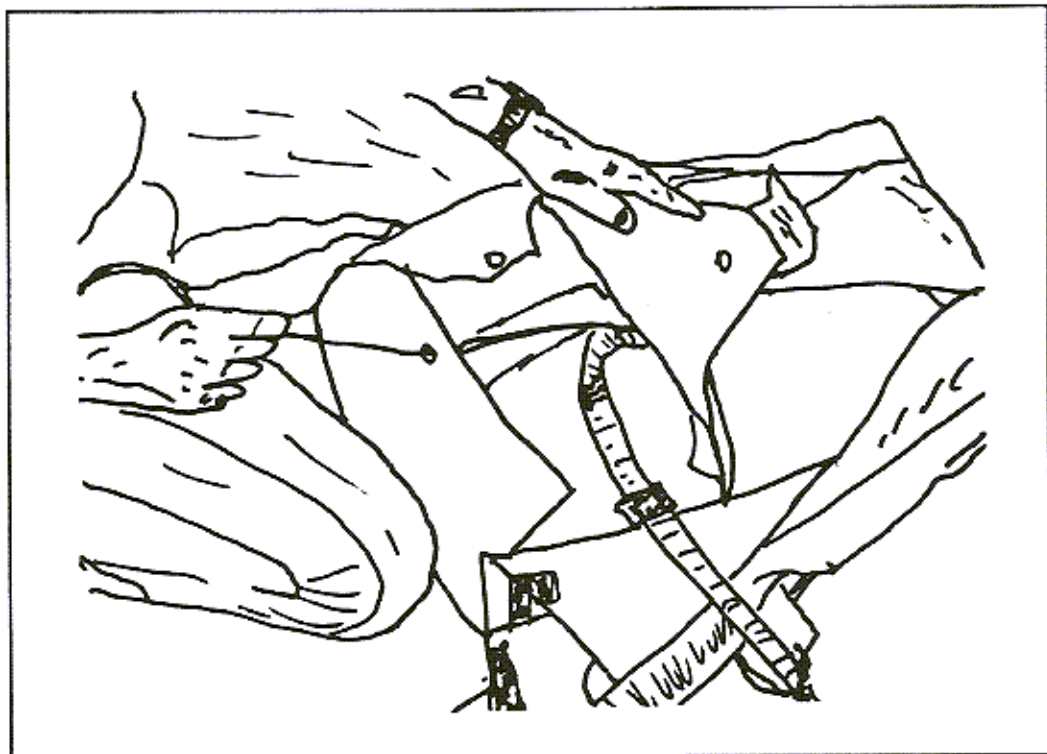
4. Straighten the harness and container making sure the three rings on your harness are even with each other. Lift the bag over the main container and place your main risers between the reserve container and the riser covers. Make sure the main riser is snug over the shoulders. The ends of your risers with the connector links can be folded up against the divider that separates the reserve container from the main containers, or the risers can be brought straight down and placed next to the side of the container.

5. Place the deployment bag in the main container with the lines at the bottom of the container. Make sure the lines from the connector links to the last stow are straight and neat.



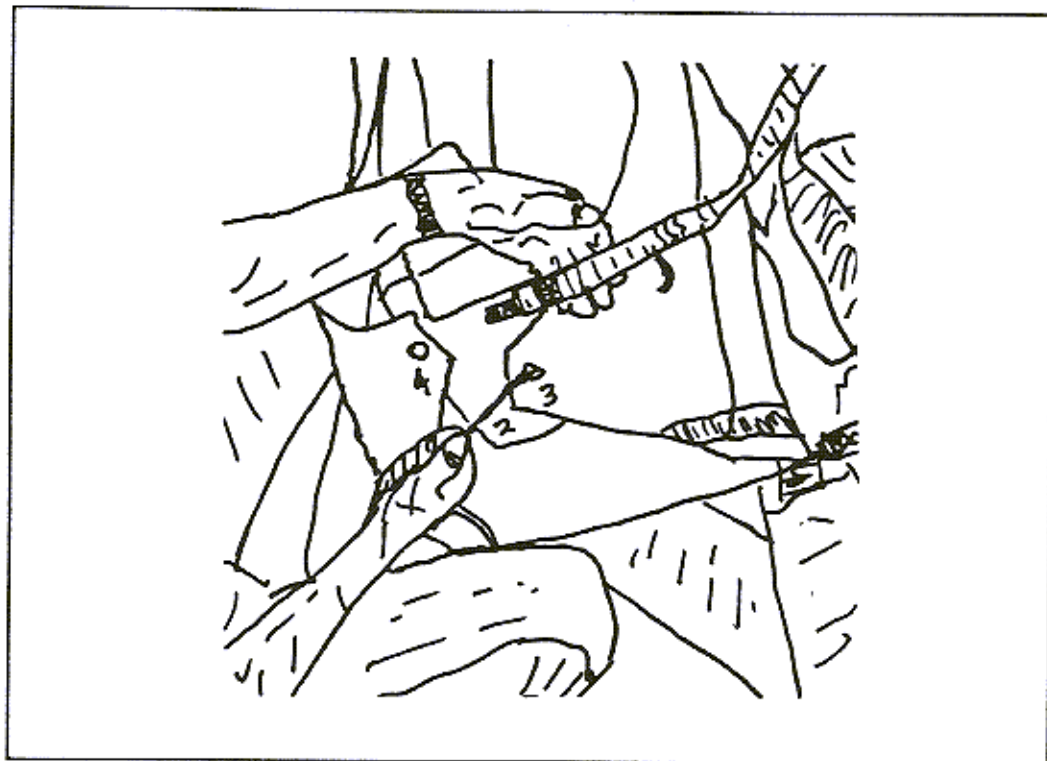
6. Thread a pull up cord through the closing loop and then through the grommet on the bottom flap. Pull the closing loop up and place your knee on it to hold it. Your bridle line should go to the right side of the container. Thread the pull up cord through the top flap and pull the closing loop through the grommet.



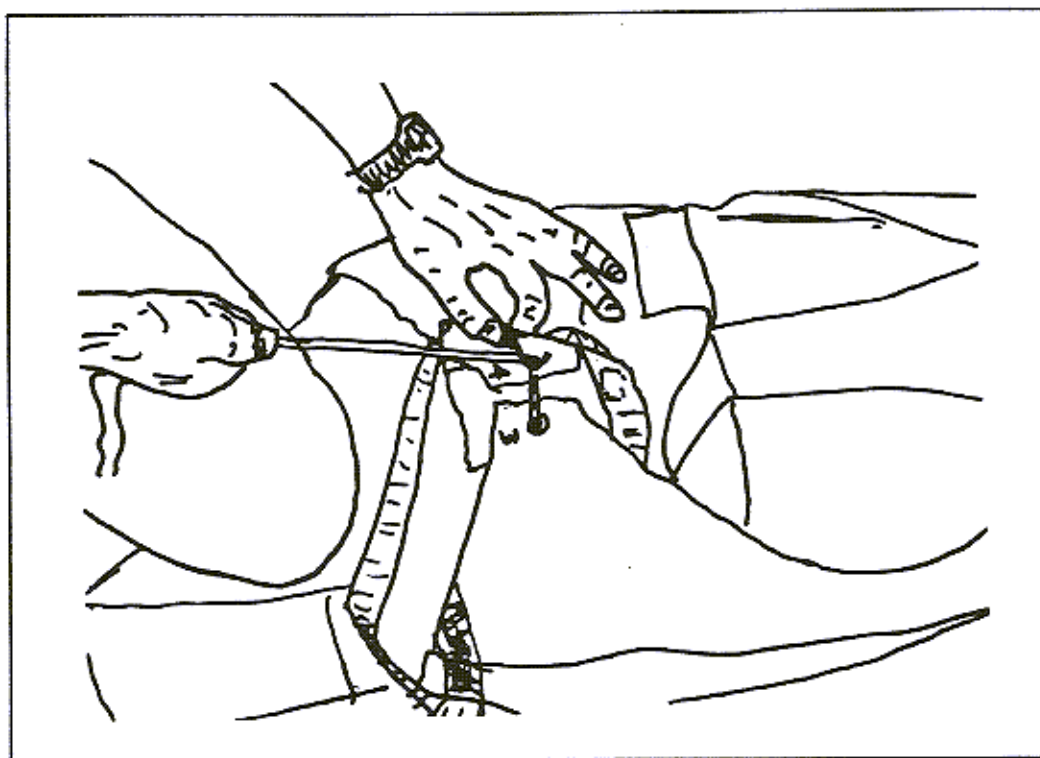




7. Thread the pull up cord through the grommet of the side flap on the right (the side that has your throw out pouch, rip cord, or pull out handle). Pull up on the closing loop until it comes through the grommet.

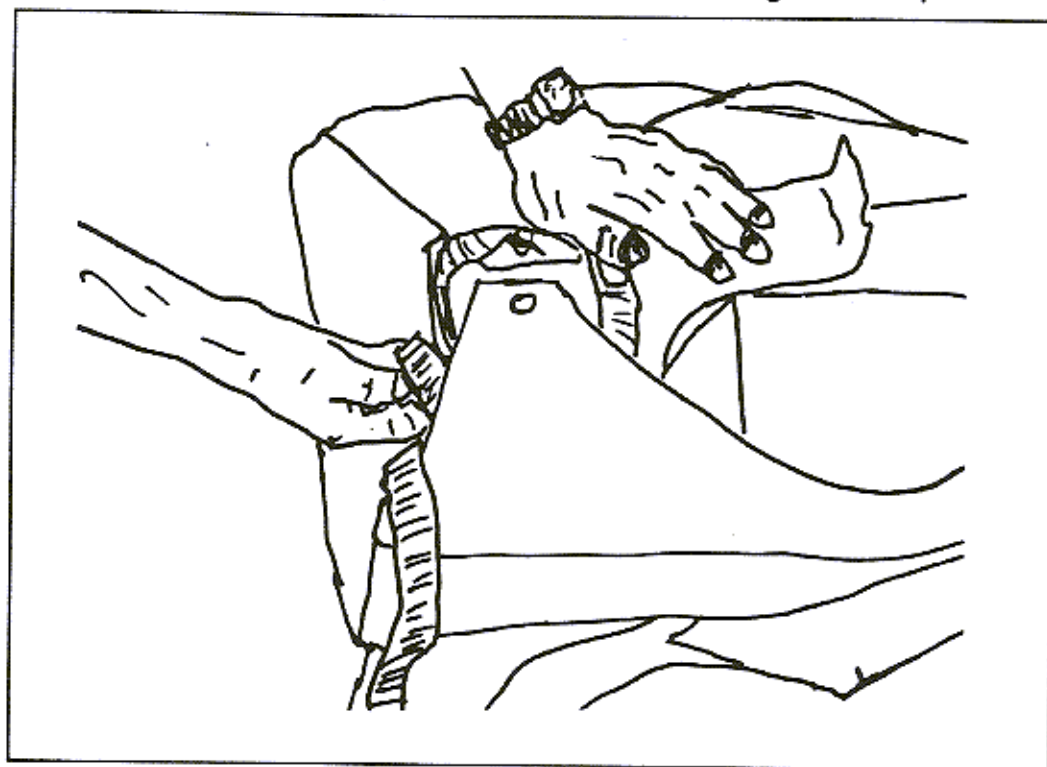


8. Thread the pull up cord through the grommet on the left side and pull the closing loop all the way through the grommet and insert the pin on the bridle line.

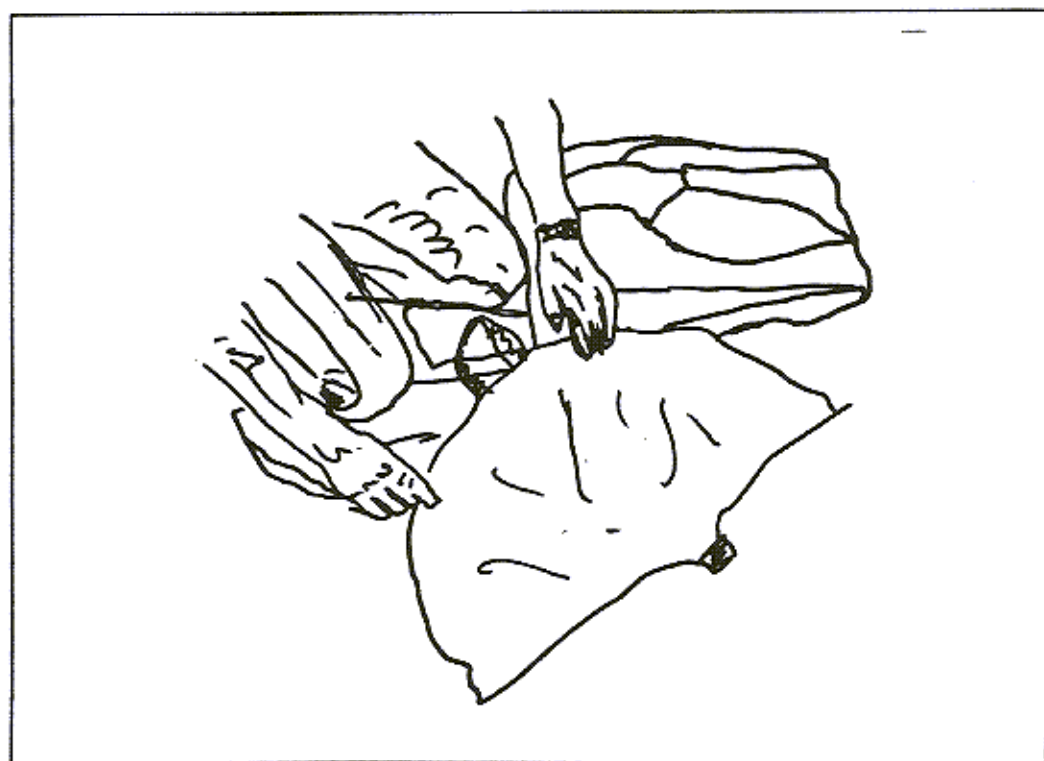
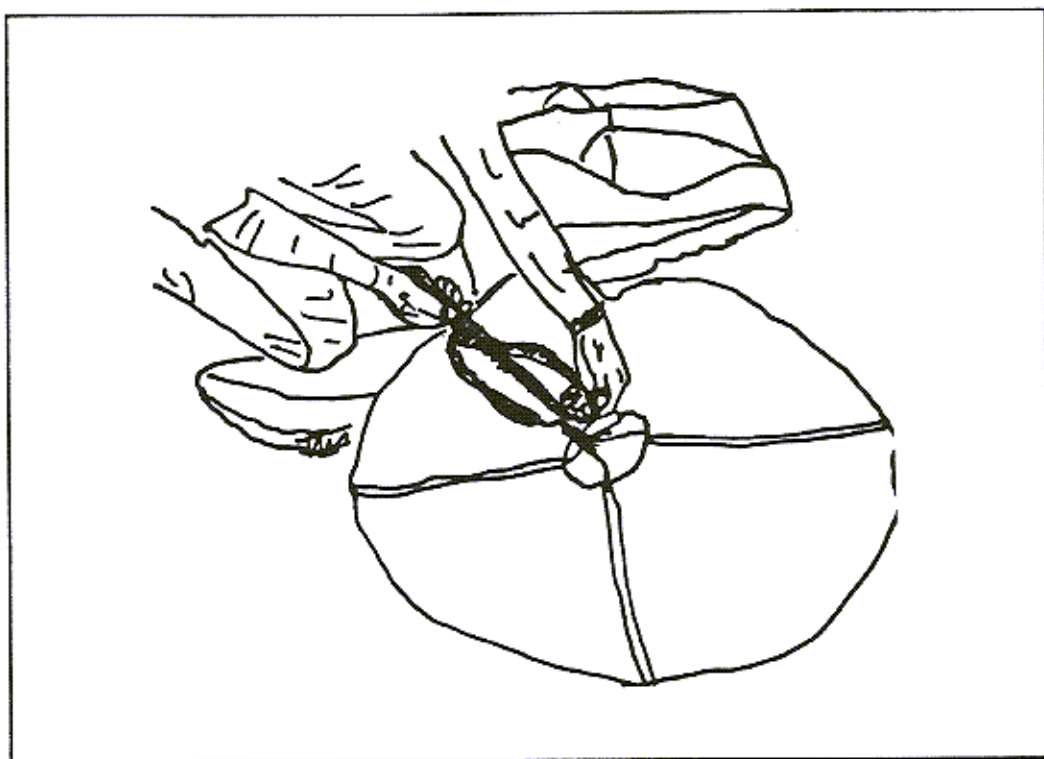


9. Mate the small piece of Velcro on the bridle to the small piece above the curved pin. Neatly tuck any excess bridle under the right side flap.

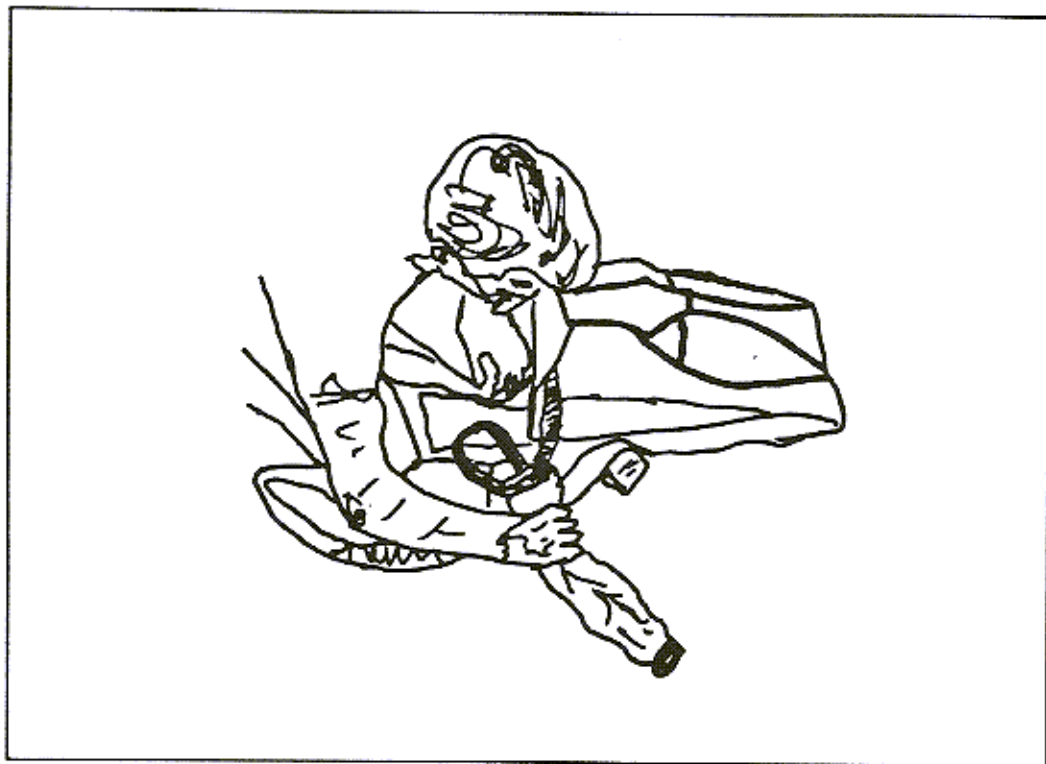
10. Mate the Velcro on the bridle to the side of the container down to the throw out pouch. Tuck in any excess bridle under the right side flap.



11. Lay the pilot chute down with the mesh up. Fold the bridle and lay it on the mesh. Leave about 12" out. Fold the pilot chute in half and continue to quarter it. Roll it up tight and narrow.

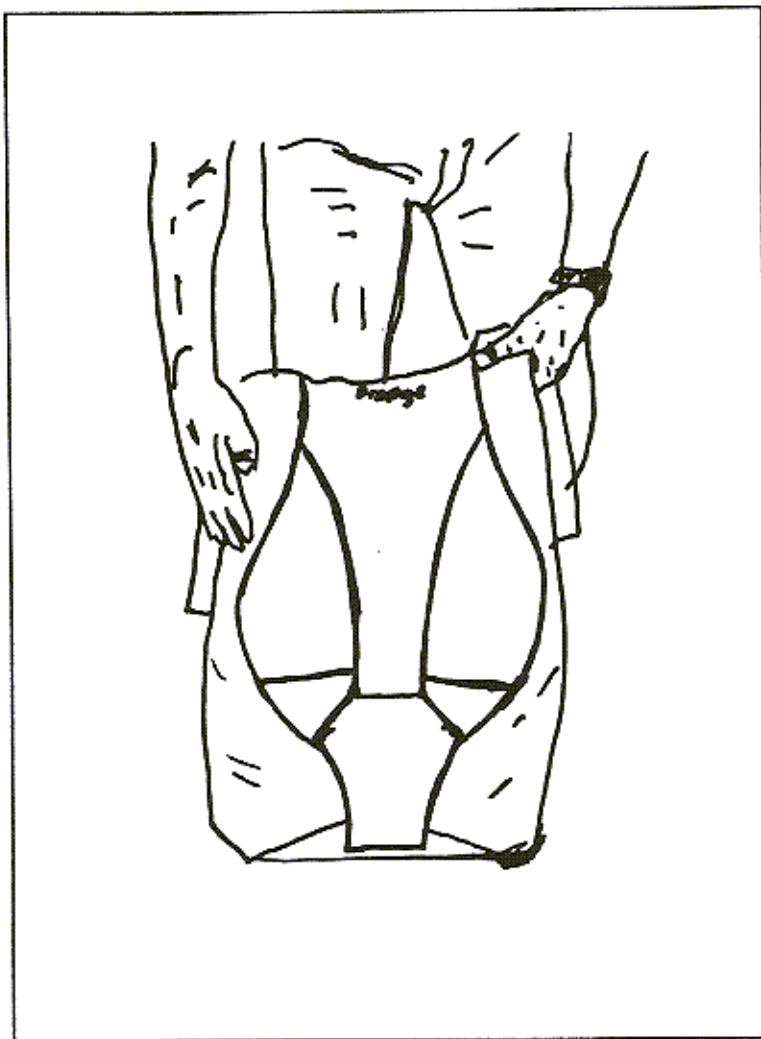


12. Insert the pilot chute into the pouch making sure you have enough bridle to allow it slide down the pouch.





13. Stand the rig up and lean it against your knee and dress it up. Make sure your risers are tucked down and covered by your riser covers. **You should not have any toggles hanging out.**



**Special Note:** After your rig is completely packed and closed, make sure the tension on the closing loop is proper. Not enough tension could result in a premature opening and too much tension could result in a pilot chute in tow or a hard pull or no pull.

## VI. MAINTENANCE

### A. Limitations and Qualifications

All repairs, maintenance and repacks should be done by FAA licensed riggers. A back type rating is required. Inspection and repacks should be done every 120 days. Minor repairs can be done by a senior rigger. Major repairs must be done by a master rigger, a qualified parachute loft or the manufacturer.

As the owner, you are the person who should know the exact condition of your equipment. Take it upon yourself to carefully inspect your own equipment. When you need repairs, get them done immediately. Do not wait for something to break or fail. In the long run it will be safer and cheaper. Find a rigger you have confidence in and that has the skills and equipment to provide good maintenance.

### B. Repairs

Use Dan Poynter's "Parachute Manual" as a guide. We use bonded nylon threads. We use E (size 69) for all container work and 5 cord (size 346) for all harness stitching. Our plastic stiffeners are high density polyethylene 1/16" thick. When doing repairs, always try to do a good professional job. Do not use a contrasting fabric or thread that will degrade the appearance of the owner's equipment. If you do not have the right materials or equipment to do the repair properly, do not do it. Either get what you need or send off to someone who does. Call us if you need help. We will be more than happy to assist you.

### C. Three Ring Maintenance

(this section reprinted courtesy of the Relative Workshop, Inc.)

#### 1. Introduction

The 3-Ring Release System was invented by the Relative Workshop in 1976. It was the first practical release that allowed parachutists to jettison their main canopies in one motion by simply pulling a single handle.

Not only is the 3-Ring easier to operate than previous canopy release systems, it is also more reliable. Failures of a properly built and assembled 3-Ring system are virtually unknown.

Once the main is jettisoned, the only things left on the harness are two smooth rings that cannot snag a deploying reserve. Some other release systems can--and have--interfered with the deploying reserve.

## 2. Modifying The 3-Ring Release

The great reliability of the 3-Ring system results from the proper functioning of every one of its individual components. Therefore, the owner should not modify the system in any way, nor should he replace genuine 3-Ring parts with others.

These modifications (among others) will cause the system to not work properly:

a. Substituting risers that do not have Type 2 sheathing for the locking loop. Do not use risers that have loops made of Kevlar or solid cord.

b. Not using a breakaway handle with cable with the special yellow coating. This Teflon-impregnated coating is important; other plastic coating may cause the cables to bind in the housings or loops, making it difficult or impossible to jettison the risers.

c. Using a breakaway handle with cables of the wrong length. The length of the cables is critical to insure each riser releases in the proper sequence. Replacement handles are available from The Adventure Loft.

The 3-Ring Release is now found on other rigs besides Vectors as the Relative Workshop has licensed its use to other manufacturers.

## 3. Getting To Know The 3-Ring

Knowing how the 3-Ring release works will help you assemble and inspect it properly.

Begin by peeling the release handle from the Velcro on the harness. Peeling, rather than pulling, makes it easier to separate the handle from the webbing.

Look behind the risers near the harness and observe the movement of the yellow cable as you pull the handle. When the cable clears the white loop, the release is disengaged.

Now slowly pull one of the risers off the harness. As you pull, you will notice that the white loop gets pulled through the grommet by the action of the smallest ring.

Each ring forms a lever with a ten-to-one mechanical advantage as it passes through the other. A force of 1,000 pounds on the large harness ring exerts a force of only ten pounds on the white loop. (Opening shock usually totals about 1,000 pounds or 500 pounds on each riser.)

Because of the mechanical advantage provided by the 3-Ring design, only a force of approximately a pound on the top ring keeps the release together. That is why it is important to keep foreign matter like bits of grass and sticks out of the 3-Ring assembly. A small stick in the white loop could prevent a riser from releasing.

It is also important to understand one of the properties of the nylon components of the system. When nylon stays in the same position for a long time, it begins to conform to that position, or take a "set." If the 3-Ring Release System stays assembled for too long, the nylon can become so stiff that the low drag from a malfunction (such as a streamer) will not pull the riser off the ring.

The 3-Ring Release System must be disassembled, flexed and inspected every month. Procedures for this are listed in this section.

#### 4. Assembly

Before assembling the 3-Ring Release, make sure the risers are not twisted or reversed. Lay the Prestige face down, as you would to pack it.

a. Thread each cable into its housing and stick the handle to the harness. The handle should be positioned as close to the ends of the housings as possible so that no cable is exposed.

b. With the rings of the riser facing toward the floor, pass the middle ring on the end of the riser through the large harness ring from above. Fold it back toward the canopy and risers.

c. Thread the smallest ring through the middle ring in the same way, but make sure it does not pass through the large ring.

d. Bring the white loop over the small ring only and then through the riser grommet so it pokes out the back of the riser.

e. Continue threading the white loop through the grommet on the end of the cable housing. The flat side of the cable housing grommet should be against the riser.

f. Thread the yellow cable through the white loop, making sure the loop is not twisted. Be careful with the cable so you do not bend it too sharply or kink it. Insert the free end in the channel on the back of the riser.

g. Repeat the above steps with the other riser.



### 5. Pre-jump Inspection

Before jumping the Prestige, check the 3-Ring Release System for the following:

- a. Each ring passes through only one other ring.
- b. The white loop passes through only the small ring.
- c. The white loop passes through the grommet on the end of the cable housing without twisting.
- d. Nothing passes through the white loop except the yellow cable.
- e. The 3-Ring Release handle is securely stuck to the harness, and no cable is visible between the handle and the cable housings.

### 6. Required Periodic Maintenance For The 3-Ring

The Booth 3-Ring Release System has been in use for many years with excellent results. Although the system is as durable as the rest of the rig, it requires periodic maintenance and inspection to ensure proper operation.

Generally, it is NOT recommended that the risers be attached to the harness when new and "forgotten." Like all skydiving gear, the 3-Ring Release should be carefully inspected and operated on a regular basis.

The procedures below should be done at least every month. This is especially important if the rig has not been used for a month or more, such as during the winter. Immediate inspection is required if it has been subjected to some abuse such as a drag across the runway, a water landing or exposure to a lot of dust or sand.

It is important to maintain the system even more frequently in humid, muddy or freezing conditions. If the Prestige becomes immersed in mud or muddy water, clean the 3-Ring Release System with a mild solution of soap and water. Any rusted components must be replaced.

- a. Every month operate the 3-Ring Release System on the ground. Extract the cable completely from the housings and disconnect the risers.
- b. While the system is disassembled, closely inspect it for wear. Check the white locking loops (the ones that pass over the smallest ring and through the grommet) to be sure they are not frayed.



c. Check the Velcro on the breakaway handle and main lift web to be sure it is clean and adequately holds the handle.

d. Check the cable ends for a smooth finish. The ends are finished at the factory to have a smooth, tapered surface. This prevents the cable from hanging up in the loop. Check the cable ends and consult a rigger or the manufacturer if a burr or "hook" is present.

e. Check the stitching, including that which holds the large rings to the harness.

f. Pull downward on the housings. they should not move downwards more than 1/2 inch, but should be free to move upwards 1 to 2 inches.

g. Take each riser and vigorously twist and flex the webbing near where it passes through each ring. The idea is to remove any set or deformation in the webbing. Do the same thing to the white loop.

h. Check the housings for dents or other obstructions. Use the cable to do this.

i. Clean and lubricate the release cable with a light oil such as "3-in-1" brand. Put a few drops on a paper towel and firmly wipe the cable a few times. A thin, invisible film should remain--too much will attract grit and dirt, or the oil could become tacky in cold weather. Too much oil will require more force to extract the cable during a breakaway.

j. Inspect the fittings at the end of each housing. If one of these fittings were to come off the housing, a riser might release prematurely.

k. If any wear is found, consult The Adventure Loft or a rigger before using the Prestige.

l. Reassemble the system. Double check it. Make sure the risers are not reversed.

## VII. FITTING INSTRUCTIONS

Always look your equipment over before you put it on. Make sure your pins are in the proper places and your handles are in place. Check the routing of your bridle line. Pay attention to your harness and assure it is not twisted. Pick your rig up by the main lift webs under the shoulders and put it on like a jacket. Fasten your chest strap. Make sure you thread the webbing through moveable bar on the friction adapter properly. If you add Velcro to your chest strap, do not get in a hurry and neglect to thread the webbing through the friction bar. I know several people that got in a hurry and ran the webbing through hardware and secured it with the Velcro only. On opening, they almost fell out of their harness.

When you fasten your leg straps, make sure they are not twisted. After the free end is threaded through the hardware properly, stow it in an elastic band or in a manner that will not allow it to flap freely in freefall. It is possible to mistakenly grab a flapping piece of webbing instead of a rip cord or some other deployment device.

Adjust your harness evenly and snugly. It should not be so tight that you are having any discomfort.

The last thing you should do is get another jumper to check you out. It is cool to check each other out. Be careful out there!

## **VIII. REVISIONS**

This manual has a cover sheet, a warning/disclaimer, an introduction, a table of contents, and 55 numbered and dated pages. Each of these pages will have a page number and date. We will list any revisions on this page and indicate which specific pages have been changed and their effective dates. If you are not sure if your manual is up to date, please call us.