

**PSB#010177**  
**Wonderhog Technical Update**  
**Issued: December 1977**

**OLD RIGS**

The following items should be brought up to date:

1. "O" spur grommets should be put in all flaps except the main bottom flap and one of the reserve side flaps.
2. 30-inch pilot chutes should be replaced with 36-inch pilot chutes
3. Long pilot chute pouches (16-inch) should be re-placed with short ones (10-112-inch).

**VELCRO**

Velcro tape is great stuff but it does not last for-ever; in fact, it may lose more than half of its strength in less than 100 jumps. Hook Velcro destroys pile Velcro every time it unmates. If you wish your main cover flap to stay closed, replace the pile at least every -100 jumps. Check the hook and pile Velcro at other less important places on your Wonderhog for periodic replacement.

**RESERVE**

1. 550 Sheathing Loop. Check, and replace the loop when worn (as often as every pack job). This loop is supposed to come straight up through the packed canopy. If the rigger packing your reserve puts too much canopy either in front of or behind where the loop comes through, the loop will have to "go around" the excess canopy, causing a "shorter," tighter loop, which can result in a harder-than-necessary pull. Check your pin tension after each pack job.

2. Large Reserves. The following chart shows which reserves will easily fit into each Wonderhog re-serve container. It should be followed However if you Must put in a larger canopy than the reserve container was designed to hold, you must make a longer loop out of 550 sheathing. The standard loop is 12 inches long, so a 14-inch loop might be what you need.

**RESERVE COMPATABILITY CHART**

Short (10-inch) reserve container	Long (12-inch) reserve container
Ripstop Tri-Cons	24-foot Ripstop
Piglets	26-toot Navy Conical
Lo-Pos	26-foot Super Steerable
	26-toot Security High-SpeedTaffeta Tn-Cons

3. Bridle-Staging Loop. There always has been and probably always will be a lot of controversy about the bridle-locking loop on the Wonderhog reserve con-tainer. It is there so that if the pilot chute is not devel-oping sufficient drag to quickly and property lift the reserve canopy out of its container, the canopy will stay put until the hesitation clears. This prevents the reserve from falling out in a glob while waiting out the hesitation.

Reserve canopies traditionally have had a very high malfunction rate and I believe that the reported very low reported malfunction rate out of Wonderhog reserve containers is a reflection of the added safety this loop system provides.

However, simply because the loop exists it is possible that one day it might never release, resulting in a total malfunction.

What are the chances of that happening? Well, it never has. Momentary hesitations? We have received very few reports of these and in each case the reserve was pulled at a very low speed. As soon as the jumper picked up speed or dipped a shoulder, the re-serve deployed correctly.

To me, these instances DO NOT represent mal-functions: quite the contrary, they represented instances where the system worked properly to prevent a possible malfunction.

In these cases, if the loop were not there, would the reserve have opened any faster? Probably not. If the pilot chute does not have enough pull to release the loop (which is roughly equal to the pull required to unstow a group of suspension lines from a rubber band), it probably isn't capable of lifting the reserve canopy out of the container either. Secondly, a canopy launched at higher speed requires less distance to open. For instance, Poynter's Manual states on page 6.2.16 that a PC launched at zero speed requires 321 feet to open, whereas the same canopy launched at 110 knots requires only 115 feet to open.

Will the pilot chute usually open a Wonderhog reserve container instantly at low speed? Almost always, unless the pilot chute hesitates. On ten tests where the reserve handle was pulled simultaneously with breakaway from a fully open 28-foot canopy, NO hesitations were observed.

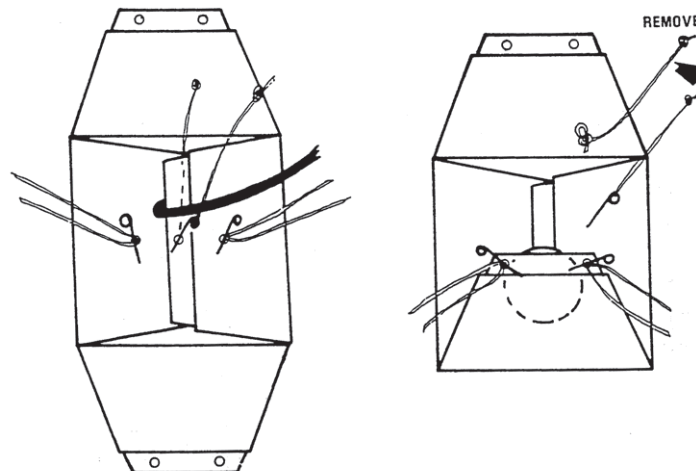
Should the loop be left in? The Wonderhog re-serve was designed to pack up equally well with or without it. It is and always has been an option, to be decided by the individual jumper.

## RESERVE PACKING INSTRUCTIONS WITHOUT STAGING LOOP

If you wish to pack without the reserve staging loop it is necessary to make a temporary loop out of 550 cord (not sheathing) and to use a third temporary pin while packing. Obviously, both the loop and the pin must be removed before jumping.

Follow reserve-packing instructions until Part Three. Part Three (a) without staging loop:

1. Remove elastic loop from side flap, and insert temporary 550 loop.
2. Thread pull-up cords through the grommets in the side flaps.
3. Using a third pull-up cord, pull temporary loop through the grommet in the plastic in the other side flap and lock with third temporary pin.
4. Pull up reserve closing loops, and insert temporary pins.
5. Compress pilot chute at bottom center of container, on top of the side flap plastics.
6. Push bottom flap to center, using as little pressure as possible.
7. Pull up reserve closing loops, and re-insert temporary pins.
8. REMOVE the third temporary pin and temporary 550 loop from side flap.



## MAIN CONTAINER

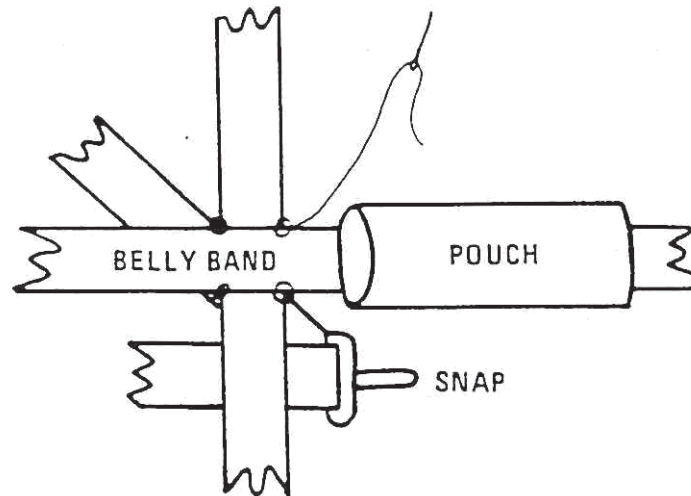
A Wonderhog is a high performance container stem just as a ram-air is a high performance canopy. As we all found out with ram-airs, high performance systems demand a higher level of performance from the jumper if their benefits are to be realized. It soon became obvious that not everyone was willing to live up to the higher level of responsibility necessary to safely enjoy this added performance. And the towed pilot chute was born.

Towed pilot chutes are almost always the result of carelessness and can be nearly totally eliminated by a few simple steps:

1. Twisted Belly Bands. Too many people (one is too many) have jumped out of an airplane with their bellybands mis-routed or twisted. In each case, a simple (unfortunately, now old-fashioned) rigger check would have prevented this. No matter how good you are. PLEASE ask someone to check you after you have suited up. There is another way that you can prevent routing accidents. I recommend that everyone do this:

- a) Put on your rig (jumpsuit and all).
- b) Mark, with chalk, where your bellyband crosses your right main lift web.
- c) Take off the rig remove the pilot chute from the pouch, *unmate the bridle velcro*, and hand-tack the belly band to the main lift web where it crosses.

SEE ILLUSTRATION



2. **Main Container Opening Force.** All freefall container systems in use today depend upon a pilot chute to lift the canopy out of its container. To do this, the pilot chute must generate a force greater than the weight of the canopy. The Wonderhog was designed to be opened by a force of between six and twelve pounds or less than the weight of the canopy it contained and far less than a normally inflated 36-inch pilot chute generates. It was reasoned that if for some reason the pilot chute failed to generate enough force to lift the canopy out of the pack (hesitation, wrapped around a foot, etc.) then the pack would stay closed until the situation cleared up, thus preventing many malfunctions.

It is safe to say that no properly tensioned Wonderhog EVER experienced a loop hangup if the pilot chute inflated properly, and I know of nothing freer from malfunction than a pilot chute.

*To Check Your Container Opening Force:*

- a) Put on your rig, as if you were going to jump.
- b) Have a friend attach a fish scale to your pilot chute, and pull to see how much force is required to open your container. (If you have packed according to the Wonderhog manual, it should take between six and twelve pounds to open your rig.) If more than twelve pounds is required:
  - 1) Make a longer elastic loop.
  - 2) If your main cover flap will no longer close correctly, you have "too much" canopy in your rig, and you're asking for trouble. If you 'must' continue to jump 'too much' canopy:
    - (a) Unstitch 'the cover flap, move it toward the center, and restitch; OR,
    - (b) Sew 2-inch pile Velcro where there is now 1-inch so that the velcro overhangs the edge of the flap. This will, in effect, make your flap wider, OR
    - (c) Call us, and order a wider flap.

\*\*\*NOTE - If you "freepack" and do not do it very carefully, your pack volume will be far greater than if you use a bag. For example, you may need a Cloud container to hold a free packed Strato Star.

**4. Accidental Main Container Openings.** To make sure that the pilot chute will not jam in the pouch if your main container is accidentally opened with the pilot chute undeployed:

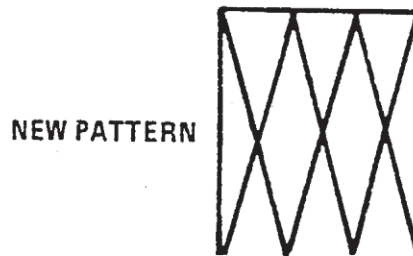
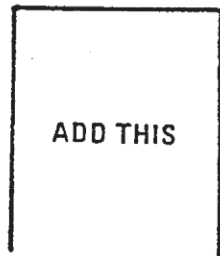
- a) Put on the rig, as if to jump.
  - b) Pull on the pilot chute bridle (not handle)
- The pilot chute should slide out of the pouch. If it jams (it shouldn't), there are two things you can do:
- 1) Write us for a newer pouch.
  - 2) Unstitch about two to three inches of one seam at the mouth of the pouch and replace the seam with 1-inch Velcro. But remember, Velcro wears out and you have probably increased your chance of, accidental pilot chute deployment.

### **3-RING CIRCUS**

I am very pleased with the operational record of the 3-Ring Circus . . . I should be. It has performed flaw-lessly! No accidental releases at opening ... 100 per-cent smooth, clean breakaways . . . and no physical deformation of the rings.

HOWEVER, Nothing is perfect, so let me re-iterate some things to look out for:

1. Before you put on your rig, and immediately after each opening, visually and physically inspect the cable housing endings at the risers. If one of them were to break, you could conceivably lose a riser. Soon I hope to be able to offer (at cost) housings with stronger swaged endings
2. Several people have reported that after an un-stable reserve opening, a few stitches were broken at the top of the 4-point stitch pattern, which holds the large ring to the harness. We have since changed the stitch pattern to prevent this from ever happening again. There is little chance that you will ever break any of the stitches of the hold pattern, and no chance that you will ever break enough stitches to be put in danger, but we do recommend that you strengthen the old, simple 4-point stitch pattern in the following manner:



Use nylon 5- or 6-cord. 301 lockstitches, 4 to 6 stitches per inch. This work must be done by a Master Rigger on a Singer 7-class or equivalent.

I have noticed that people who used to check their capewells before each jump never seem to check their ring releases. I feel that it would be good if everyone once a week:

- a) Checked the activation cable for burs and the cable housing for foreign matter.
- b) Checked the housing endings.
- c) Bent, back and forth, the webbing which holds the riser rings, to insure good flexibility. It has been noted that a 3-ring release which has not been opened for a long time requires a higher force to re-move a riser from the harness. (This force should be one or two pounds.)

## CORRECT THROWING TECHNIQUE

I thought at first that a hand deployed pilot chute would not hesitate. I have since learned that, on rare occasions, they do - only, not in the regular way. Because a hand deploy pilot chute is very light, it does not fall back and bounce around the way a springed one does. It just seems to flutter for a second or two at the end of the bridle, and some people experiencing this have thought that their loop was hung up when in fact it was just a pilot chute hesitation. There is NO REASON this should ever happen if the pilot chute is deployed correctly.

From talking to people who have had a momentary pilot chute streamer, I have found that most all of them had one thing in common: they weren't throwing their pilot chutes to the side, as they should have been. In-stead, they were simply pulling their pilot chutes out of the pouch and letting them go, often, it seemed, right back into the burble. (This problem is showing up with increasing frequency on pullout systems that, for some reason, are desioned so that a jumper can't throw his pilot chute.)

As a jumper falls through the air, his body makes a wake, like the bow of a boat does. This wake appears to extend several feet outward to each side of the body. It is necessary to throw the pilot chute out past the edge of this wake. or it might be sucked right back into the burble. The correct way to deploy a pilot chute is as follows:

1. Clear the sky above and below.
2. Get flat and stable or stay in a slight track.
3. In one smooth motion, pull your pilot chute from its pouch and throw it as far as you can to the side. It is packed in a torpedo shape with a weight (handle) at its apex to help it travel as far as possible. Do not defeat this design by holding on to your pilot chute at arms length for a second or two before trying to throw it.

Bring the apex back towards the center of the pack tray, laying it on top of the S-folded canopy:

Bring the locking loops straight up through the folds

of the canopy and insert pull-up cords. Then thread the loops through the top internal flap and then the bottom internal flap. Secure with temporary locking pins. The bridle should pass between the flaps, and only a few inches of it should remain under the internal flaps.

Insert a small (1/2") bight of bridle into the elastic locking loop according to the instructions in the Wonderhog Owner's Manual. (If the loop is not used, simply skip this step.)

Thread the pull-up cords through each side flap and draw them over the container and secure with the temporary locking pins.

S-fold the pilot chute bridle and place it neatly on the bottom internal flap. Position and compress the pilot chute, in the center of the bottom internal flap and on top of the side flaps.

Bring the bottom outside flap up, thread the pull-up cords through the grommets and pull the locking loops through. (This job is facilitated if the grommets are pushed down with one hand while the pull-up cords are pulled up at the same time, doing one side then the other. The use of a T-bar is not recommended.)

Snap the snaps that hold the top corners of the side flaps to the pack tray. Do this carefully to insure no canopy fabric is caught in the snaps.

Thread the pull-up cords through the grommets in the top flap and pull the locking loops into position. Secure with the ripcord.

Seal, log and count tools to insure none were somehow packed into the reserve. Check pull force if it is suspected of being in excess of 22 lbs.

Dress the flaps for a better appearance.

#### Notes

More information is available from the Relative Workshop, 1050 Flightline Blvd., DeLand, FL 32720, (904) 736-7589. Contact the company if you have any questions.

Be sure to use compatible components. The locking loop must be of the right material and length, and must\_ be inspected along with the rest of the parachute assembly each time the reserve is repacked.

Do not alter the reserve container or harness.

Instruct the owner of the parachute on its proper use.

## Supplement to the Wonderhog Owner's Manual

### PACKING The 1980 'SPRINT RESERVE

#### Introduction

The Sprint version of the Wonderhog harness and container system has been changed slightly to improve both appearance and function.

The basic *design* of the reserve container has been changed in that there are now two internal flaps. These internal flaps are packed between the canopy and the pilot chute. The result is a neater looking rig and a more secure base for the pilot chute. The side flaps have been shortened and do not have an elastic locking loop. This loop is now located on the internal top flap. Its use is optional.

#### Before Beginning

The rigger should be thoroughly familiar with the contents of the Wonderhog Owner's Manual and relayed supplements.

Rigging tools required include two pull-up cords, a packing paddle, and two temporary locking pins.

#### Assembly Procedures

Attach the canopy to the risers, insuring the connector links are thoroughly tightened. Follow the canopy manufacturer's instructions to install any steering lines, toggles or similar systems. Attach the pilot chute to the apex of the canopy using the

Type 4 bridle provided by the Relative Workshop. The length of the bridle is important for fast deployment. An MA-1 or equivalent pilot chute is required.

#### Packing Procedures

Inspect and flake the reserve canopy according to the canopy manufacturer's instructions. (Since there are several reserves that are compatible with the Wonderhog Sprint, and each has its own specific differences — deployment diapers, etc. — it is not practical here to provide more specific information.)

Stow the suspension lines according to the canopy manufacturer's instructions. (In some cases the lines will be stowed in the pack tray, while in others they will be stowed partially or completely on the diaper.)

Thread the nylon-locking loop through the grommets in the pack tray.

Fold the canopy into the pack tray. Use wide S-folds, beginning with the skirt being tucked completely into the right or left lower corner. Make the folds the full width of the pack tray for the best appearance.

### **Packing the Sprint Pilot Chute**

## Supplement to the Wonderhog Owner's Manual

The Sprint model of the Wonderhog features a hand deploy main pilot chute that packs much smaller than previous versions. Therefore, a smaller pouch has been deigned to accept it properly.

Note: Always use the proper Pouch with the proper pilot chute.

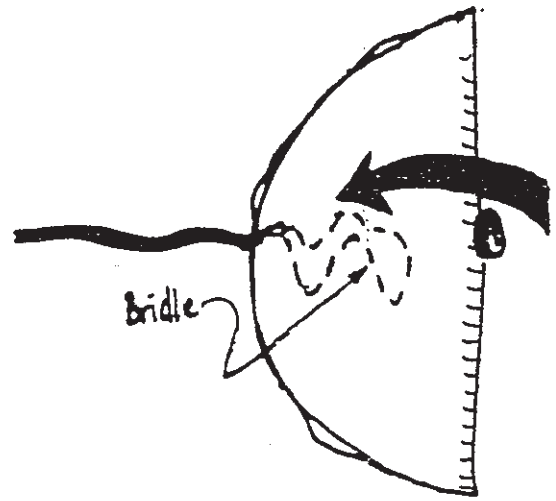
Although the larger pilot chute can be crammed into the smaller Sprint pouch, it may not be possible to extract it in freefall, resulting in a total malfunction of the main parachute. The Sprint pilot chute will fit easily into the larger pouch, but the result is so loose that it is likely the pilot chute will slip out of the pouch prematurely. This could cause serious injuries if it occurs during exit or in freefall.

Never attempt to modify the pilot chute or the pouch. Each was carefully designed and tested for each other, and even minor alterations may result in malfunctions, even though the system seemed to work properly on the ground or for a few jumps.

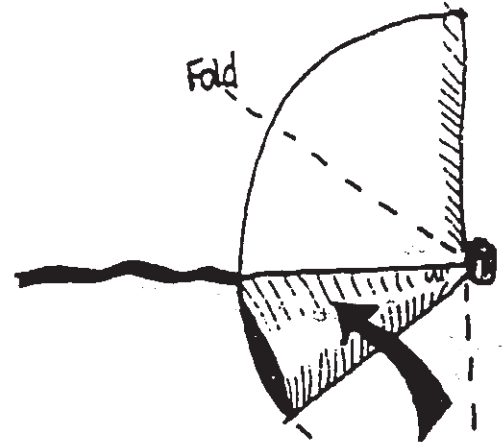
#### Packing Procedures

Packing the Sprint pilot chute is similar to packing the other Wonderhog pilot chute. Refer to page 5 of the Wonderho Owner's Manual, but follow the instructions below instead of those on pages 6 and 7.

15. Fold the pilot chute in half over the bridle. The part of the bridle that is made of suspension line should be stowed completely inside the folded halves.

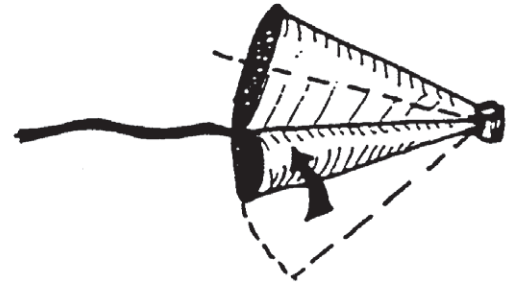


16. Fold the corners up to the center of the arc to form a triangle.



## 2- Packing the Sprint pilot chute

17. Fold the corners in again, making a narrow triangle.



18. Fold again, making a wedge that is about 3" wide at the base. Be sure all the mesh is tucked well into the folds and none hangs out.

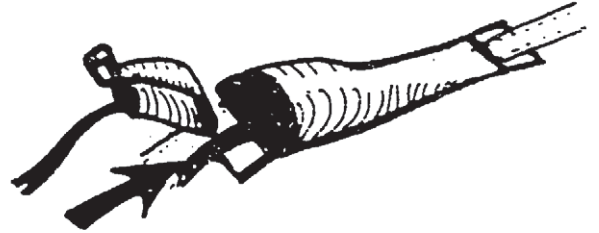




19. Fold the wedge in half as shown, bringing apex over even with the skirt (so that the handle extends past the skirt).



20. Fold the remaining free bridle down the length of the pilot chute, then insert the folded end all the way down the pouch, so only the plastic handle is left hanging out.



Practice this procedure on the ground a few times. Put the rig on and tighten the harness and practice throwing the pilot chute correctly.

Supplement to the Wonderhog Owner's Manual

# Packing the Safety-Flyer Reserve

## Introduction

Because of the unique design of Para-Flite Incorporated's Safety-Flyer reserve, a special Wonaerhog container is required to accommodate it and to insure proper deployment.

The basic Wonderhog reserve container has been modified in these major ways:

1. The addition of two internal tv1DS nylon reinforced flaps that lie over the canopy/lines/bag assembly but under the bridle and Hot Dog plot chute.
2. Elimination of the continuous, through-the-container 550-cord sheathing locking loop and replacing it with two short individual locking loops made from the same material.
3. The side flaps have been shortened and cover only the edges of the plot chute. They do not overlap nor do they have an elastic loop locking system.

## Before Beginning

The rigger should be familiar with the contents of the Wonderhog Owner's Manual.

## Assembly Procedures

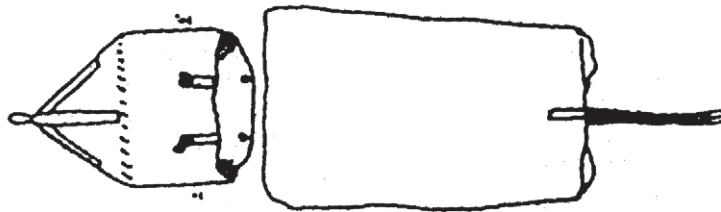
The procedures for attaching the Safety-Flyer to the harness are contained -in the Safety-Flyer Rigging instructions published by Para-Flite, Inc. Para-Flite contends that only certificated riggers who have successfully completed a Safety-Flyer Rigger Certification Course may legally pack this canopy for auxiliary use.

Refer to Para-Flite's publications for instructions on laying out, folding and packing the canopy and lines into the deployment bag.

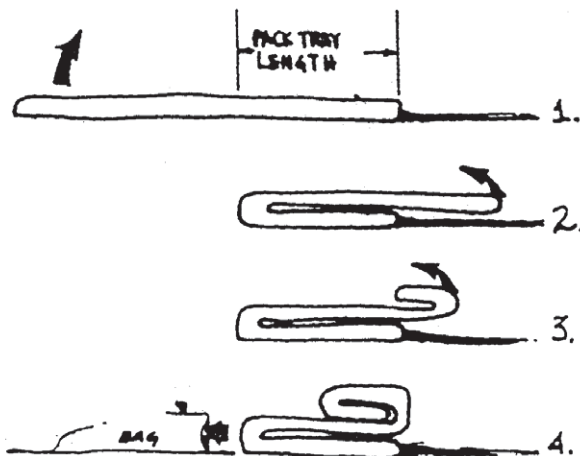
## Packing Procedures

(Note: Wonderhog Safety-Flyer containers are built in two lengths: 10" and 11". The rigger should pack the canopy longer or shorter depending on which particular container he is working with. At this time the Safety-Flyer reserve containers are being built with a stowage plate in the pack tray. The suspension lines of the Safety-Flyer are not to be stowed on this plate.)

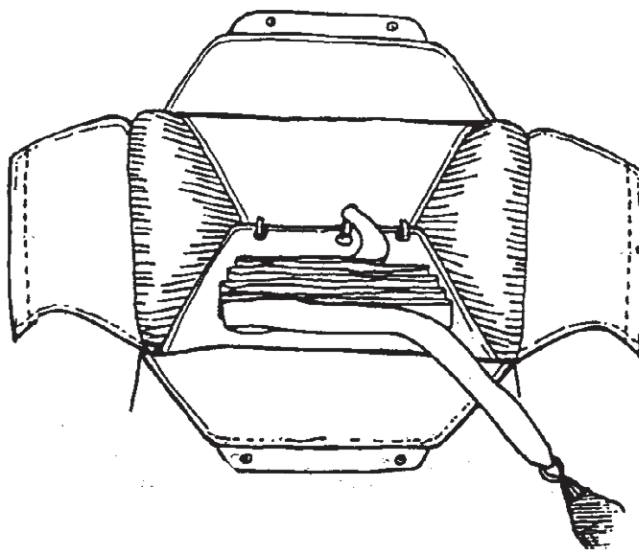
1. Inspect the entire system for wear and proper assembly. Repair or correct as required.
2. Fold the canopy into the deployment bag and stow the suspension lines in accordance with the canopy manufacturer's instruction. How the canopy is folded into the bag has the biggest effect on the appearance of the packed reserve. A flatter wedge shape will result
  - a. The canopy is laid out 2' wider than the bag on each side, as shown in the drawing.
  - b. The canopy is folded in accordance with the manufacturer's instructions, taking extra care to make the last two folds in a manner to keep most of the canopy in the bottom of the bag.



- c. The bagged canopy is carefully walked on to compress it before it is placed in the container.
- d. The rigger practices and perfects the above procedure until a satisfactory appearance is achieved.

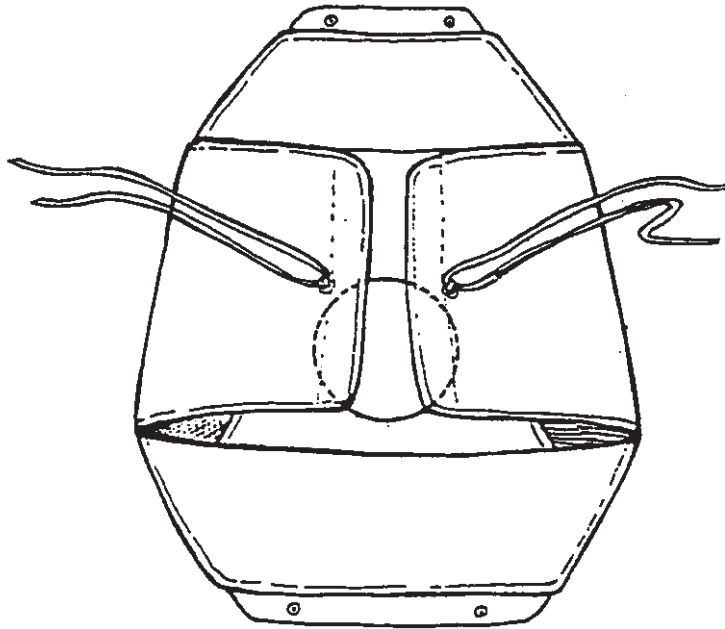


3. Placed the bagged canopy, lines down into the container. Position the four-connector links in a side-by-side row across the pack tray and route the risers out of the top corners of the pack tray.
4. Insert the elastic locking loop into the center brass grommet of the top internal flap. Insert a 550-cord sheathing loop into each 1/8" hole in the top internal flap. The elastic loop must be 1 1/2", the sheathing loops must be 2". If the sheathing loops are the right length, the top outer flap will extend down far, enough to cover the row of stitching on the bottom outer flap. At first the loops may seem too short. If so, check to insure the pilot chute is positioned down far enough on the bottom internal flap, away from the locking loops. The lengths given above are average and may be changed at the discretion of the rigger, providing the force required to extract the ripcord does not exceed 22 lbs.
5. Place the top internal flap then the bottom internal flap over the bag. Route the bridle between the flaps making sure as much bridle as possible remains outside the internal flaps. Insert pull-up cords and draw the three locking loops through their appropriate holes in the bottom internal flap.
6. Insert the needle fold of the bridle into the elastic locking loop. A pull on the bridle of 6 to 8 lbs. should extract the needle fold. Excessive tension will be put on the elastic loop if the canopy was not packed wide enough, or if it was packed too long, or if too much of the canopy is packed into the top of the bag. The internal flaps should fit loosely over the bag. Changing the location of the locking rubber bands on the bag will affect how tight or how loose the internal flaps are, also.
7. Stow the bridle across the width of the bottom internal flap by folding it in accordion folds 6" - 8" long and then spreading the folds out on the flap. (Stacking the bridle will increase the overall thickness of the packed container.)
8. Compress the pilot chute (a Hot Dog™ is required) on the center bottom internal flap on top of the bridle. Tuck the canopy and mesh under the crown.
9. With a knee holding the pilot chute, thread the pull-up cords through the grommets in the side flaps and draw the flaps over the top edges of the pilot chute's crown. Insert temporary pins. (The side



flaps must lie over the edges of the pilot chute or it will be visible and exposed from the side of the completely packed container.)

10. Thread the pull-up cords through the grom-mets of the bottom flap and draw the flap over the pilot chute, one loop at a time. Insert temporary pins, which should be tied together with about 30" of brightly colored cord. (The rigger will find that the individual short lock-ing loops are somewhat more



difficult to pull up through the grommets than when the locking loops are continuous, longer and pass through the container.)

11. Insert the pull-up cord through the grommets in the top flap and pull the locking loops through, one at a time starting with the left side. Patting the top flap toward the center of the rig will make this easier, as will pushing the grommets down while pulling the loops up. Remove the temporary pins before the locking loops are pulled up. Insert ripcord pins.
12. Remove pull-up cords. Check pull force if it is suspected of being in excess of 22 lbs. Dress as required. Count tools. Seal and log.

\* "Packing an Air-Ram Reserve" procedure on following page.

Supplement to the Wonderhog Owner's Manual  
**Packing a Ram-Air Reserve**  
(For Wonderhogs with continuous lockingloop)

## Introduction

Because of the unique design of the ram-air reserve, a special Wonderhog container is required to accommodate it and to insure reliable deployment.

The basic Wonderhog, reserve container has been modified in these major ways:

1. Two internal, MDS Nylon reinforced flaps have been added. These lie over the canopy/lines/ bag assembly but under the bridle and, pilot chute.
2. The side flaps have been shortened and cover only the edges of the pilot chute. They do not overlap, nor do they have an elastic locking loop.

## Before Beginning

The rigger should be familiar with the contents of the Wonderhog Owner's Manual.

## Assembly Procedures

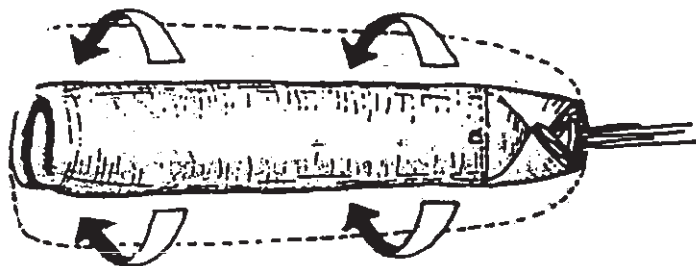
The procedures for attaching the ram-air reserve to harness are contained in the manufacturer's canopy instructions.

## Packing Procedures

(Note: Wonderhog containers are built in several lengths. The rigger should pack the canopy longer or shorter depending on which particular container he is working with. At this time Wonderhog reserve containers are being built with a stowage plate in the pack tray so the container can accept a round reserve. The suspension lines are not to be stowed on this plate.)

1. Inspect the entire system for wear and proper assembly. Repair or correct as required.
2. Fold the canopy in accordance with the manufacturer's canopy packing instructions.
3.
  - a. Long fold the canopy into thirds by tucking the edges under as shown in **Figure 1**.

Figure 1.



- b. Begin folding the canopy into the bag. Tuck the top well into the corner of the bag. Then stuff one-half of an "S" fold of the canopy into the upper edge of the bag as shown in **Figure 2**.

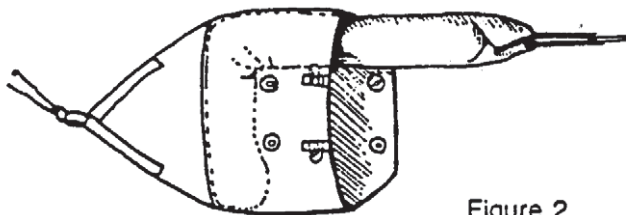


Figure 2

- c. Take two pull-up cords each about 36" long and pass *one* end of each one completely through the bag below the half S fold. The pull-up cords now thread through the bag. Tie the free ends together to keep the pull-up cords in place during the remainder of these procedures. See **Figure 3**

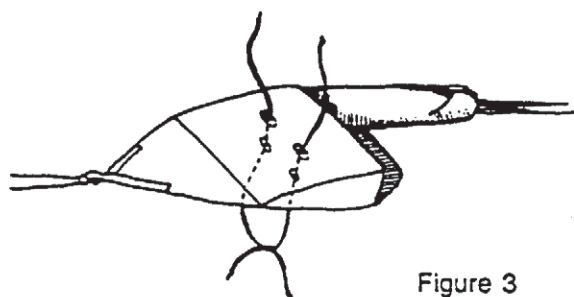
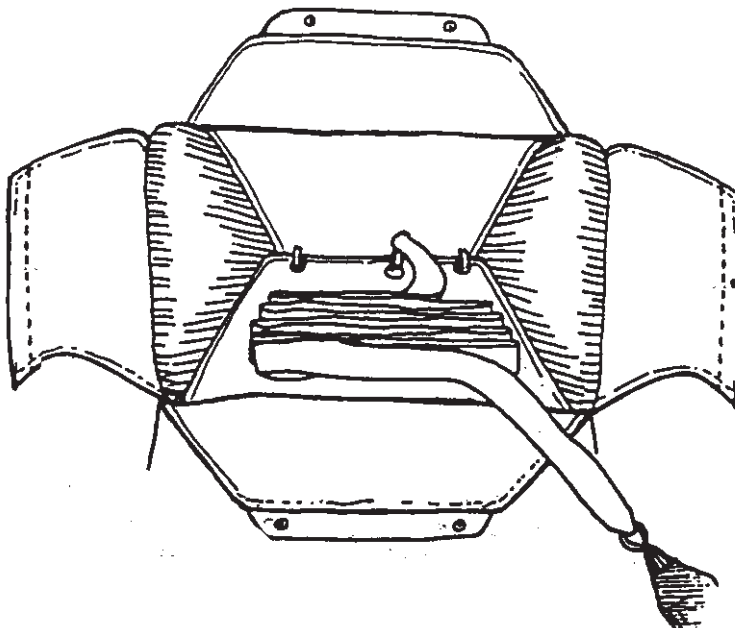


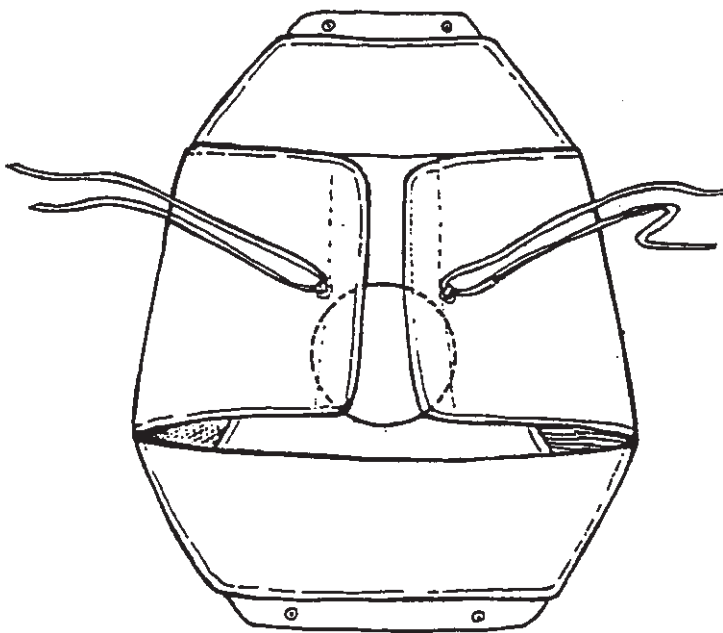
Figure 3

- d. Continue S folding the canopy into the bag, taking care to make the folds wide enough to fill the bag properly.
4. Close the locking flap on the deployment bag with two rubber bands stows in accordance with manufacturer's instructions. The canopy is now ready to place into the container.
  5. With the continuous locking loop threaded through the bottom of the container, place the bagged canopy into the container with the bag locking stows up and the bridle towards the top of the container. Position the risers and spread the connector links across the pack tray.
  6. Lift the top end of the bag and untie the two pull-up cords underneath the bag. Tie each end of the pull-up cords to the proper locking loop. Use an overhand knot.
  7. Pull the locking loops up through the bagged canopy. The knots may be somewhat difficult to draw up through the bag and packed canopy. (Pulling the knots gently through the bag several times back and forth will decrease this resistance.) Insure that no canopy fabric protrudes from any of the bag's four grommets
  8. Install temporary locking pins, untie the knots thread the pull-up cords through the locking loops in a more conventional manner.
  9. Insert the elastic locking loop into the center brass grommet of the top internal flap. This elastic loop must be 1 1/2 " long. Thread a third pull-up cord
  10. Place the top internal flap then the bottom internal flap over the bag. Route the bridle between the flaps, making sure as much bridle as possible remains outside the internal flaps. Insert pull-up cords and draw the three locking loops through their appropriate holes in the bottom internal flap.
  11. Insert the needle fold of the bridle into the elastic locking loop. A pull on the bridle of 6 to 8 lbs. should extract the needle fold. Excessive tension will be put on the elastic loop if the canopy was not packed wide enough, or if it was packed too long, or if too much of the canopy is packed into the top of the bag. The internal flaps should fit loosely over the bag. Changing the location of the locking rubber bands on the bag will affect how tight or how loose the internal flaps are, also.

12. Stow the bridle across the width of the bottom internal flap by folding it in accordian folds 6" - 8"—long and then spreading the folds out on the flap. (Stacking the bridle will increase the overall thickness of the packed container.)



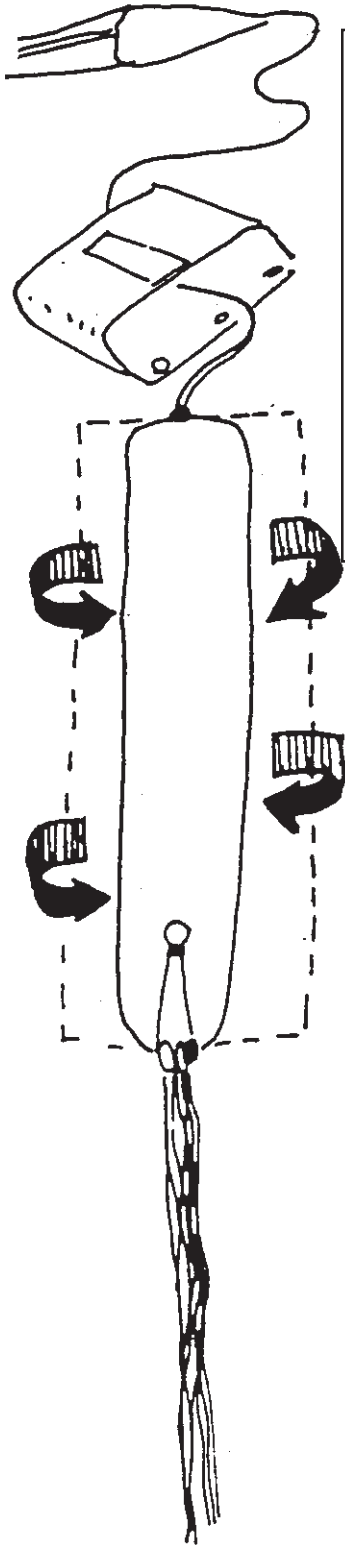
13. Compress the pilot chute on the center bottom internal flap on the top of the bridle. Tuck the canopy and mesh under the crown.
14. With a knee holding the pilot chute thread the pull-up cords through the grommets in the side flaps and draw the flaps over the top edges of the pilot chute's crown. Insert temporary pins. (The side flaps must lie over the edges of the pilot chute or it will be visible and exposed from the side of the completely packed container.)



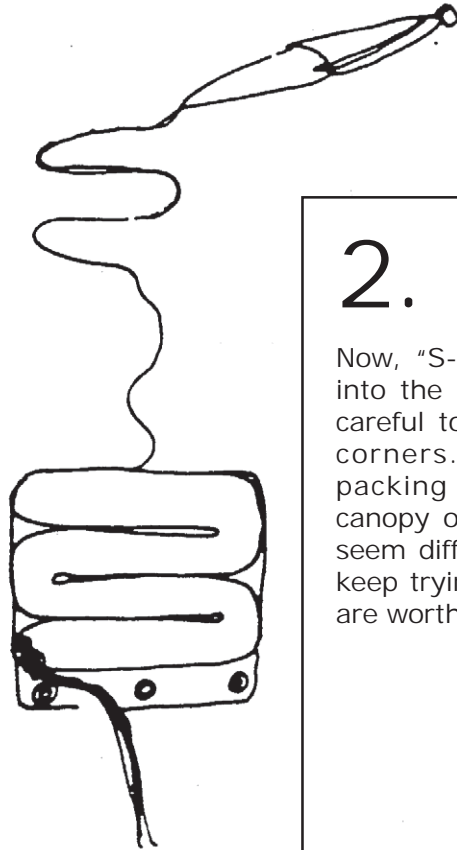
15. Thread the pull-up cords through the grommets of the bottom flap and draw the flap *t* over the pilot chute, one loop at a time. Insert temporary pins, which should be tied together with about 30" of brightly colored cord.

16. Insert the pull-up cord through the grommets in the top flap and pull the locking loops through, one at a time starting with the left side. Patting the top flap toward the center of the rig will make this easier, as will pushing the grommets down while pulling the loops up. Remove the temporary pins before the locking loops are pulled up. Insert ripcord pins.
17. Remove pull-up cords. Check pull force if it is suspected of being in excess of 22 lbs. Dress as required. Count tools. Seal and log.

## Packing in a Bag

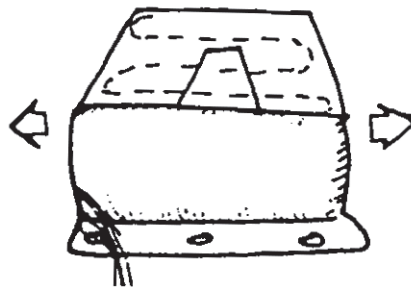
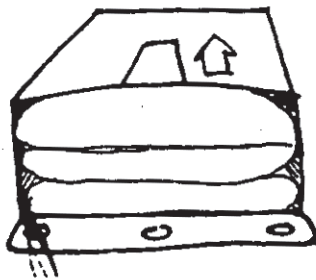


1.  
Pack according to the manufacturer's instructions. Then fold the canopy in thirds, tightly, by tucking it under itself as shown. (Keep squeezing the air)



2.  
Now, "S-fold" the canopy into the bag, being extra careful to stuff the upper corners. (This way of packing - s-folding the canopy on its side - may seem difficult at first. But keep trying... the rewards are worth it.)

NOTE: Stacking the canopy on itself in the bag, as shown below on the left, results in a FAT rig, as the canopy tries to expand upwards. That's why s-folding makes a nicer-looking rig.





## Supplemental Main Packing Instructions:

Prop the bag up loosely in the container, with the lines at the bottom. Route the risers, on edge, down the sides of the container, being careful not to entangle excess lines with connector links. Make sure the sheathing loop at the top of main container is not under bag.

Now tuck the lines well down into the container, and then push the top of the bag down into place. Clear the risers and toggles down the side of the bag. This will enable the bag to fit into the container more neatly.

Kneel on the center of the bag and pull up on the side flaps until the back of the bag is flush with the back of the reserve container and the entire unit will present a streamlined profile.

Kneel on the floor facing the bottom of the bag and lift the unit onto your knees.

Insert pull-up cord through the sheathing loop first, then the bottom flap, and top flap grommets, being careful to keep the pilot chute bridle to the right of the loop.

Applying tension to the pull-up cord, "pat" the bottom flap (applying upwards friction as well as inwards compression) with the palm of the hand until it almost meets the top flap.

Lay the bridle cord up over the top flap and reserve container.

Close the right, then the 'left side flaps using the same patting technique. Be careful not to let the top and bottom flaps separate.

With the sheathing loop now through all four flaps, insert the curved bridle pin from right to left. Remove the pull up cord.

Now mate the white Velcro tabs on the main bridle so there is enough slack in the bridle to allow the pin to release in any direction. It may be necessary to gently pull a couple of inches of slack in the bridle from where it passes under the top of the side flap.

Adjust the length of the sheathing loop so that the cover flap pile velcro mates with the side flap hook velcro and the rig presents a neat appearance. The sheathing loop must be short enough for the rig to be packed tightly. In any case a pull of about ten pounds on the bridle should release the pin. This tension should be checked if the length of the loop is changed.