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MAIN CANOPY OWNER'S MANUAL

and

PACKING INSTRUCTIONS

for the

Hummingbird 140,

Wildfire 170,

Clipper / Clipper Sprint 195,

Raider / Raider Sprint 220,

Maverone 250,

Manta 290, and the

Man-O-War 320

9-Cell, F-111 main canopies.

March 1994

REGISTRATION

Flight Concepts International, Inc. is committed to serving its customers. We want to produce and sell the highest quality parachute canopies available. You can help us in our efforts by taking some time to complete and return this short questionnaire. Please remember, your comments are very important to us, and will be greatly appreciated.

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

Canopy Model: _____ Serial # _____

Are you? Male or Female (circle one)

How long have you been jumping? _____

What is your weight? _____ Your total # of jumps? _____

From whom did you buy your canopy? _____

Were you happy with the dealer or distributor's service?_____

How did you hear about our products? _____

_____

Please comment on the openings, flight characteristics, landings, and packing ease of this canopy: _____

_____

_____

Do you have any suggestions or comments that would help us manufacture a better parachute? _____

_____

_____

Please separate this form and mail it to:

Flight Concepts International, Inc.
Customer Service Dept.
2348 John Glenn Drive
Atlanta, Ga. 30341-1902
U.S.A.

FLIGHT CONCEPTS, INC. CANOPY SPECIFICATIONS AND PERFORMANCE DATA

MODEL	Hummingbird 140	Wildfire 170	Clipper Sprint 195	Clipper 195	Raider Sprint 220	Raider 220	Maverone 250	Manta 290	Man-O-War 320
SIZE (SQ. FT.)	140	170	195	195	220	220	250	290	320
MRMSW (LB.)*	150	170	195	195	235	235	254	254	254
SPAN (FT.)	19.1	21.0	21.8	21.8	24.5	24.5	27.4	27.5	27.5
CHORD (FT.)	7.2	8.0	9.0	9.0	9.0	9.0	9.0	10.5	10.5
ASPECT RATIO	2.7	2.6	2.4	2.4	2.7	2.7	3.0	2.6	2.6
WEIGHT (LB.)	6.0	6.8	7.0	7.0	8.3	8.3	8.5	9.8	9.8
ESTIMATED PACK VOLUME (in^3)	357	386	370	398	425	445	562	570	570

* Manufacturer's Recommended Maximum Suspended Weight (defined as: Jumper + Clothing + Equipment) jumping in near perfect conditions.

The fabric type for all models is: F-111 (1.1 oz Nylon Ripstop, 0-3 CFM)

The line type for all models is: Optional 725lb. Micro Line or 525lb. Dacron

TRIM SPECIFICATIONS (in inches)

MODEL	Hummingbird 140	Wildfire 170	Clipper Sprint 195	Clipper 195	Raider Sprint 220	Raider 220	Maverone 250	Manta 290	Man-O-War 320
TOTAL "A" LINE LENGTH	105.0	109.5	122.0	122.0	132.5	132.5	132.5	146.0	146.0
A TO B	3.3	2.75	4.0	4.0	4.5	4.5	4.5	5.0	5.0
A TO C	8.0	8.75	9.0	9.0	10.5	10.5	10.5	12.0	12.0
A TO D	15.5	18.0	18.0	18.0	20.5	20.5	20.5	23.0	23.0
A TO TAIL w/Brakes set	13.3	15.0	12.0	12.0	8.0	8.0	8.0	18.0	18.0

The line differential specifications in this chart are given under the condition that all four connector links are anchored at the same point, and that the control line guide rings on the reserve rear risers are 4" below the upper fold at the end of the riser.

These dimensions can be verified (See Figure 1.) by placing the "B", "C", and "D" line groups, and the control lines on top of the "A" line group.

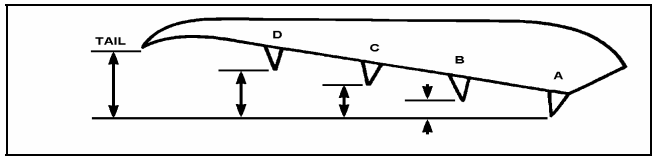

Figure 1.

PRO* PACKING INSTRUCTIONS
(PROPER RAM-AIR ORIENTATION)

Step 1.) Start with the Flight Concepts Main canopy laying on its left side. (See Figure 1.) The harness must be placed facing down, with the top toward the canopy.

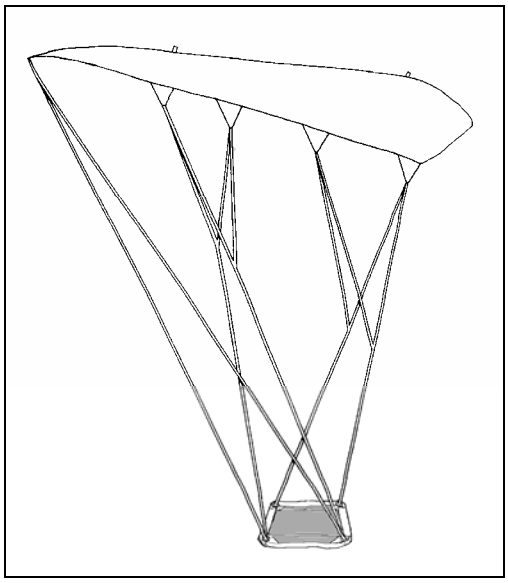

Figure 1.

Step 2.) Clear the control lines. Insure the control lines pass directly from the trailing edge of the canopy, through the correct grommets in the slider, and directly through the control line guide rings. WARNING! The control lines must not pass under, through, or around any of the suspension line groups.

Step 3.) Insure the suspension line groups are routed correctly through the slider grommets to their respective connector links, and are placed on the link correctly. **WARNING!** The suspension line groups must not pass under, through, or around any of the other suspension line groups.

Step 4.) Set the brakes by pulling the control line down through the guide ring until the brake loop “cat-eye” just passes through the guide ring. (See Figure 2.)

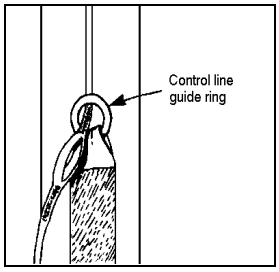

Figure 2.

Step 5.) Insert the stiffened upper portion of the control toggle through the loop and pull the control line back up tightly against the ring guide. (See Figure 3.) "S" fold the remaining break line next to the control toggle and stow it in the Velcro™ loop provided. Mate the Velcro™ on the control toggle with the Velcro™ on the rear riser.

Insure both deployment brakes are set before continuing the pack-job.

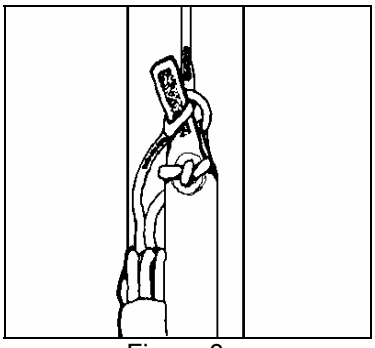
Figure 3.

Step 6.) With the harness/ container system secured, apply tension to the lines, and step between the right and left line groups and grasp the right line groups in the right hand and the left line groups in the left hand. Push the slider toward the canopy, and walk forward. Pick up the canopy by the suspension lines and allow it to hang downward (See Figure 4.) Push the slider up as far as it will go until each slider grommet comes to its respective slider stop.

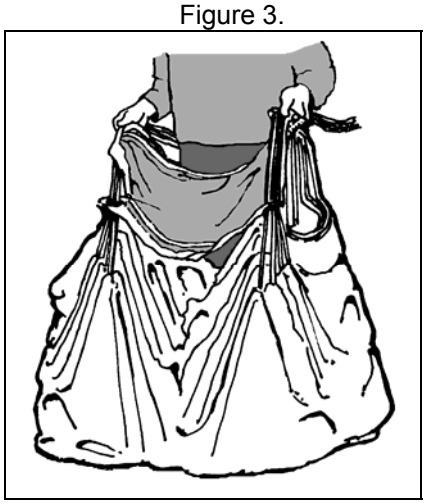
Figure 4.

Step 7.) Step out from between the line groups and hold them in one hand. Clear the bottom seams of each cell with the “knife edge” of the hand. (See Figure 5.) This must be done between the “A", “B”, “C", and "D" line groups. Clear the four seams of each cell to the left and right. After all the seams are cleared on each side of the canopy, clear the trailing edge between the control lines.

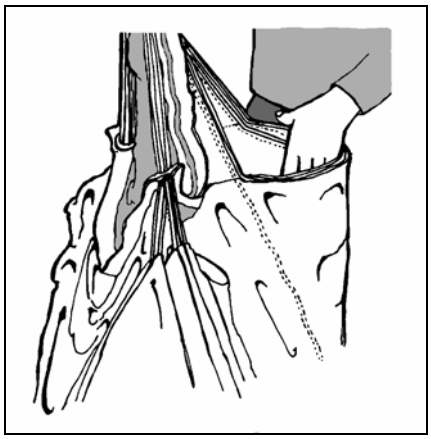

Figure 5.

NOTE: Figure 6. is a graphic representation of what the canopy folds should look like when Step 7 is done correctly. The bottom surface of the canopy and the control lines will be symmetric. Clear all nine cells at the nose and insure the canopy is facing back toward the harness/ container system.

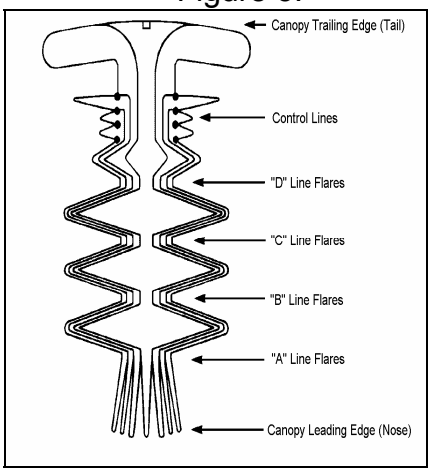

Figure 6.

Step 8.) Place the trailing edge of center cell (indicated by the Data-panel) under the thumb and lift the canopy. (See Figure 7.)

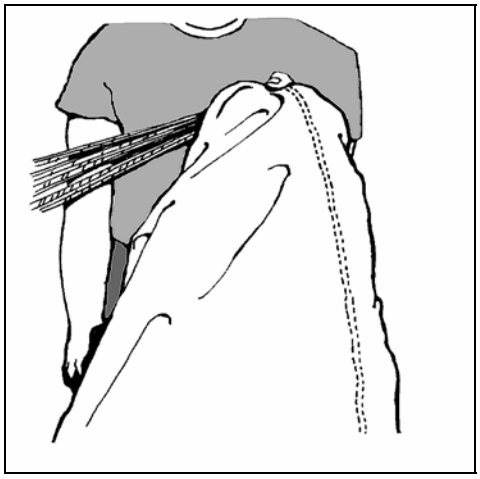

Figure 7.

Step 9.) Gather the leading edge of the canopy together with the other hand approximately 12 inches form the top skin trailing edge. (See Figure 8.)

Figure 8.

Step 10.) Maintain the grip on the canopy and gently swing the canopy outward and away. Place the canopy on the floor and apply tension to the lines. **NOTE:** If the canopy is placed on the floor with a twisting motion, it will not spread out evenly. Insure the nose is facing downward toward the floor. The center seam of the center cell (indicated by the data panel) should be in the center of the canopy bundle. (See Figure 9.)

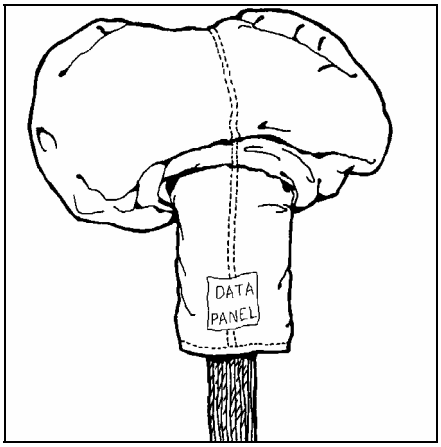

Figure 9.

Step 11.) Kneel on the trailing edge of the center cell of the canopy and center the middle seam of the center cell in the middle of the canopy bundle. "Cocoon" fold the bundle by spreading the center cell of the canopy to the approximate width of the main deployment bag and tuck the outer edges of the material under the bundle. (See Figure 10.)

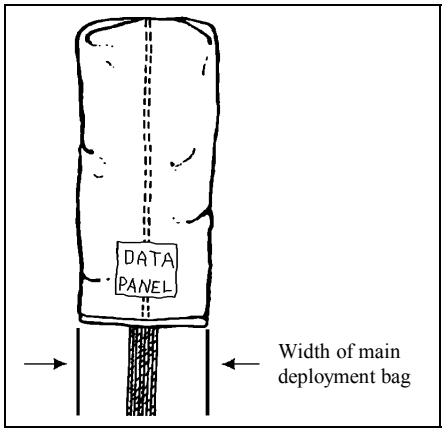

Figure 10.

Step 12.) “S” Fold the bundle and place it into the main deployment bag. Close the deployment bag and complete the pack job in accordance with the harness/container manufacture’s instructions.

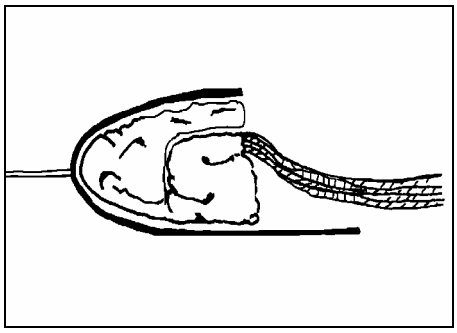

Figure 11.

OPERATING INSTRUCTIONS

1. Although it is not always possible, it is highly desirable to have a good “face to earth” body position for the deployment of a main parachute. It is considered ideal to be slightly head high during and just after pilot-chute deployment. During the deployment, try to keep your shoulders as level as possible to help keep the left and right line groups loading evenly during deployment.

2. As the opening canopy pulls you head high, visually check the canopy to insure that the deployment is complete. Grasp the control toggles and pull them down sharply to release the brakes. If there is an end cell closure, or if the slider has not come all the way down the lines to the connector links, pump the control toggles by pulling them downward and returning them to full flight. This will usually clear any end cells closure and/or bring the slider down. Repeat if necessary.

3. As soon as possible after releasing the brakes conduct a control check to find the stall point of the canopy by pulling down the toggles slowly until you feel the canopy stop flying and start to "fall off" backwards. (Recover from the stall by smoothly bringing the toggles back up to shoulder level.)

4. A properly deployed and functioning canopy can be controlled with the control toggles by simply pulling down on the right toggle to turn right or pulling down on the left toggle to turn left. As long as one toggle is pulled down further than the other toggle the canopy will continue to turn in the direction of the lowest toggle. The further the toggle is pulled down, the faster the turn will be. Stalls and turns should be executed only when altitude permits time to recover from the maneuver and altitude to perform a smooth, controlled final approach and landing. WARNING! no stalls below 500 feet, and no turns should be done below 200 feet. (Except for minor course corrections on final approach.)

5. A soft landing can usually be made by landing into the wind, and using a "Flaring Technique". This procedure is accomplished by pulling both control toggles downward smoothly to the full brake position just before landing. (Full brake position is usually with the toggles just above the stall point.) With the canopy facing into the wind and at full flight (toggles up as far as you can reach) start the flare when your feet are approximately 10-12 feet off the ground (depending upon the speed of

the wind) smoothly bring the toggles down to the full brake position. When this is done correctly, the canopy will immediately change its angle of attack and this flattening of its angle of attack will allow for a very soft landing.

6. Varying wind speeds and other weather conditions may dictate variations of this technique. When in no wind conditions, it may be helpful to start the flare about six feet higher and then bring the toggles down just slightly slower, thus allowing the canopy more time to slow it's forward speed before landing. In higher wind conditions it may not be necessary to bring the toggles down quite as far to produce a flared landing.

7. If an emergency situation has left you with a broken control line, it is possible to control the canopy by pulling down on the rear risers. The canopy will turn in the direction of the riser being pulled downward. However, you must be very cautious when attempting a flared landing with the rear risers, particularly when one brake is still set. WARNING! A riser flare can produce a very sudden stall, and it only takes a few inches of pulling to cause a stall! For this reason, the rear riser-flare should only be attempted in an emergency situation under very good conditions.

8. After landing, the canopy will normally collapse if there is little or no wind. However, if the wind is strong, there still exists the danger of being dragged by the inflated canopy. If you are landing in strong winds, release one of the toggles immediately upon landing, and pull the other toggle (hand over hand if necessary) until the canopy has collapsed.

9. Avoid landing downwind of trees or large buildings. Large ground objects produce turbulence which can be dangerous to a parachutist on final approach. It is considered good practice to fly your canopy at quarter-brakes if you expect to encounter turbulence.

CANOPY CARE

These suggestions have been provided to help you prolong the life of your parachuting equipment.

1. Avoid dragging any part of the parachute across the ground. Do not pack on rough surfaces, such as concrete.

2. Do not leave the canopy exposed in the sun any longer than is absolutely necessary.

3. Do not wash the canopy. Over time it will increase the porosity, which will reduce the performance of the parachute. If it is necessary to remove grease spots, or any other type of stains, use mineral spirits on small areas.

4. If you must store your gear for a prolonged time frame, store the canopies, unpacked, in plastic bags. Insure the storage room is dry and that it has a constant moderate temperature to prevent mildew and damage from extreme heat.

5. Do not use Ripstop Tape or any other material that includes gum or other adhesives to make
small repairs.

WARNING - DISCLAIMER - NO WARRANTIES

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