

MAIN CANOPIES PACKING MANUAL

Manual PN: Edition of January -2003 Applicability:











WARNING!

1 PROPER TRAINING AND / OR EXPERIENCE ARE REQUIRED TO LOWER THE RISK OF SERIOUS INJURY OR DEATH.

NEVER USE THIS EQUIPMENT UNLESS YOU HAVE:

A READ THIS WARNING LABEL AND APPROPRIATE OWNERS MANUAL AND PACKING INSTRUCTIONS AND COMPLETED A "CONTROLLED PROGRAM OF INSTRUCTION" IN THE USE OF THIS PARACHUTE ASSEMBLY.

OR

- B READ THIS WARNING LABEL AND APPROPRIATE OWNERS MANUAL AND PACKING INSTRUCTIONS AND COMPLETED AT LEAST 100 RAM-AIR PARACHUTE JUMPS.
- 2 LOWER THE RISK OF DEATH, SERIOUS INJURY, CANOPY DAMAGE AND HARD OPENINGS BY NEVER EXCEEDING THE LIMITS SHOWN BELOW:

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:			lbs
:			
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PARACHUTE SYSTEMS SOMETIMES FAIL TO FUNCTION PROPERLY EVEN WHEN CORRECTLY ASSEMBLED, PACKED AND OPERATED SO THAT YOU RISK SERIOUS INJURY OR DEATH EACH TIME YOU USE THIS OR ANY PARACHUTE SYSTEM!

AERODYNE

www.aerodyne-int.com

REMOVAL OF THIS LABEL IS PROHIBITED

MADE IN SOUTH AFRICA

The Aerodyne Creed

"Our Customer"

The world is getting smaller and at Aerodyne, we have a global "Vision" of the future. We know our customers are "Smart" and we need innovative new products, of the highest quality, and tested to the highest standards. We need programs that appeal to you and add value, responsiveness and convenience.

We have made the commitment never to be content and never follow the "others". We will lead the way and expand the envelope. We will be the "Icon", the symbol of a new standard in our sport.

We know we haven't chosen the easiest path, but few things worth having are easy. You are the primary focus, your needs and your convenience. It is this concept we shall build upon, because ultimately you, our customer, will determine our success.

Aerodyne International (United States of America, France, South Africa, the World)

Canopy selector

This canopy selector program is intended as a guide. It is designed to be used to assist you in finding an appropriate model and size of Aerodyne canopy for your exit weight, experience level and expectations. Please remember that in no way can this selector replace professional, expert advice that is based upon first hand knowledge of your current experience, skill level and frame of reference.

Only training, experience, currency and a healthy body and mind can protect you from danger, bodily injury or worse. Regardless of your time in the sport, never hesitate to consult other, more experienced or knowledgeable individuals. They are often happy to help you try and make appropriate decisions. At Aerodyne we recommend that you choose a canopy that you can land safely at your normal drop zone's field elevation, in no wind, summer conditions utilizing a normal straight in approach and progressive flare. This is true both for the main and the reserve canopies.

Please note that this selector is based upon exit weight and International Standard Atmosphere (ISA) conditions. Exit weight is body weight + equipment + clothing. ISA conditions are at Mean Sea Level MSL with a temperature of 15 degrees Fahrenheit and a pressure of 1013,25 HectoPascal. Canopy wing performance degrades at higher altitudes and with higher temperatures.

Aerodyne has developed an objective method to determine the degree of ellipticity of a canopy planform. We have dubbed this value the "planform factor" (Pf). A higher planform factor equates to a greater degree of ellipticity and will likely exhibit the associated characteristics. Typically an elliptical canopy is more equally pressurized for better flight performance and exhibits better flare capability. Similarly the toggle pressure is usually lighter and the turn response is quicker. While these observations are not absolute, they are often typical of those exhibited by canopies with more elliptical planforms.

	A	erodyn	ie ca	nopy	sele	ector				
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Canopy model	Planform factor	Size sq. ft.	Stude	nt and jumpers	Interm	ediate pers	Adva	nced pers	Maxi	mum
Wing Loading lbs/sq. ft.							2	,0	2	,2
			LBS	KG	LBS	KG	LBS	KG	LBS	KG
	15,5	90	,	ggested		ggested	180	82	198	90
A-Max	15,5	94	١ ،	ggested		ggested	188	85	207	94
	15,5	99	,	ggested		ggested	198	90	218	99
NAC and an all and the death of the second	15,5	104	not su	gested	not su	ggested	208	95	229	104
Wing Loading lbs/sq. ft.			LBS	KG	LBS	KC.	LBS	,6 KC		,8 KC
	15,5	117		gested		KG ggested	187	KG 85	LBS 211	KG 96
	15,5	124	'	gested	,	ggested	198	90	223	101
	15,5	132	'	gested	,	gested	211	96	238	108
Vision	15,5	140	'	gested		ggested	224	102	252	115
	15,5	150	'	gested		ggested	240	109	270	123
	15,5	168	,	gested		gested	269	122	302	137
Wing Loading lbs/sq. ft.	10,0		 ,	,9	•	,1		,3		,6
			LBS	KG	LBS	KG	LBS	KG	LBS	KG
	6,6	124	not su	gested	136	62	161	73	198	90
	6,6	132	not su	gested	145	66	172	78	211	96
	6,6	140	not su	gested	154	70	182	83	224	102
Pilot	6,6	150	not su	ggested	165	75	195	89	240	109
	6,6	168	not su	gested	185	84	218	99	269	122
	6,6	188	169	77	207	94	244	111	301	137
	6,6	210	189	86	231	105	273	124	336	153
Wing Loading lbs/sq. ft.			l	,9		,1		,3		,6
	0.0		LBS	KG	LBS	KG	LBS	KG	LBS	KG
	0,0	99	1	ggested	109	50	129	59 71	158	72 87
	0,0	120		ggested	132 149	60	156 176	80	192 216	98
	0,0 0,0	135 150	١ ،	ggested ggested	165	68 75	195	89	240	109
Triathlon	0,0	160	,	ggested	176	80	208	95	256	116
	0,0	175	158	72	193	88	228	103	280	127
	0,0	190	171	78	209	95	247	112	304	138
	0,0	210	189	86	231	105	273	124	336	153
Wing Loading lbs/sq. ft.	0,0			.9		,0				
			LBS	KG	LBS	KG	LBS	KG	LBS	KG
	6,6	230	207	94	230	105	300	136	300	136
Solo	6,6	250	225	102	250	114	300	136	300	136
	6,6	270	243	110	270	123	300	136	300	136
Wing Loading lbs/sq. ft.				_		1 -		,0		.2
			LBS	KG	LBS	KG	LBS	KG	LBS	KG
Gemini	6,7	389					418	190	462	210
Wing Loading lbs/sq. ft.			LBS	, 0 KG	LBS	, 0 КG	LBS	,3 KG	LBS	KG
	0,0	99		gested	99	45	129	59	220	100
	0,0	110		ggested	110	50	143	65	220	100
	0,0	120	,	ggested	120	55	156	71	220	100
	0,0	135		gested	135	61	176	80	220	100
	0,0	150		gested	150	68	195	89	264	120
Smart	0,0	160	160	73	160	73	208	95	264	120
	0,0	175	175	80	175	80	228	103	264	120
	0,0	190	190	86	190	86	247	112	264	120
	0,0	220	220	100	220	100	264	120	264	120
	0,0	250	250	114	250	114	300	136	300	136

SUMMARY

1 INTRODUCTION

DESCRIPTION
TECHNICAL SPECIFICATIONS
AND LIMITATIONS

2 OPERATING INSTRUCTIONS

ASSEMBLY PACKING IN FLIGHT

3 MAINTENANCE

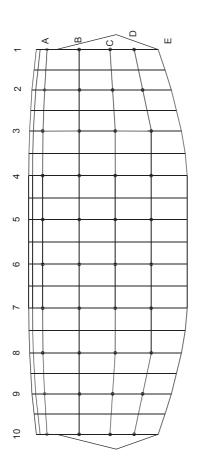
MAINTENANCE PROCEDURES MAINTENANCE INTERVALS STORAGE

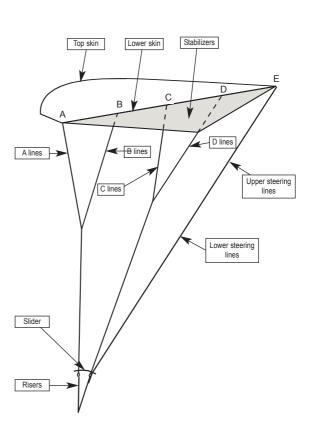
1 INTRODUCTION

THE MAIN CANOPY MUST BE CHECKED AND ASSEMBLED BY A QUALIFIED RIGGER.

Before assembly, check the canopy, lines and links ensuring that the canopy size is compatible with the harness-container system and with the deployment system with which it is to be used.

DESCRIPTION





TECHNICAL SPECIFICATIONS AND LIMITATIONS

On each Aerodyne main canopy, the limitations of use are mentionned on the warning label located at the trailing edge of the center cell.

Planform factor 15,5	Wing Area Sq. ft.	Span ft. 15,73	Chord Max 6,07	Chord Min 4,66	Aspect Ratio 2,76	Aspect Number Ratio of cells 2,76 9	ıс	v	Weight KG	Weight LBS	Volume cu. in.
15,5 7,5	8 8	16,07	6,20	4,76	2,76	တ ဝ	R R	725 Lbs Spectra	2,16	4,75	311
15,5	104	16.92	6.53	5.01	2.76	၈ တ	2 6	725 Lbs Spectra	2.27	4,99	327
15,5	117	17,94	6,92	5,31	2,76	0	J.	725 Lbs Spectra	2,41	5,30	340
15,5	124	18,45	7,12	5,46	2,76	6	ZP	725 Lbs Spectra	2,48	5,46	351
15,5	132	19,05	7,35	5,64	2,76	6	ZP	725 Lbs Spectra	2,56	5,63	368
15,5	140	19,64	7,58	5,81	2,76	6	ZP	725 Lbs Spectra	2,63	5,79	379
15,5	150	20,32	7,84	6,01	2,76	6	ZP	725 Lbs Spectra	2,73	6,01	393
15,5	168	21,51	8,30	6,37	2,76	6	ZP	725 Lbs Spectra	2,88	6,34	416
9,9	124	17,65	7,23	6,15	2,51	6	В	725 Lbs Spectra	2,48	5,46	351
6,6	132	18,20	7,46	6,34	2,51	6	ď	725 Lbs Spectra	2,56	5,63	368
6,6	140	18,74	7,68	6,53	2,51	6	Д	725 Lbs Spectra	2,63	5,79	379
6,6	150	19,40	7,95	6,76	2,51	6	Д	725 Lbs Spectra	2,73	6,01	393
6,6	168	20,54	8,42	7,15	2,51	6	ď	725 Lbs Spectra	2,88	6,34	416
9,9	188	21,72	8,90	7,57	2,51	6	ΔD	725 Lbs Spectra	3,05	6,71	440
9,9	210	22,95	9,41	7,99	2,51	6	Д	725 Lbs Spectra	3,22	7,08	465
0,0	66	14,12	7,05		2,00	7	Д	725 Lbs Spectra / 600 Lbs Dacron	1,80	3,96	242
0,0	120	15,50	7,74		2,00	7	ď	725 Lbs Spectra / 600 Lbs Dacron	2,20	4,84	316
0,0	135	16,43	8,20		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	2,40	5,28	349
0,0	150	17,33	8,65		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	2,60	5,72	370
0,0	160	17,83	8,90		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	2,80	6,16	390
0,0	175	18,67	9,32		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	2,90	6,38	405
0,0	190	19,46	9,71		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	3,10	6,82	420
0,0	210	20,25	10,11		2,00	7	ZP	725 Lbs Spectra / 600 Lbs Dacron	3,20	7,04	435
9,9	230	24,03	9,85	8,37	2,51	6	Hybrid	725 Lbs Spectra	3,37	7,41	486
9,9	250	25,05	10,27	8,73	2,51	6	Hybrid	725 Lbs Spectra	3,52	7,74	202
9,9	270	26,03	10,67	9,07	2,51	6	Hybrid	725 Lbs Spectra	3,66	8,05	527
6,7	389	31,17	12,76	10,85	2,51	6	Hybrid	1500 Lbs Spectra	6,50	14,30	868
0,0	66	14,11	7,02		2,00	7	0-3 cfm	725 Lbs Spectra	1,50	3,30	262
0,0	110	14,83	7,38		2,00	7	0-3 cfm	725 Lbs Spectra	1,70	3,74	275
0,0	120	15,59	7,71		2,00	7	0-3 cfm	725 Lbs Spectra	1,80	3,96	293
0,0	135	16,40	8,14		2,00	7	0-3 cfm	725 Lbs Spectra	1,90	4,18	333
0,0	150	17,32	8,63		2,00	7	0-3 cfm	725 Lbs Spectra	2,00	4,40	346
0,0	160	17,82	98'8		2,00	7	0-3 cfm	725 Lbs Spectra	2,10	4,62	360
0,0	175	18,67	9,28		2,00	7	0-3 cfm	725 Lbs Spectra	2,20	4,84	384
0,0	190	19,46	9,68		2,00	7	0-3 cfm	725 Lbs Spectra	2,40	5,28	409
0,0	220	20,90	10,40		2,00	7	0-3 cfm		2,70	5,94	476
0.0	250	22,80	10,93		2,00	7	0-3 cfm		3.00	09'9	488

APPROVED DEPLOYMENT SYSTEM >> Deployment bag APPROVED PACKING METHOD >> SEE THE INSTRUCTIONS IN THIS MANUAL

Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.

Lire l'avertissement page 2 de ce manuel et suivre les instructions avant de plier et/ou d'utiliser le produit.

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2 OPERATING INSTRUCTIONS

Before assembly, check the canopy, lines and links ensuring that the main canopy size is compatible with the harness-container and deployment system with which it is to be used.

Read and follow all operating instructions and all manufacturer specifications instructions and requirements for use of the equipment. At this point we like to stress that correct deployment of the main canopy is also dependent on a number of items, which are proper to the harness-container system: Please make sure that the deployment bag properly contains the main canopy, and that the bag is fitted with 4 grommets for closure. For proper deployment it is essential that the bag remains closed until line stretch. It is also important to check that the toggle system on the risers provides for a secure and protected brake setting. Premature brake release during deployment will most likely result in a malfunction.

ASSEMBLY

- 1. Lay the canopy and harness out and individually attach each connector link to its respective riser. Ensure proper line continuity and that the links are compatible with the risers.
- 2. Check that the slider is correctly installed (tapes facing the canopy).
- 3. Install the soft links according to the instructions on page 10. When using stainless steel rapid links, make sure that you do not overtighten the barrel.
- 4. Clear the steering lines of any twists and route them through the appropriate grommets and guide rings on the rear risers.
- CAUTION: The steering lines must pass directly from the trailing edge of the canopy through the slider grommet and the guide ring, without passing under or through any suspension lines.
- 5. Attach the steering toggles at the trim marks on the steering lines (Refer to the manual of the harness-container system for the proper method of attaching the toggles).
- 6. Re-check the whole assembly for line continuity and direction of flight i.e. canopy facing forward.

INSPECTION BEFORE PACKING: Prior to packing the canopy a thorough inspection must be made.

- Upper skin
- Lower skin
- External ribs
- Internal ribs
- All stitchings on fabric and lines
- Suspension lines
- Slider and grommets

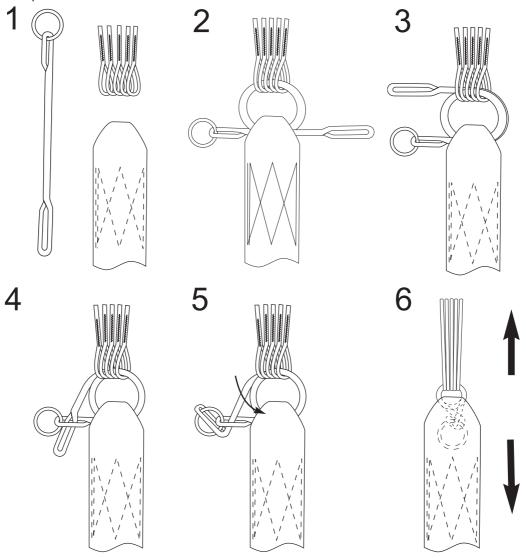
Take note of any worn, damaged, corroded or incorrectly rigged components, which must be repaired or replaced before the canopy is packed for use.

Installation of soft links:

Aerodyne main canopies come standard with soft links to attach the suspension lines to the risers except the Solo students canopies.

Soft links PN: P 1487-01

Installation procedure on front and rear risers:



If the canopy is connected to the risers with stainless steel rapid links, tighten the barrel with a wrench (do not over tighten or you may break the barrel) and slide the silicone tube over the link for protection.



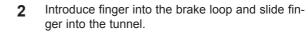


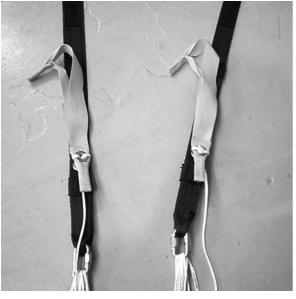
PACKING INSTRUCTIONS

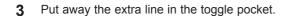
LAYING THE CANOPY OUT

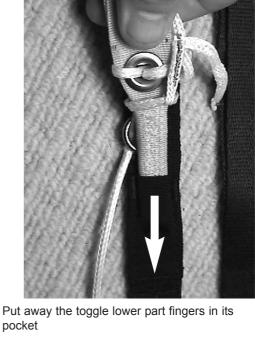
After assembling and inspecting the canopy and harness / container, lay the system out on a smooth, clean surface.

1 Set the brakes (refer to the Harness container manual).









pocket

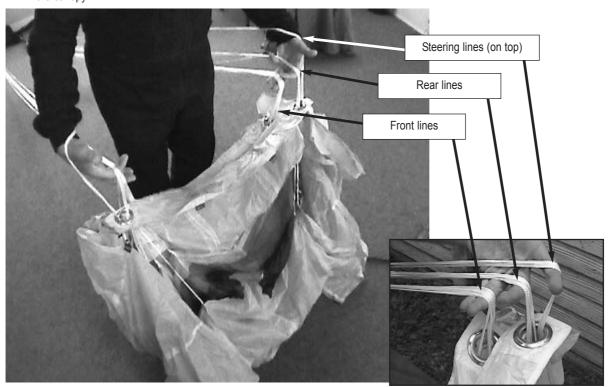




5 Undo the slider retraction , make sure you have fully stretched slider and that the retractions tabs are pulled firmly against the trailling edge, so that they cannot catch on lines.



Take the line groups at the risers and walk up to the canopy



Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.

Lire l'avertissement page 2 de ce manuel et suivre les instructions avant de plier et/ou d'utiliser le produit.

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7 Take the canopy in one hand



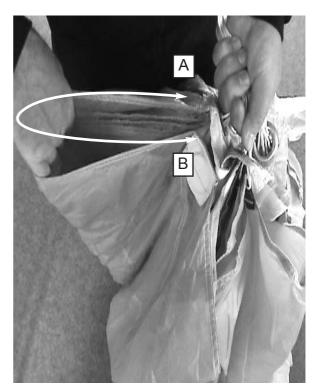
8 Clear the nose of the canopy by flaking the leading edge. Pull out and count nine cells. Align the front edge of the slider with the flaked leading edges.



9 Holding firmly the nine cell inlets, shake the canopy vigorously to clear the fabric from the lines.



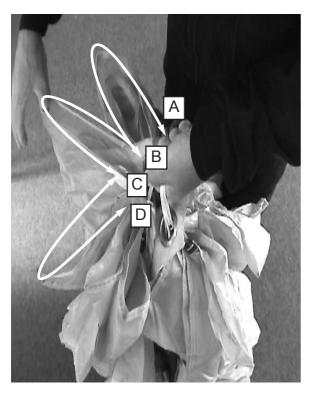
10 On the right side seperate line groups A & B and fold



Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.

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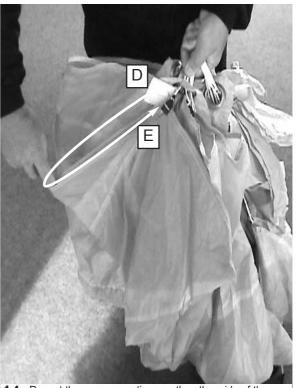
11 Separate line groups B to C, C to D in the same way



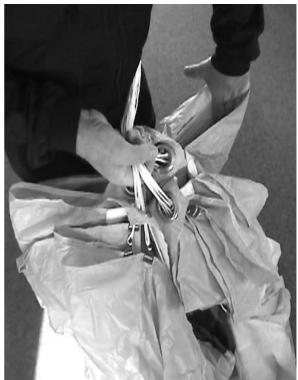
13 Fold the tail outwards



12 Flake the stabilizers to the tail



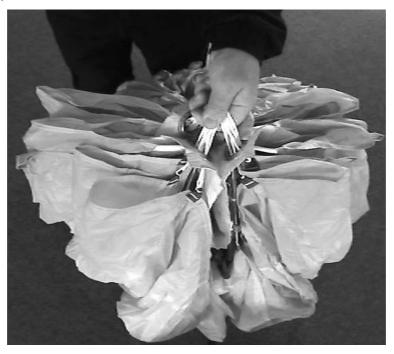
14 Repeat the same operations on the other side of the



Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.

Lire l'avertissement page 2 de ce manuel et suivre les instructions avant de plier et/ou d'utiliser le produit.

This is a view of the flaked canopy. Keep the nose pointing toward yourself. Check that the slider is properly spread out between the 4 lines bundles (front, back, right, left) and that the slider grommets are pushed up against the slider stops. Note that all (steering) line attachment are at the center



Pick up the center cell by its leading edge (identified with a small red tape) and lay it on top the lines just below the slider. Hold firmly, and make sure that the slider stays in place, pushed up against the slider stops. Also make sure that the steering lines remain in the center and at the back.





17 Clear each side of the tail and bring them around towards the front (nose) of the canopy. It is very important to make sure that no (steering) lines pass in front of the leading edge (nose), as this may cause a line-over malfunction.



Join the two air inlets in front of the air inlets (the leading edge) and roll the tail between the two arrows, making sure not to catch the leading edge into the roll. Never lose the grip on the line bundle and the slider.



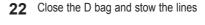
19 Gently swing the canopy out and lay it on the floor as shown. Carefully push the air out of the canopy. Again make sure that the slider stays in place against the slider stops.



20 S-fold canopy bundle as required for the deployment bag.



21 Slide the canopy into the main deployment bag







23 Stow all the lines but leave 60 to 70 centimeter free to prevent line twists.



Read the warning on page 2 of this manual and follow the instructions before packing and/or using the product.

Lire l'avertissement page 2 de ce manuel et suivre les instructions avant de plier et/ou d'utiliser le produit.

IN FLIGHT USE:

When deploying your main canopy keep your shoulders horizonal to load the canopy evenly and prevent off heading openings.

Should you encounter a line twist after canopy deployment, do not release the brakes until you have cleared the twist.

Please be extremely cautious if the canopy turns during the line twist, because you may loose altitude rapidly. In some cases a twist is not merely an incident, but becomes a serious malfunction. You may encounter extreme difficulty to clear a twist with higher wing loadings and when you are turning on your back. Should this occur, do not hesitate to cut away.

After the opening, be ready to steer the canopy away from other traffic, either with the rear risers or the steering toggles. Once clear from traffic, check your canopy and your position relative to the landing area. Prepare for landing by following a trajectory that allows you to set up at sufficient altitude for a final approach facing the wind.

During the descent, while still at a reasonable altitude, check the stall point of the canopy. This action will give you the information required to make a perfect landing flare.

Upon landing, flare the canopy symetrically in such a way that maximum lift is achieved at the moment of touchdown. This will also reduce forward speed.

Do not turn low to the ground! Turns increase both vertical and forward speed. Without sufficient altitude your canopy will not be able to recover from the turn before landing!

Please remember it is much more important to maintain a stable flight and make a proper landing flare, than to face the wind. When you are not absolutely sure that sufficient altitude remains to turn into the wind, continue to fly the canopy on its present heading and execute a good flare.

DO NOT MAKE A TURN CLOSE TO THE GROUND! DANGER!

3 MAINTENANCE

REPAIRS AND OR MAINTENANCE MUST BE PERFORMED EITHER BY THE MANUFACTURER OR BY A QUALIFIED RIGGER!

MAINTENANCE PROCEDURES:

Important points to note during the inspection are:

- 1. Visually inspect the canopy for defects or damage to the fabric, tapes and seams. Any holes or tears must be patched with an overlay or standard sewin patch. Ripstop tape patches are not recommended. Any damage which requires the replacement of an entire panel or cell must be done by the manufacturer.
- 2. Check that all slider stops are present, intact and secure. There are six slider stops, one on each of the outer B, C and D line groups.
- 3. Check that all line attachment tapes are secure (Bartack present).
- 4. Check suspension and steering lines continuity and ensure that all connections and finger traps have been stitched. Lines that are worn or have broken strands must be replaced.
- 5. Inspect the connector links for serviceability and check that they have been correctly tightened or or, in the case of soft links, verify the integrity.
- 6. Check the slider for correct installation, the reinforcing tape must be facing the canopy. Inspect the inner surface of the grommets for nicks and sharp edges. Inspect the fabric for wear and tear.
- 7. Using the manufacturer's manual as a guide, inspect the harness / container system into which the main canopy is to be packed. Check all stitching for completion. Inspect hardware for damage and corrosion (rust may be removed with a lightly oiled rag).
- 8. Inspect the pilot chute, bridle and deployment bag. Ensure that the bridle is securely fastened to both the pilot chute and bag.
- 9. Attaching the steering toggles: Refer to the owner's manual of the harness-container system for the method of attaching the steering toggles to the steering lines.
- 10. Do not pack on concrete or asphalt. Pack your Aerodyne main canopy on a dry lawn or on a packing mat, thereby minimising the wear on lines, links and fabric.
- Inspect your Aerodyne main canopy prior to packing. Look for any damage, wear and tear. Ensure that the lines have no twists, tangles or turns.

12 If you detect and damage or unusual condition of the equipment, contact your Aerodyne distributor before the next jump.

FREQUENCY OF MAINTENANCE PROCEDURES:

Periodicity: Three month or 50 jumps in normal conditions of storage.

(See the next paragraph)

If normal conditions are not respected, a shorter maintenance interval is recommended.

STORAGE:

Textile and others materials used in the construction of all parachutes are sensitive to the environmental elements.

When the parachute is not used it must be stored in a dark room where the temperature is kept between 15° and 30°. And the humidity between 15% and 70%.

Furthermore the parachute must be protected from:

- Sunlight
- Excessive heat 93° and up
- Acid and corrosive agents (car battery)
- Rodents and pests
- Chlorine
- Smoke

When not in use, stored your parachute equipment in a carry bag should be stored in its carry bag to protect it from sunlight.