



SMART RESERVE PACKING MANUAL





SAMRT RESERVE PACKING MANUAL

TM 159

REVISED January 10

SMART RESERVE CANOPY SIZES

SMART 99
SMART 110
SMART120
SMART 135
SMART 150
SMART 160
SMART 175
SMART 190
SMART 220
SMART 250

PRIOR TO ASSEMBLY, PACKING OR USE OF THIS PRODUCT, READ AND FULLY UNDERSTAND THE CONTENT AND ALL WARNINGS CONTAINED IN THIS MANUAL, AND CAREFULLY FOLLOW ALL INSTRUCTIONS BEFORE AND DURING PACKING AND WHEN USING THE PARACHUTE SYSTEM

AERODYNE Research LLC 1407 Flight Line Blvd. Unit 14, Deland, FL 32724-2192
TEL: (813)891-6300 FAX: (831)891-6315 www.flyaerodyne.com

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What is Aerodyne all about? It's pretty simple really, something of a mantra for our company:

Better Gear, Better Value, Better Skydives

Better Gear has always been part of Aerodyne's DNA. We began with the do-it-all 7 cell, the Triathlon. We created the Smart Reserve, known around the world for superior quality. We created the Pilot, arguably the best-opening performance canopy on the market. With the Mamba, we've taken non-cross-braced elliptical canopy design to new performance highs. We developed a better cutaway system with the mini-force ring; even our hook knife outclasses the competition by a mile. "Better" really drives everything we do; as we develop innovative fabrics like zpX, as we bring out canopies like the Sensei and more A2 sizes, as we continue to improve an already outstanding Icon rig, we are following this mantra.

The second part is about providing *Better Value*. This is not necessarily about the lowest price, but about providing great value for money. We know our customers work hard and play hard and expect to get real value for the money they spend. Better products at comparable prices mean better value. Better customer service, provided by people who really know the equipment is also part of Aerodyne's commitment to better value.

The final part is about *Better Skydives*. We are a company owned and staffed by skydivers. We get it! Skydiving is fun, and the better your jumps, the more fun you have. We support this by not only making the best gear and providing the best value we can, but by taking our product out there. You'll see us at the DZ almost every weekend, jumping, load organizing, and generally having fun. We ask that our sponsored teams and individuals do the same, putting their time and energy into improving your skydives and your fun. That's why you skydive, and we're here to help.

The Aerodyne Team

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WARNING!

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

NEVER USE THIS PARACHUTE SYSTEM 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 SYSTEM.
 - 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 MAXIMUM LIMITS:

MAXIMUM DEPLOYMENT SPEED: **150 KTS**

MAXIMUM EXIT WEIGHT: **### Lbs.**

(Jumper + Clothing + Equipment)

MODEL AND SIZE: **####**

PART NUMBER: **####**

SERIAL NUMBER: **####**

DATE OF MANUFACTURE: **####**

AVERAGE PEAK FORCE MEASURING ON STRENGTH TESTS: **####**

APPROVED FOR USE WITH SINGLE HARNESS RESERVE PARACHUTE ASSEMBLIES EQUIPPED WITH A MAIN PARACHUTE RELEASE.

HARD OPENINGS CAN CAUSE EQUIPMENT DAMAGE, SEVERE INJURY OR DEATH. PARACHUTE SYSTEMS SOMETIMES FAIL TO FUNCTION PROPERLY EVEN WHEN CORRECTLY ASSEMBLED, PACKED AND OPERATED. YOU RISK SERIOUS INJURY OR DEATH EACH TIME YOU USE THIS OR ANY PARACHUTE SYSTEM! EACH TIME YOU USE THIS OR ANY PARACHUTE SYSTEM, BY DOING SO YOU WILL BE DEEMED TO HAVE EXPRESSLY AND IMPLIEDLY ASSUMED THIS RISK.

MANUFACTURED UNDER TSO C23d

AERODYNE RESEARCH LLC
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Deland, FL 32724-2192
Tel: (813)891-6300 Fax: (813)891-6315

REMOVAL OF THIS LABEL IS PROHIBITED AND VOIDS THE TSO

MADE IN SOUTH AFRICA

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**DISCLAIMER; LIMITATION OF WARRANTY ON PARACHUTE; LIMITATION OF REMEDIES;
WAIVER AND RELEASE OF WARRANTIES**

BY ACCEPTING AND USING THIS PARACHUTE, OR BY ALLOWING OTHERS TO USE IT, YOU CONFIRM THAT YOU UNDERSTAND THAT BECAUSE OF THE UNAVOIDABLE DANGER ASSOCIATED WITH THE USE OF THIS PARACHUTE, THE MANUFACTURER MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, EXCEPT A WARRANTY THAT A PARACHUTE OF SIMILAR DESIGN HAS BEEN PREVIOUSLY USED FOR PARACHUTE JUMPING. THE PARACHUTE IS SOLD, CONVEYED, LOANED, GIFTED, OR OTHERWISE DELIVERED, FURNISHED OR PROVIDED TO YOU BY THE MANUFACTURER, OR ON ITS BEHALF, AS IS, WITH ALL FAULTS, AND WITHOUT ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR USE.

THE MANUFACTURER EXPRESSLY DISCLAIMS ANY LIABILITY UNDER THE LAW, IN TORT OR OTHERWISE, FOR DAMAGES, DIRECT OR CONSEQUENTIAL, INCLUDING BUT NOT LIMITED TO DAMAGES FOR PERSONAL INJURIES, WRONGFUL DEATH, PROPERTY DAMAGE AND LOSS OF USE OF THE PARACHUTE, RESULTING FROM ANY MALFUNCTION OF THE PARACHUTE, OR FROM ANY DEFECT IN DESIGN, MATERIAL, WORKMANSHIP OR MANUFACTURE OF THE PARACHUTE, WHETHER CAUSED BY NEGLIGENCE ON THE PART OF THE MANUFACTURER, AND/OR BY ANY AND ALL MANUFACTURERS OF ANY AND ALL PARTS, ACCESSORIES, COMPONENTS, OR APPLIANCES MADE A PART OF, OR APPURTENANT TO, THE PARACHUTE.

YOU, BY YOUR USE OF THE PARACHUTE, AND/OR BY ALLOWING IT TO BE USED BY OTHERS, SPECIFICALLY WAIVE ANY LIABILITY ON THE PART OF THE MANUFACTURER FOR PERSONAL INJURIES, WRONGFUL DEATH, LOSS OF CONSORTIUM, PROPERTY DAMAGE AND LOSS OF USE OF THE PARACHUTE. YOU AGREE, AND HAVE MATERIALLY REPRESENTED TO THE MANUFACTURER, THAT YOU ARE A "HIGHLY SOPHISTICATED AND EXPERIENCED CONSUMER" WITH RESPECT TO THE PARACHUTE, AND THAT YOU ARE THOROUGHLY AWARE OF, AND EXPRESSLY ACCEPT, ANY AND ALL OF THE RISKS OF PHYSICAL INJURY, DEATH AND/OR PROPERTY DAMAGE WHICH MAY OCCUR AS A RESULT OF YOUR USE AND/OR MISUSE OF THE PARACHUTE DESIGNED BY, MANUFACTURED BY AND/OR RECEIVED FROM THE MANUFACTURER. AS A "HIGHLY SOPHISTICATED AND EXPERIENCED CONSUMER," YOU EXPRESSLY WAIVE ANY CLAIM YOU MIGHT OTHERWISE HAVE OF STRICT LIABILITY AGAINST THE MANUFACTURER.

THE WARRANTIES SET FORTH ABOVE, AND THE OBLIGATIONS AND LIABILITIES OF THE MANUFACTURER, AND YOUR REMEDIES THEREUNDER, ARE EXPRESSLY IN LIEU OF, AND YOU HEREBY WAIVE AND RELEASE THE MANUFACTURER FROM, ANY AND ALL OTHER WARRANTIES, AGREEMENTS, GUARANTEES, CONDITIONS, DUTIES, OBLIGATIONS, REMEDIES OR LIABILITIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THOSE ARISING FROM COURSE OF PERFORMANCE, DEALING, USAGE OR TRADE, WITH RESPECT TO

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THE MANUFACTURER'S PERFORMANCE HEREUNDER, AND YOU AGREE THAT THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY DAMAGE OR LOSS (INCLUDING BUT NOT LIMITED TO CONSEQUENTIAL DAMAGES) SUFFERED BY YOU, DIRECTLY OR INDIRECTLY, BECAUSE OF ANY DEFECT IN THE PARACHUTE. NO AGREEMENT OR UNDERSTANDING VARYING, ALTERING OR EXTENDING THE MANUFACTURER'S LIABILITY HEREUNDER SHALL BE BINDING ON THE MANUFACTURER, UNLESS IN WRITING AND SIGNED BY A DULY AUTHORIZED REPRESENTATIVE OF THE MANUFACTURER, AND BY YOU OR YOUR DULY AUTHORIZED REPRESENTATIVE.

IF YOU DECLINE TO WAIVE LIABILITY ON THE PART OF THE MANUFACTURER, OR IF YOU DECLINE TO AGREE TO ALL OF THE TERMS OF THIS "DISCLAIMER – LIMITATION OF WARRANTY ON PARACHUTE; LIMITATION OF REMEDIES; WAIVER AND RELEASE OF WARRANTIES," YOU MAY OBTAIN A FULL REFUND OF THE PURCHASE PRICE BY RETURNING THE PARACHUTE, BEFORE IT IS USED, TO THE MANUFACTURER, WITHIN 15 DAYS FROM THE DATE OF YOUR RECEIPT OF THE PARACHUTE, WITH A LETTER STATING WHY IT WAS RETURNED.

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Canopy Selector

This canopy selector program is designed as a non-exclusive guide to selecting a canopy. 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 firsthand knowledge of your current experience, skill level and frame of reference.

Only training, experience, currency and a healthy body and mind can reduce (but not eliminate) the risk to you of danger, serious bodily injury, or death. Regardless of your time in the sport, never hesitate to consult other more experienced or knowledgeable individuals. They are often happy to help you make appropriate decisions. At Aerodyne we recommend that, for both your main and reserve canopies, you choose a canopy suitable for your experience level, which you can land safely at your normal drop zone's field elevation, in no wind, in hot summer conditions, utilizing a normal straight in approach and progressive flare.

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 Celsius and 101,325 Pa (29.92"Hg). 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's 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.

AERODYNE RESEARCH, LLC

SMART RESERVE PACKING MANUAL REVISED August 2011

| Aerodyne Canopy Selector | | | | | | |
|--|------|----------------------|------------------------|----------------------|------------------|---------------|
| Exit Weight= jumper + clothing + equipment | | | | | | |
| Canopy Model | Pf | Size ft ² | Student/Novice Jumpers | Intermediate Jumpers | Advanced Jumpers | Maximum |
| Wing Loading lbs/ft ² → | | | | | 1.8 LBS KG | 2.0 LBS KG |
| Mamba | 22.1 | 90 | Not recommended | Not recommended | 162 74 | 180 82 |
| | 22.1 | 96 | Not recommended | Not recommended | 173 79 | 192 87 |
| | 22.1 | 104 | Not recommended | Not recommended | 187 85 | 208 95 |
| | 22.1 | 111 | Not recommended | Not recommended | 200 91 | 222 101 |
| | 22.1 | 117 | Not recommended | Not recommended | 211 96 | 234 106 |
| | 22.1 | 124 | Not recommended | Not recommended | 223 101 | 248 113 |
| | 22.1 | 132 | Not recommended | Not recommended | 238 108 | 264 120 |
| | 22.1 | 140 | Not recommended | Not recommended | 252 115 | 280 127 |
| 22.1 | 150 | Not recommended | Not recommended | 264 120 | 300 136 | |
| Wing Loading lbs/ft ² → | | | | | 1.6 LBS KG | 1.8 LBS KG |
| Vision | 15.5 | 90 | Not recommended | Not recommended | 144 66 | 162 74 |
| | 15.5 | 96 | Not recommended | Not recommended | 154 70 | 173 79 |
| | 15.5 | 104 | Not recommended | Not recommended | 166 76 | 187 85 |
| | 15.5 | 111 | Not recommended | Not recommended | 178 81 | 200 91 |
| | 15.5 | 117 | Not recommended | Not recommended | 187 85 | 211 96 |
| | 15.5 | 124 | Not recommended | Not recommended | 198 90 | 223 101 |
| | 15.5 | 132 | Not recommended | Not recommended | 211 96 | 238 108 |
| | 15.5 | 140 | Not recommended | Not recommended | 224 102 | 252 115 |
| | 15.5 | 150 | Not recommended | Not recommended | 240 109 | 264 120 |
| | 15.5 | 168 | Not recommended | Not recommended | 269 122 | 264 120 |
| Wing Loading lbs/ft ² → | | | 1.0 LBS KG | 1.1 LBS KG | 1.3 LBS KG | 1.6 LBS KG |
| Pilot | 6.6 | 90 | Not recommended | 99 45 | 117 53 | 144 65 |
| | 6.6 | 96 | Not recommended | 106 48 | 125 57 | 153 69 |
| | 6.6 | 104 | Not recommended | 114 52 | 135 61 | 166 76 |
| | 6.6 | 111 | Not recommended | 122 56 | 144 66 | 177 80 |
| | 6.6 | 117 | Not recommended | 129 59 | 152 69 | 187 85 |
| | 6.6 | 124 | Not recommended | 136 62 | 161 73 | 198 90 |
| | 6.6 | 132 | Not recommended | 145 66 | 172 78 | 211 96 |
| | 6.6 | 140 | Not recommended | 154 70 | 182 83 | 224 102 |
| | 6.6 | 150 | Not recommended | 165 75 | 195 89 | 240 109 |
| | 6.6 | 168 | Not recommended | 185 84 | 218 99 | 269 122 |
| | 6.6 | 188 | 188 85 | 207 94 | 244 111 | 300 136 |
| | 6.6 | 210 | 210 95 | 231 105 | 273 124 | 300 136 |
| 6.6 | 230 | 230 105 | 253 115 | 300 136 | 300 136 | |
| Wing Loading lbs/ft ² → | | | 1.0 LBS KG | 1.2 LBS KG | 1.3 LBS KG | 1.6 LBS KG |
| Triathlon | 0.0 | 99 | Not recommended | 119 54 | 129 59 | 158 72 |
| | 0.0 | 120 | Not recommended | 144 65 | 156 71 | 192 87 |
| | 0.0 | 135 | Not recommended | 162 74 | 176 80 | 216 98 |
| | 0.0 | 150 | Not recommended | 180 82 | 195 89 | 240 109 |
| | 0.0 | 160 | Not recommended | 192 87 | 208 95 | 256 116 |
| | 0.0 | 175 | 175 80 | 210 95 | 228 103 | 280 127 |
| | 0.0 | 190 | 190 86 | 228 104 | 247 112 | 300 136 |
| | 0.0 | 210 | 210 95 | 252 115 | 273 124 | 300 136 |
| | 0.0 | 220 | 220 100 | 264 120 | 286 130 | 300 136 |
| | 0.0 | 260 | 260 118 | 300 136 | 300 136 | 300 136 |

The above numbers are recommendations based on the global use of similar canopies, and taking into consideration different training techniques, experiences and other varying conditions. Therefore the recommendation range may be varied based on individual and local training techniques, field elevations and prevailing atmospheric conditions.

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| Aerodyne Canopy Selector | | | | | | |
|------------------------------------|-----|----------------------|------------------------|----------------------|------------------|---------------|
| Canopy Model | Pf | Size ft ² | Student/Novice Jumpers | Intermediate Jumpers | Advanced Jumpers | Maximum |
| Wing Loading lbs/ft ² → | | | 1.0 LBS KG | 1.1 LBS KG | LBS KG | LBS KG |
| Solo | 6.6 | 190 | 190 86 | 209 95 | 300 136 | 300 136 |
| | 6.6 | 210 | 210 95 | 231 105 | 300 136 | 300 136 |
| | 6.6 | 230 | 230 105 | 253 115 | 300 136 | 300 136 |
| | 6.6 | 250 | 250 114 | 275 125 | 300 136 | 300 136 |
| | 6.6 | 270 | 270 123 | 300 136 | 300 136 | 300 136 |
| | 6.6 | 290 | 290 132 | 300 136 | 300 136 | 300 136 |
| Wing Loading lbs/ft ² → | | | | | | 1.2 LBS KG |
| A-2 Tandem | 6.7 | 330 | Not recommended | Not recommended | | 418 190 |
| | 6.7 | 350 | Not recommended | Not recommended | | 440 200 |
| | 6.7 | 370 | Not recommended | Not recommended | | 470 214 |
| | 6.7 | 389 | Not recommended | Not recommended | | 500 227 |
| Wing Loading lbs/ft ² → | | | 1.0 LBS KG | 1.0 LBS KG | 1.3 LBS KG | LBS KG |
| SMART Reserve | 0.0 | 99 | Not recommended | 99 45 | 129 59 | 220 100 |
| | 0.0 | 110 | Not recommended | 110 50 | 143 65 | 220 100 |
| | 0.0 | 120 | Not recommended | 120 55 | 156 71 | 220 100 |
| | 0.0 | 135 | Not recommended | 135 61 | 176 80 | 220 100 |
| | 0.0 | 150 | Not recommended | 150 68 | 195 89 | 264 120 |
| | 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 |

The above numbers are recommendations based on the global use of similar canopies, and taking into consideration different training techniques, experiences and other varying conditions. Therefore the recommendation range may be varied based on individual and local training techniques, field elevations and prevailing atmospheric conditions.

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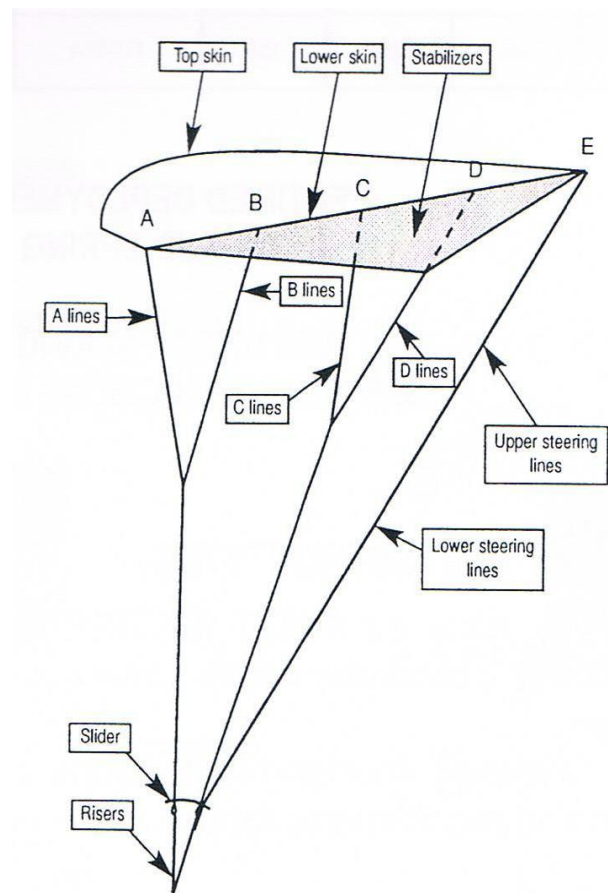
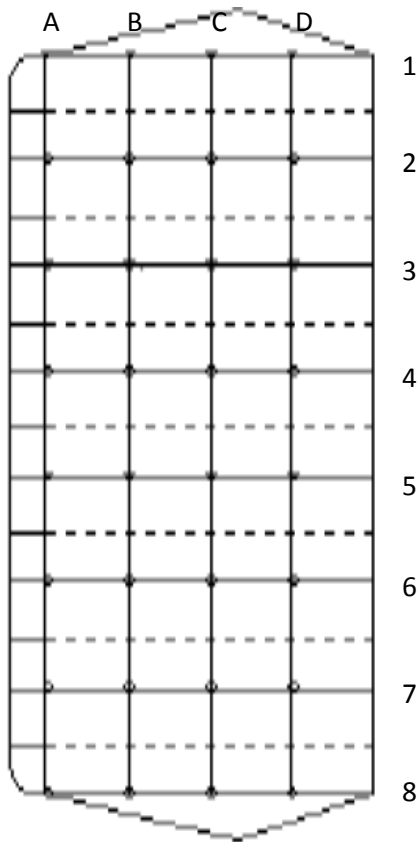
1 TECHNICAL CHARACTERISTICS

1.1 INTRODUCTION

THE **SMART RESERVE** MUST BE INSPECTED AND ASSEMBLED BY A QUALIFIED PARACHUTE RIGGER.

Before assembly, inspect the **SMART RESERVE** canopy, lines and links to ensure that the **SMART RESERVE** is compatible with the harness/container and deployment system with which it is to be used.

1.2 DESCRIPTION:



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1.3 TECHNICAL SPECIFICATIONS AND LIMITATIONS

| P/N | CANOPY MODEL | SHIPPING WEIGHT | AREA | MAX SPEED | RECOMMENDED WEIGHT | MAX WEIGHT | SPAN LOWER SKIN | CHORD | ASPECT RATIO | VOLUME |
|----------|--------------|-----------------|-------|-----------|--------------------|------------|-----------------|------------|--------------|--------|
| | | KG LB | SQ.FT | KTS | KG LB | KG LB | M FT | M FT | | CU.IN |
| P1482-00 | SMART 99 | 1.5 3.3 | 99 | 150 | 59 129 | 100 220 | 4.3/14.11 | 2.14/7.02 | 2 | 262 |
| P1482-10 | SMART 110 | 1.7 3.74 | 110 | 150 | 65 143 | 100 220 | 4.5/14.83 | 2.25/7.38 | 2 | 275 |
| P1482-20 | SMART 120 | 1.8 3.96 | 120 | 150 | 71 156 | 100 220 | 4.8/15.59 | 2.35/7.7 | 2 | 293 |
| P1482-30 | SMART 135 | 1.9 4.18 | 135 | 150 | 80 176 | 100 220 | 5.0/16.4 | 2.48/8.14 | 2 | 333 |
| P1482-40 | SMART 150 | 2.0 4.4 | 150 | 150 | 89 195 | 120 264 | 5.3/17.32 | 2.63/8.63 | 2 | 346 |
| P1482-50 | SMART 160 | 2.1 4.62 | 160 | 150 | 95 208 | 120 264 | 5.4/17.82 | 2.70/8.86 | 2 | 360 |
| P1482-60 | SMART 175 | 2.2 4.84 | 175 | 150 | 103 228 | 120 264 | 5.7/18.67 | 2.83/9.28 | 2 | 384 |
| P1482-70 | SMART 190 | 2.4 5.29 | 190 | 150 | 112 247 | 120 264 | 5.9/19.46 | 2.95/9.68 | 2 | 409 |
| P1482-80 | SMART 220 | 2.7 5.96 | 220 | 150 | 120 264 | 120 264 | 6.4/20.9 | 3.17/10.4 | 2 | 476 |
| P1483-00 | SMART 250 | 3.0 6.6 | 250 | 150 | 136 300 | 136 300 | 7.0/22.8 | 3.33/10.93 | 2 | 488 |

**DEPLOYMENT SYSTEM:
FREE BAG AND SPRING PILOT CHUTE**

**PACKING METHOD:
SEE THE INSTRUCTIONS IN THIS MANUAL**

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2 ASSEMBLY AND OPERATING INSTRUCTIONS

Before assembly, inspect the **SMART RESERVE** canopy, lines and links to ensure that the **SMART RESERVE** is compatible with the harness-container and deployment system with which it is to be used. Read and follow all assembly and operating instructions, and follow all manufacturer specifications, instructions and requirements for use of the parachute system.

2.1 INSPECTION BEFORE PACKING AND ASSEMBLY

1. Read and understand this manual and be qualified by proper instruction for sport parachuting activities.
2. Ensure that the **SMART RESERVE** size is compatible with the harness-container and deployment system with which it is to be used.
3. Prior to assembly and/or packing of the **SMART RESERVE**, a thorough inspection must be completed, including but not limited to inspection of the following:
 - Upper skin
 - Lower skin
 - External ribs
 - Internal ribs
 - All stitching on fabric and lines
 - Slider and grommets
 - Soft links/connector links
 - Reserve handle integrity and correct size fitted

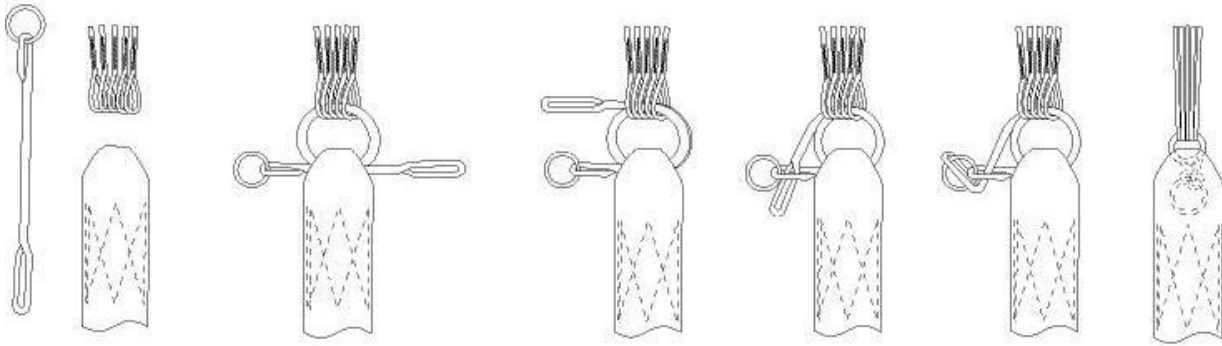
Take note of any worn, damaged, corroded or incorrectly rigged components, which must be repaired or replaced before the **SMART RESERVE** is packed for use.

2.2 INSTALLATION OF THE SOFT LINKS

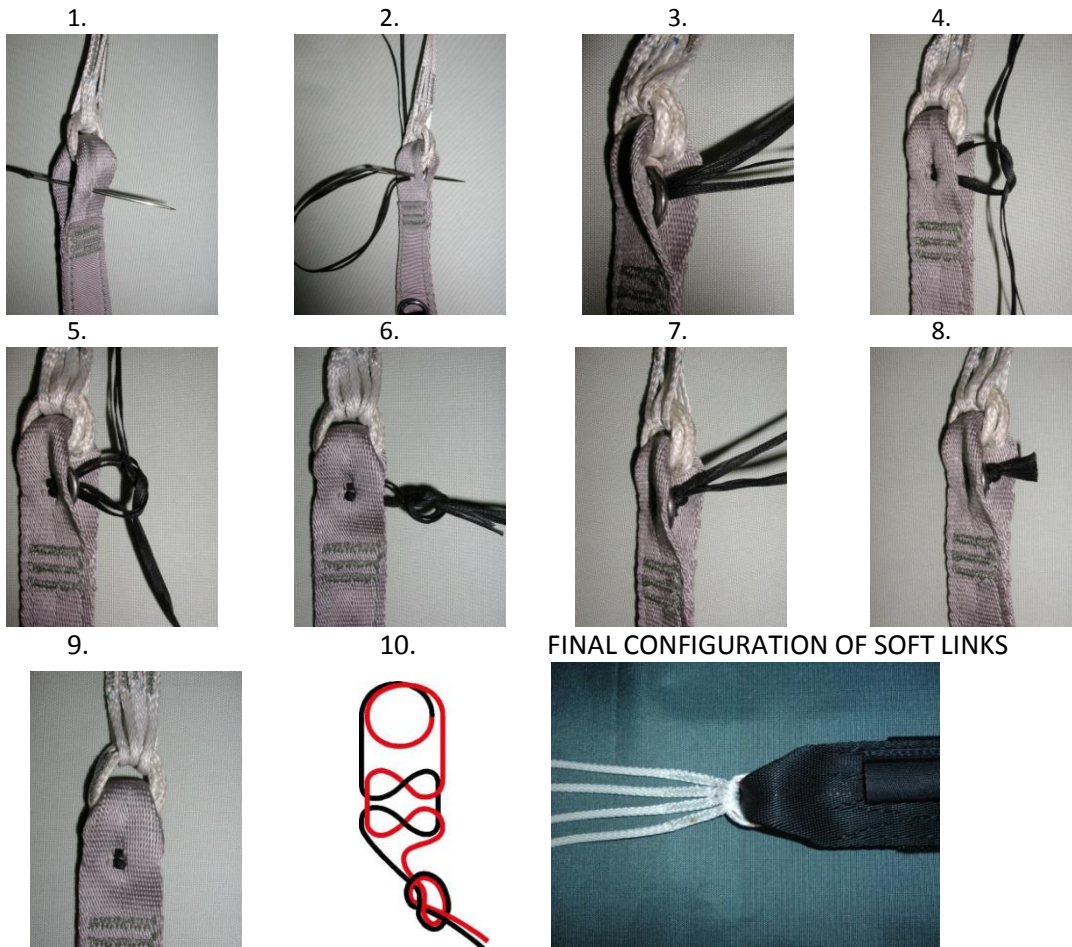
Soft Link type for individual reserve canopies

PN: P 1487-01

Installation Procedure on front and rear reserve risers:



Secure the Soft Link ring in the webbing pocket, and hand tack as shown.



FINAL CONFIGURATION OF SOFT LINKS

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2.3 PACKING THE SMART RESERVE

2.3.1 SETTING UP THE CANOPY

1. Lay the canopy harness out and attach the lines to their respective riser. Ensure proper line continuity and that the links are correctly installed. (Refer to section 2.2)
2. Check that the slider is correctly installed (tapes facing the canopy).
3. 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.

4. Attach the steering toggles at the trim marks on the steering lines (Refer to the owner's manual of the harness-Container system).
5. Re-check the whole assembly for line continuity and direction of flight i.e. canopy facing forward.
6. Carry out a thorough inspection before packing the reserve, especially if the reserve has been used.

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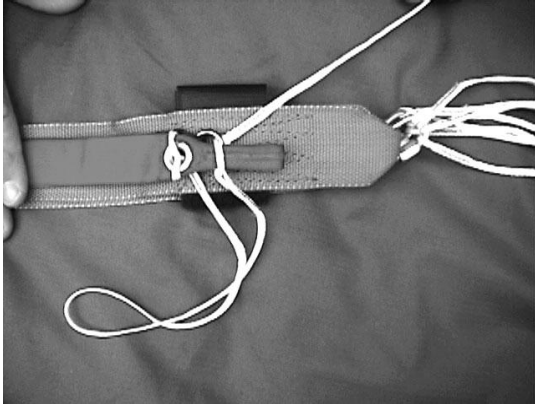
2.3.2 PACKING THE CANOPY

THE **SMART RESERVE** MUST ONLY BE PACKED BY A QUALIFIED PARACHUTE RIGGER AND IN COMPLIANCE WITH ALL APPLICABLE LAWS AND MANUFACTURER'S RECOMMENDATIONS.

LAYING THE CANOPY OUT

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

1. Set the brakes.



2. Close the line stow keepers



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



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4. Suspend the canopy over the shoulder.



5. Count out 7 nose inlets.



6. Take all 7 nose inlets in your hand and grip them between your knees.



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7. Separate the canopy in the middle.



8. Separate line groups A & B.



9. And fold the fabric between A & B.



10. Separate line groups B & C.



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11. Fold the fabric between B and C and do the same between C and D.



12. Flake the stabilizer and flake the tail outwards.



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13. Make sure the tail is clear.



14. This is a view of canopy after flaking.



15. Flaking 3 nose inlets on each side.



16. Lay the canopy on the ground with the lines taught. 17. Fold the right side nose inlet.

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18. Place the B lines on top of the A lines.

19. Fold stabilizer B to A.



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20. Place C lines on top of B lines.



21. Fold stabilizer C to B.



22. Place D lines on top of C lines.



23. Flake the stabilizer outwards.



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24. Flake the tail.



25. Align the center panel.



26. Repeat same operation for the left side of the canopy. Place the slider against the slider stops. **WARNING: IF THE SLIDER IS NOT AGAINST THE SLIDER STOPS, THE POSSIBILITY OF A HARD OPENING AND OF SERIOUS INJURY OF DEATH IS SIGNIFICANTLY INCREASED.**



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27. Fold the stabilizers. Pull the center of the tail down to cover the slider grommets.



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28. Dress the canopy to the width of the D-bag. S-fold the nose under each side.



29. S-fold the tail and slider ensuring that the slider does not move. Hold this S-fold with your knees.



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30. Make the second S-fold and hold with your knees.



31. Pull out the center cell.



32. Separate the 'ears'.



33. Roll the center as shown.



34. Dress the 'ears' on each side.



35. The canopy is now ready to be inserted into the D-bag. Slide the D-bag over the canopy.

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36. View of canopy in D-bag.



Close the reserve D-bag. At this stage of reserve packing, read and follow the specific instructions in the manufacturer's manual for your specific harness-container.

2.4 IN FLIGHT USE

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

After the opening, be ready to steer the canopy away from the 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 an altitude sufficient for a final approach and landing facing the wind. Remember that your **SMART RESERVE** will likely not glide as far as your main canopy.

When landing, flare the canopy symmetrically in such a way that maximum lift is achieved at the moment of touchdown. This will also reduce forward speed. **CAUTION: TOGGLE DEFLECTION TO THE STALL POINT MAY BE LESS THAN THAT REQUIRED FOR YOUR MAIN CANOPY. BE CAREFULL NOT TO STALL THE CANOPY DURING THE LANDING FLARE.**

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 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.

DANGER!
DO NOT MAKE A TURN CLOSE TO THE GROUND

3 MAINTENANCE

REPAIRS TO THE **SMART RESERVE** MUST BE MADE EITHER BY THE MAUFACTURER OR BY A QUALIFIED PARACHUTE RIGGER, AND IN COMPLIANCE WITH ALL APPLICABLE LAWS.

3.1 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 sew-in patch. No ripstop tape patches are allowed. Any damage that 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 four slider stops, one on each of the outer B and C 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 in case of soft links, verify their 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 **SMART RESERVE** 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.
9. The ripcord cable must not be frayed or kinked. Inspect the pin and swages for security.
10. The canopy's serial number, name of manufacturer and date of manufacture printed on the identification panel, must be recorded on the packing data card.

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11. POROSITY: Check porosity in the following cases

- After 10 uses
- After immersion in water once the canopy is dry
- After 20 repacks (based on a 6month repack cycle)
- After any use in abnormal conditions

To make packing your **SMART RESERVE** easier, to prolong the life of the canopy and to prevent damage during packing, please observe the following instructions:

- A- Pack where the wind cannot affect your packing of the **SMART RESERVE**.
- B- Do not pack on concrete or asphalt. Pack your **SMART RESERVE** on a dry lawn or on a packing mat, thereby minimizing the wear on the lines, links and fabric.
- C- Inspect your **SMART RESERVE** prior to packing. Look for any damage, wear and tear. Ensure that the lines have no twists, tangles or turns.

3.2 FREQUENCY OF MAINTENANCE PROCEDURES

Verify local regulations on reserve canopy maintenance. If none are available, follow these recommendations. Service the reserve canopy at 1 year intervals in normal conditions of use and storage. If the conditions are different, the time between maintenance operations may be reduced by the user.

3.3 STORAGE

Textile and other materials used in the construction of all parachutes are sensitive to environmental elements. The parachute must be stored in a room where the temperature is kept between 15 degrees Celsius (59 °F) and 30 degrees Celsius (86 °F), and where the humidity is kept between 15% and 70%.

Further, the parachute must be protected from:

- Sunlight
- Temperatures of 93°C (200 °F) and above
- Acid and corrosive agents (e.g. car battery electrolyte)
- Rodents and pests
- Chlorine
- Smoke

When not in use, the equipment should be stored in its carry bag.

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| Maintenance Log | | | | |
|------------------------|----------------|------------------------|--|--|
| Date | Done By | Job Description | | |
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