

Declaration of Design and Performance (Acceptable Means of Compliance)

DDP No 64.001.029.a
Issue No 1

1 Name and address of manufacturer.

Aerodyne Systems
29 Duiker Road, Canelands
4340 Verulam, Natal
South Africa

2 Description and identification of article including:

a) "Mamba" Main Canopy for 1 Person, Type No P1701, sizes 90 sq ft to 150 sq ft

Description of Canopy: Mamba 9-cell main canopy

Type of canopy	Main ram-air canopy, elliptical planform
Cells	9
Construction	I-beam chordwise
Connector links	Aerodyne soft links
Canopy Material	Zero-porosity nylon ripstop fabric for top and bottom skins and ribs
Lines	HMA 500 and 700 and 900 lbs

Parts List of Pilot canopy: P1701-XX

Canopy size	Assembly	Canopy	Slider	Softlinks
90	P-1701-00	P-1701-01	P-1701-02	P-1487
96	P-1701-10	P-1701-11	P-1701-12	P-1487
104	P-1701-20	P-1701-21	P-1701-22	P-1487
111	P-1701-30	P-1701-31	P-1701-32	P-1487
117	P-1701-40	P-1701-41	P-1701-42	P-1487
124	P-1701-50	P-1701-51	P-1701-52	P-1487
132	P-1701-60	P-1701-61	P-1701-62	P-1487
140	P-1701-70	P-1701-71	P-1701-72	P-1487
150	P-1701-80	P-1701-81	P-1701-82	P-1487

b) Modification Standard Current revision shown on warning label

c) Master drawing record: P-1701-XX

d) Weight and overall dimensions:

Size	Size sq.ft.	Span in ft	Chord ctr in ft	Chord tip	Canopy Weight in kg	Slider size in mm
90		15.6	6.39	4.27	4.51	508 x 776
96		16.1	6.57	4.39	4.66	508 x 776
104		16.8	6.86	4.59	4.84	508 x 776
111		17.3	7.08	4.73	5.00	508 x 776
117		17.8	7.30	4.88	5.14	508 x 776
124		18.3	7.50	5.02	5.29	508 x 776
132		18.9	7.74	5.17	5.46	577 x 750
140		19.4	7.98	5.33	5.61	577 x 750
150		20.1	8.21	5.49	5.83	577 x 750

Note: Slider dimensions are for cutting templates with a margin of +0 to -30 mm.

Control System measured with brake locking loop held to the same point as the connector link. Aerodyne soft link is assumed. All measurements in centimeters.

Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
90	lines 4 to 7	2301	2356	2518	2719	toggle to brake	400	line 1	750
	lines 3 & 8	2301	2354	2506	2694	brake setting	85 below C	line 3	770
	lines 2 & 9	2301	2394	2568				line 4	784
	lines 1 & 10	2299	2375	2507				line 5	840
Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
96	lines 4 to 7	2385	2439	2597	2791	toggle to brake	450	line 1	751
	lines 3 & 8	2385	2439	2597	2791	brake setting	100 below C	line 3	776
	lines 2 & 9	2385	2481	2661				line 4	790
	lines 1 & 10	2384	2461	2598				line 5	836
Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
104	lines 4 to 7	2485	2544	2718	2934	toggle to brake	470	line 1	782
	lines 3 & 8	2484	2541	2705	2907	brake setting	90 below C	line 3	808
	lines 2 & 9	2484	2584	2772				line 4	824
	lines 1 & 10	2483	2564	2706				line 5	871
Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
111	lines 4 to 7	2567	2628	2808	3031	toggle to brake	485	line 1	808
	lines 3 & 8	2566	2625	2794	3003	brake setting	110 below C	line 3	835
	lines 2 & 9	2566	2669	2863				line 4	850
	lines 1 & 10	2565	2649	2795				line 5	900

Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
117	lines 4 to 7	2639	2702	2887	3116	toggle to brake	500	line 1	770
	lines 3 & 8	2638	2699	2873	3087	brake setting	80 below C	line 3	800
	lines 2 & 9	2638	2744	2944				line 4	845
	lines 1 & 10	2637	2723	2874				line 5	880
Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
124	lines 4 to 7	2759	2823	3013	3248	toggle to brake	500	line 1	853
	lines 3 & 8	2758	2820	2999	3219	brake setting	100 below C	line 3	881
	lines 2 & 9	2758	2867	3072				line 4	897
	lines 1 & 10	2757	2845	3000				line 5	950
Size	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
132	lines 4 to 7	2870	2937	3133	3376	toggle to brake	455	line 1	1010
	lines 3 & 8	2869	2934	3118	3346	brake setting	155 below C	line 3	942
	lines 2 & 9	2869	2982	3194				line 4	932
	lines 1 & 10	2868	2959	3119				line 5	894
140	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
140	lines 4 to 7	2972	3014	3242	3493	toggle to brake	470	line 1	1040
	lines 3 & 8	2971	3037	3227	3462	brake setting	160 below C	line 3	970
	lines 2 & 9	2971	3087	3305				line 4	960
	lines 1 & 10	2970	3064	3229				line 5	920
150	Suspension lines	A lines	B lines	C lines	D lines	Lower steering lines		Upper steering lines	
150	lines 4 to 7	3094	3165	3374	3633	toggle to brake	470	line 1	1072
	lines 3 & 8	3093	3161	3358	3600	brake setting	165 below C	line 3	1000
	lines 2 & 9	3093	3213	3438				line 4	990
	lines 1 & 10	3092	3189	3359				line 5	948

3 Specification reference, i.e., JAR-TSO No. and Manufacturer's design specification.

This product is designed for use as a main parachute for 1 Person during intentional jumping with a single harness-container system.

4 The rated performance of the article directly or by reference to other documents.

Max. Suspended weight:	See 9.A) Load
Max. Opening speed:	130 KT
Max. Sink speed/Rate of descent	<7m/sec
Max. Repack Cycle:	One year

5 Particulars of approvals held for the equipment:

No approvals other than that of the manufacturer.

6 Reference to qualification test report.

Extensive factory testing has been performed by the manufacturer on all models of the Mamba canopy. These tests consisted mainly of life jumps from various altitudes and with different persons and suspended weights. All test jumps have been performed by the Arteryx Skydiving team (National Norwegian Team). All Mamba canopies have passed the factory testing with satisfactory results.

7 Service and Instruction Manual reference number.

Aerodyne Main Canopies Manual, edition of January 2003, attached as Annex, or a following current revision (available for download via www.aerodyne-int.com).

8 Statement of compliance with appropriate JAR-TSO and any deviations therefrom.

None.

9 (a) Statement of the level of compliance with the JAR-TSO in respect of the ability of the article to withstand various ambient conditions or to exhibit various properties.

Parachute canopy is built with commonly used materials and will withstand normal use in typical civilian environment.

(a) Working and ultimate pressure or loads.

Canopy Size	Minimum Exit Weight	Maximum Exit Weight (lbs.)					
		Student	Novice	Int.	Adv.	Expert	Max
90	36	N/S	N/S	N/S	162	162	180
96	38	N/S	N/S	N/S	173	173	192
104	42	N/S	N/S	N/S	187	187	208
111	44	N/S	N/S	N/S	200	200	222
117	47	N/S	N/S	N/S	211	211	234
124	50	N/S	N/S	N/S	223	223	248
132	53	N/S	N/S	N/S	238	238	264
140	56	N/S	N/S	N/S	252	252	280
150	60	N/S	N/S	N/S	264	264	300

N/S = Not Suggested

Minimum exit weights are calculated on a 0,4 lbs/sq ft wing loading.

(b) Limitations of voltage and frequency. Not applicable

(c) Time rating (e.g. continuous, intermittent) or duty cycle.

The service/operational life is not regulated

(d) Limits of accuracy of measuring instruments.

No measurements needed

(e) Whether the equipment is "flameproof" (explosion-proof).

The equipment is not flameproof

(f) Whether the equipment is "fire-resistant".

The equipment is not fire resistant

(g) The compass safe distance. N/A (not applicable)

(h) Level of radio interference. N/A (not applicable)

(j) Radio and audio frequency susceptibility. N/A (not applicable)

(k) Degree of vibration which the equipment will withstand. N/A (not applicable)

(l) Degree of acceleration and shock which the equipment will withstand. N/A (not applicable)

(m) Degree of waterproofing or sealing of equipment.

The equipment is not waterproof or sealed.

(n) Ability to withstand sand and dust.

The equipment is not sensitive to sand and/or dust

(o) Ability to resist salt spray and aircraft fluids.

The equipment should not be exposed to Solvent spray and/or aircraft fluids of any type. Should it be necessary to remove such soil, information as to the appropriate procedures is provided in the operations manual.

(p) Fungus resistance.

The equipment is manufacturer exclusively from synthetic materials and consequently resistant to fungus

(q) Temperature and altitude category.

The related materials and consequently the equipment can be used in a temperature range from -40° to +200°F

(r) Humidity category.

(s) Any other known limitations which may limit the application in the aircraft e.g. restrictions in mounting attitude.

(NOTE: The "categories" referred to are those listed in the current issue of EUROCAE ED-14/ RTCA document DO-160).

10 A statement of criticality of software.

No software in parachute.

11. The declaration in this document is made under the authority of Aerodyne Research Corporation. Aerodyne cannot accept responsibility for equipment used outside the limiting conditions stated above without their agreement.

Date: 20.03.06, 2006

Signed:

Aerodyne Research Corp

Arnold Collenteur
Sales Director