

DOBERMANN 3

Technical *specifications*



TECHNICAL SPECIFICATIONS

			14	15	17	19
Cells	Number		64	64	64	64
Aspect ratio	Flat		5,75	5,75	5,75	5,75
	Projected		4,47	4,47	4,47	4,47
Area	Flat	m2	14	15	17	19
	Projected	m2	12,11	12,97	14,7	16,4
Span	Flat	m	9	9,3	9,9	10,46
Chord	Max	m	1,92	1,99	2,12	2,24
Lines	Total	m	190	198	211	224
	Main		2+1/4/2+1	2+1/4/2+1	2+1/4/2+1	2+1/4/2+1
Risers	Number	3+2	A+A'/B/C+C'	A+A'/B/C+C'	A+A'/B/C+C'	A+A'/B/C+C'
	Speed-bar	mm	140	140	140	140
	Trimmers	mm	70	70	70	70
Speed range	Closed trim	km/h	42 (*7kg/m2)	42 (*7kg/m2)	42 (*7kg/m2)	42 (*7kg/m2)
	Open trim	km/h	54 (*7kg/m2)	54 (*7kg/m2)	54 (*7kg/m2)	54 (*7kg/m2)
	Top speed	km/h	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)
Glider weight		kg	3,85	4	4,3	4,6
Total weight in flight	Min-Max	kg	55-120	60-130	65-150	70-170
Certification			230kg DGAC	230kg DGAC	230kg DGAC	230kg DGAC

The total weight of the wing may differ $\pm 2\%$ due to variations in the weight of the fabric supplied by the manufacturers.

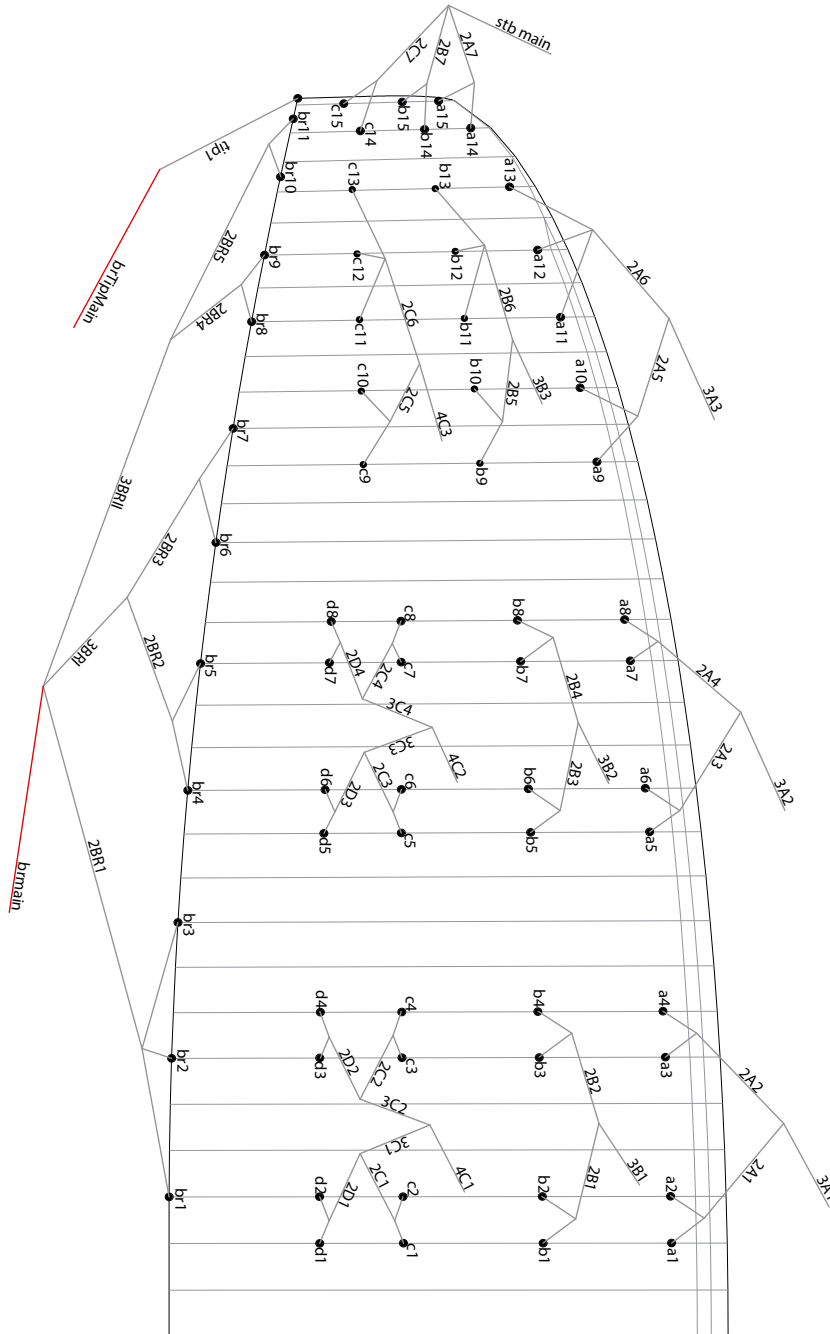
MATERIALS

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	N30 DMF	DOMINICO TEX CO (KOREA)
BOTTOM SURFACE	N30 DMF	DOMINICO TEX CO (KOREA)
PROFILES	30DFM	DOMINICO TEX CO (KOREA)
DIAGONALS	30DFM	DOMINICO TEX CO (KOREA)
LOOPS	LKI - 10	KOLON IND. (KOREA)
REINFORCEMENT LOOPS	W-420	D-P (GERMANY)
TRAILING EDGE REINFORCEMENT	MYLAR	D-P (GERMANY)
RIBS REINFORCEMENT	LTN-0.8 STICK	SPORTWARE CO.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	A-8001/U 50	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 70	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 90	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 130	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 50	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 70	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 90	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 130	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 190	EDELRID (GERMANY)
MAIN	A-8001/U 90	EDELRID (GERMANY)
MAIN	A-8001/U 130	EDELRID (GERMANY)
MAIN	A-8001/U 190	EDELRID (GERMANY)
MAIN	A-8001/U 230	EDELRID (GERMANY)
MAIN	A-8001/U 340	EDELRID (GERMANY)
MAIN BREAK	TARAX - 240	EDELRID (GERMANY)
MAIN TIP	PPSL - 120	LIROS GMHB (GERMANY)
THREAD	SERAFIL 60	AMAN (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	G-R 19	TECNI SANGLES (FRANCE)
COLOR INDICATOR	210D	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
MAILLONS	MRI4	ANSUNG PRECISION (KOREA)
PULLEYS	RF25109	RONSTAN (AUSTRALIA)

LINE PLAN



LINE REPLACEMENT

The use of new high performance materials in modern wings is now common. The advantages of using these materials in terms of performance are widely acknowledged as part of our sport's evolution. However, along with those technological advances come additional responsibilities which cannot be avoided. As a result, line inspection and replacement must be carried out more frequently. That increased frequency appears to be encouraging some pilots to try to perform line replacement themselves.

WE STRONGLY RECOMMEND ANY LINE REPLACEMENT IS PERFORMED BY AN AUTHORISED SPECIALIST ONLY.

Ultimately, if the pilot decides to perform any line replacement without professional oversight they therefore assume all responsibility. In this case, these guidelines will have to be followed.

BEFORE REMOVING ANY LINES, CHECK:

- That the line plan is correct according to the glider model and size.
- That the line kit is complete and correct. Never assume but always check each individual line for the correct specification.

AFTER CONFIRMING THAT ALL LINES ARE CORRECT:

- Fit the new line(s) WITHOUT removing the label.
- Once replaced, measure each line length to confirm the correct measurement.
- Inflate the wing to check for any irregularities.
- The line labels may then be removed but NOT BEFORE completion of the line replacement.

Niviuk strongly recommends for any line replacement to be carried out by an authorised professional only, and will not accept responsibility for any damage or injury caused as a result of incorrect re-assembly.

RISERS PLAN

A	A'	B	C'	C
3A1	3A3	3B1	4C3	4C1
3A2		3B2		4C2
		3B3		
		stbmain		



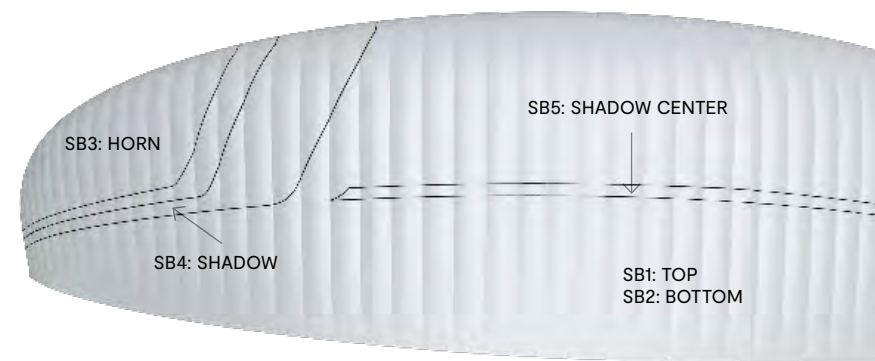
COLORS



BOREAL	SB1	ROYAL BLUE	TOP	REF: 317
	SB2	WHITE	BOTTOM	REF: 001
	SB3	LIMA	HORN	REF: 500
	SB4	WHITE	SHADOW	REF: 001
	SB5	LIMA	SHADOW CENTER	REF: 500



EARTH	SB1	GOLD	TOP	REF: 939
	SB2	WHITE	BOTTOM	REF: 001
	SB3	SPECTRA GREEN	HORN	REF: 17-5335
	SB4	WHITE	SHADOW	REF: 001
	SB5	SPECTRA GREEN	SHADOW CENTER	REF: 17-5335



LINES

DOBERMANN 3 17

REF.	MAT.	kg	COLOR	mm	REF.	MAT.	kg	COLOR	mm	REF.	MAT.	kg	COLOR	mm	REF.	MAT.	kg	COLOR	mm	REF.	MAT.	kg	COLOR	mm
A					B					C					D					BRAKE				
a1	8001/U	130	ORANGE	251	b1	8001/U	130	BLUE	249	c1	8001/U	70	BLUE	251	d1	8001/U	50	BLUE	250	br1	8001/U	50	BLUE	1446
a2	8001/U	90	ORANGE	218	b2	8001/U	90	BLUE	216	c2	8001/U	70	BLUE	211	d2	8001/U	50	BLUE	217	br2	8001/U	50	BLUE	1135
a3	8001/U	90	ORANGE	226	b3	8001/U	90	BLUE	223	c3	8001/U	70	BLUE	218	d3	8001/U	50	BLUE	222	br3	8001/U	50	BLUE	1001
a4	8001/U	130	ORANGE	239	b4	8001/U	130	BLUE	237	c4	8001/U	70	BLUE	240	d4	8001/U	50	BLUE	239	br4	8001/U	50	BLUE	940
a5	8001/U	130	ORANGE	234	b5	8001/U	130	BLUE	230	c5	8001/U	70	BLUE	232	d5	8001/U	50	BLUE	232	br5	8001/U	50	BLUE	808
a6	8001/U	90	ORANGE	206	b6	8001/U	90	BLUE	204	c6	8001/U	70	BLUE	199	d6	8001/U	50	BLUE	202	br6	8001/U	50	BLUE	801
a7	8001/U	90	ORANGE	275	b7	8001/U	90	BLUE	200	c7	8001/U	70	BLUE	195	d7	8001/U	50	BLUE	200	br7	8001/U	50	BLUE	829
a8	8001/U	130	ORANGE	287	b8	8001/U	130	BLUE	213	c8	8001/U	70	BLUE	215	d8	8001/U	50	BLUE	214	br8	8001/U	50	BLUE	467
a9	8001/U	90	ORANGE	897	b9	8001/U	50	BLUE	831	c9	8001/U	50	BLUE	645						br9	8001/U	50	BLUE	434
a10	8001/U	90	ORANGE	834	b10	8001/U	50	BLUE	774	c10	8001/U	50	BLUE	577						br10	8001/U	50	BLUE	295
a11	8001/U	90	ORANGE	852	b11	8001/U	50	BLUE	789	c11	8001/U	50	BLUE	592						br11	8001/U	50	BLUE	373
a12	8001/U	90	ORANGE	816	b12	8001/U	50	BLUE	762	c12	8001/U	50	BLUE	576						tip 1	8001/U	50	BLUE	3697
a13	8001/U	90	ORANGE	842	b13	8001/U	50	BLUE	795	c13	8001/U	50	BLUE	640										
a14	8001/U	90	ORANGE	280	b14	8001/U	50	BLUE	232	c14	8001/U	50	BLUE	205										
a15	8001/U	90	ORANGE	251	b15	8001/U	50	BLUE	221	c15	8001/U	50	BLUE	209										
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2A1	8001/U	190	ORANGE	1334	2B1	8001/U	190	BLUE	1318	2C1	8001/U	90	BLUE	390	2D1	8001/U	70	Blue	493	2BR1	8001/U	70	BLUE	2104
2A2	8001/U	190	ORANGE	1288	2B2	8001/U	190	BLUE	1278	2C2	8001/U	90	BLUE	396	2D2	8001/U	70	Blue	495	2BR2	8001/U	50	BLUE	908
2A3	8001/U	190	ORANGE	1220	2B3	8001/U	190	BLUE	1197	2C3	8001/U	90	BLUE	376	2D3	8001/U	70	Blue	466	2BR3	8001/U	50	BLUE	852
2A4	8001/U	190	ORANGE	1110	2B4	8001/U	190	BLUE	1171	2C4	8001/U	90	BLUE	321	2D4	8001/U	70	Blue	403	2BR4	8001/U	50	BLUE	493
2A5	8001/U	90	ORANGE	863	2B5	8001/U	70	BLUE	799	2C5	8001/U	70	BLUE	606						2BR5	8001/U	50	BLUE	638
2A6	8001/U	90	ORANGE	809	2B6	8001/U	70	BLUE	754	2C6	8001/U	70	BLUE	565						3BR1	8001/U	70	BLUE	1147
2A7	8001/U	90	ORANGE	650	2B7	8001/U	70	BLUE	672	2C7	8001/U	70	BLUE	744						3BR11	8001/U	70	BLUE	1781
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3A1	8001/U	340	ORANGE	3777	3B1	8001/U	230	BLUE	3716	4C1	8001/U	190	BLUE	3995						brmain	TARAX	240	RED	2930
3A2	8001/U	340	ORANGE	3785	3B2	8001/U	230	BLUE	3748	4C2	8001/U	130	BLUE	4010							BRAKE KNOT POINT:			2730
3A3	8001/U	130	ORANGE	3325	3B3	8001/U	130	BLUE	3416	4C3	8001/U	90	BLUE	3841						brTipmain	PPSL	120		1200
					stb main	8001/U	90	BLUE	3873												TIP KNOT POINT:			1000

LINE MEASUREMENTS

DOBERMANN 3 - 14

LINES HEIGHT MM

	A	B	C	D	br
1	4808	4736	4772	4864	5649
2	4776	4705	4734	4833	5364
3	4737	4670	4703	4797	5238
4	4748	4681	4723	4812	5135
5	4685	4625	4667	4748	5014
6	4658	4601	4636	4720	4953
7	4618	4572	4609	4689	4977
8	4628	4583	4627	4701	4899
9	4537	4503	4549		4869
10	4480	4451	4487		4875
11	4446	4424	4463		4945
12	4413	4399	4449		4204
13	4437	4429	4506		
14	4280	4262	4304		
15	4254	4253	4308		

RISERS LENGHT MM

	A	B	C	
	500	500	500	STANDARD
	500	535	570	TRIM OPENED
	360	465	570	ACCELERATED

DOBERMANN 3 - 15

LINES HEIGHT MM

	A	B	C	D	br
1	4993	4919	4957	5053	5965
2	4961	4887	4918	5021	5671
3	4924	4853	4887	4984	5542
4	4935	4865	4907	5000	5437
5	4870	4809	4852	4936	5312
6	4843	4784	4820	4907	5251
7	4802	4755	4793	4876	5277
8	4814	4767	4812	4888	5195
9	4721	4684	4731		5164
10	4662	4631	4667		5169
11	4627	4603	4643		5242
12	4593	4577	4628		4376
13	4618	4608	4687		
14	4455	4436	4479		
15	4428	4426	4483		

RISERS LENGHT MM

	A	B	C	
	500	500	500	STANDARD
	500	535	570	TRIM OPENED
	360	465	570	ACCELERATED

DOBERMANN 3 - 17

LINES HEIGHT MM

	A	B	C	D	br
1	5347	5268	5310	5412	6270
2	5314	5235	5270	5379	5959
3	5276	5202	5239	5342	5825
4	5289	5216	5261	5359	5715
5	5224	5160	5204	5294	5583
6	5196	5134	5171	5264	5520
7	5155	5104	5145	5232	5548
8	5167	5117	5165	5246	5461
9	5070	5031	5080		5428
10	5007	4974	5012		5434
11	4971	4944	4986		5512
12	4935	4917	4970		4692
13	4961	4950	5034		
14	4788	4767	4812		
15	4759	4756	4816		

RISERS LENGHT MM

	A	B	C	
	500	500	500	STANDARD
	500	535	570	TRIM OPENED
	360	465	570	ACCELERATED

LINE MEASUREMENTS

DOBERMANN 3 - 19

LINES HEIGHT MM

	A	B	C	D	br
1	5682	5598	5640	5748	6701
2	5647	5564	5598	5714	6374
3	5610	5531	5570	5678	6234
4	5624	5547	5594	5697	6121
5	5560	5489	5536	5631	5984
6	5531	5462	5501	5599	5919
7	5487	5433	5475	5567	5951
8	5501	5447	5497	5582	5858
9	5398	5357	5410		5823
10	5332	5297	5339		5829
11	5293	5266	5311		5911
12	5256	5238	5295		4983
13	5284	5273	5361		
14	5102	5079	5126		
15	5070	5068	5130		

RISERS LENGHT MM

A	B	C	
500	500	500	STANDARD
500	535	570	TRIM OPENED
360	465	570	ACCELERATED

SUSPENSION LINES – MINIMUM STRENGTH

LINE REFERENCE	SIZE			
	14	15	17	19
8001U-50	21	23	27	30
8001U-70	24	26	30	35
8001U-90	41	44	51	58
8001U-130	48	52	60	69
8001U-190	85	93	107	121
8001U-230	99	108	124	141
8001U-340	157	170	196	222

Minimum resistance values in daN

Based on the original experimental resistance values of each suspension line material obtained in certification tests, a correction factor is applied depending on the material and its aging, resulting in the reference values shown in the table.

MAILLON & PULLEY

DESCRIPTION

MAILLON	DELTA
CODE	MRI4
MATERIAL	STAINLESS STEEL
SIZE	4,3 m/m
WEIGHT	12 G/PIECE
QUANTITY	8 PIECES
INSERTS	4 GREEN / 4 BLACK

TECHNICAL SPECIFICATIONS



DIMENSIONS	m/m
L.T.	28
L.I.	20
H.T.	38
H.I.	30
O	4
E	11
T	4
LOAD	KG
WORKING LIMIT	150
BREAKING	750

MATERIAL

AISI 304 STAINLESS STEEL

STANDARD

CLOSING APPLIED BY MANUAL & ENTIRE SCREWING OF THE NUT

TO GUARANTEE THE HIGHEST SAFETY (NO THREAD SHOULD BE OBVIOUS)

SYSTEMATIC CONTROL OF MAILLON QUICK-LINKS BEFORE EVERY FLIGHT

DESCRIPTION

PULLEY	20 m/m
CODE	ID018041
MATERIALS	STAINLESS STEEL
	NYLON
	CARBON ACETAL
BEARING	DELRIN®
WEIGHT	14 G/PIECE

TECHNICAL SPECIFICATIONS



DIMENSIONS	m/m
L.T.	20
H.T.	33
Ø	5 MAX
LOAD	KG
WORKING LIMIT	200
BREAKING	400



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