

# Manufacturing Check Sheet for Paragliders

# Piece Check

Glider Type: UP Kuna S (XA36S)	Serial No.:
Rev. No.: 2	Date: 14.09.04

Line lengths [cm]

R. No.	Area										C														
	A					B					Left					Right									
	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	
1	603,5						598,0						604,5												
2	593,0						588,0						593,5												
3	591,0						586,5						592,0												
4	590,5						586,0						591,5												
5	591,0						586,0						591,5												
6	599,0						595,0						599,0												
7	594,5						590,5						595,5												
8	588,5						584,5						588,5												
9	591,5						587,0						591,0												
10	591,0						586,0						591,5												
11	595,0						590,0						595,0												
12	586,0						583,5						586,0												
13	581,0						579,5						581,5												
14	576,0						575,5						575,0												
15	570,5						569,5						568,0												
16	561,0						556,0						557,0												
17	539,5						540,0						546,0												

Total line length in cm from riser quick link to canopy including line loops, following DHV measuring method. Line load is 5 daN.

Rib numbering starts in the center of the wing. Wing sides in flight direction, seen from top.

Measurements are rounded to the next 0,5 cm. Please mark measurements relative to nominal by crossing ✕

R. No.	D										E										Brake									
	Left					Right					Left					Right					Left					Right				
	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm
1	611,5																													
2	602,0						611,5												682,5											
3	600,5																		659,5											
4	599,5																		649,0											
5	600,5						609,0												638,5											
6	607,0																		639,5											
7	602,5																		636,5											
8	597,0						605,5												627,5											
9	598,5																		627,5											
10	597,0																		628,0											
11	601,0																		629,0											
12	590,0																		636,0											
13	585,0																		628,5											
14	577,0																		622,0											
15	569,0																		622,0											
16	562,0																		618,0											
17																			618,5											

## Single Line Lengths

Glider Type: UP Kuna S (XA36S)	Serial No.:
Rev. No.: 2	Date: 14.09.04

Line no.	Quantity	Length [cm]	Diameter [mm]
ao1	2	138,0	1,1
ao2	2	127,5	1,1
ao3	2	125,5	1,1
ao4	2	125,0	1,1
ao5	2	125,5	1,1
ao6	2	133,5	1,1
ao7	2	110,0	1,1
ao8	2	104,0	1,1
ao9	2	107,0	1,1
ao10	2	106,5	1,1
ao11	2	110,5	1,1
ao12	2	82,5	1,1
ao13	2	77,5	1,1
ao14	2	72,5	1,1
ao15	2	67,0	1,1
ao16	2	104,5	1,1
ao17	2	83,0	1,1
bo1	2	132,5	1,1
bo2	2	122,5	1,1
bo3	2	121,0	1,1
bo4	2	120,5	1,1
bo5	2	120,5	1,1
bo6	2	129,5	1,1
bo7	2	106,0	1,1
bo8	2	100,0	1,1
bo9	2	102,5	1,1
bo10	2	101,5	1,1
bo11	2	105,5	1,1
bo12	2	80,0	1,1
bo13	2	76,0	1,1
bo14	2	72,0	1,1
bo15	2	66,0	1,1
bo16	2	99,5	1,1
bo17	2	83,5	1,1
co1	2	139,0	1,1
co2	2	128,0	1,1
co3	2	126,5	1,1
co4	2	126,0	1,1
co5	2	126,0	1,1
co6	2	133,5	1,1
co7	2	111,0	1,1
co8	2	104,0	1,1
co9	2	106,5	1,1
co10	2	107,0	1,1
co11	2	110,5	1,1
co12	2	82,5	1,1
co13	2	78,0	1,1
co14	2	71,5	1,1
co15	2	64,5	1,1
co16	2	100,5	1,1
co17	2	89,5	1,1

Line no.	Quantity	Length [cm]	Diameter [mm]
do1	2	146,0	1,1
do2	2	136,5	1,1
do3	2	135,0	1,1
do4	2	134,0	1,1
do5	2	135,0	1,1
do6	2	141,5	1,1
do7	2	118,0	1,1
do8	2	112,5	1,1
do9	2	114,0	1,1
do10	2	112,5	1,1
do11	2	116,5	1,1
do12	2	86,5	1,1
do13	2	81,5	1,1
do14	2	73,5	1,1
do15	2	65,5	1,1
do16	2	105,5	1,1
eo2	2	146,0	1,1
eo5	2	143,5	1,1
eo8	2	121,0	1,1
aou	12	124,0	1,7
bou	12	124,0	1,7
cou	12	124,0	1,1
dou	8	124,0	1,1
A1	2	342,0	2,15
A2	2	361,0	2,15
A3	2	380,0	2,15
B1	2	342,0	2,15
B2	2	361,0	2,15
B3	2	380,0	2,15
C1	2	342,0	1,7
C2	2	361,0	1,7
C3	2	380,0	1,7
D1	2	342,0	1,7
D2	2	361,0	1,7
Stabi	2	456,5	1,7

Brake no.	Quantity	Length [cm]	Diameter [mm]
brk2	2	166,5	1,1
brk3	2	143,5	1,1
brk4	2	133,0	1,1
brk5	2	122,5	1,1
brk6	2	123,5	1,1
brk7	2	120,5	1,1
brk8	2	111,5	1,1
brk9	2	111,5	1,1
brk10	2	112,0	1,1
brk11	2	113,0	1,1
brk12	2	120,0	1,1
brk13	2	112,5	1,1
brk14	2	106,0	1,1
brk15	2	106,0	1,1
brk16	2	102,0	1,1
brk17	2	102,5	1,1
brkou	12	123,5	1,1
brkuu	6	238,0	1,7
Brk Main	2	155,0	2,3 *)

\*) 2,3 Dyneema

<b>total length</b>	<b>no. of lines</b>
<b>36442,0</b>	<b>260</b>

<b>average line length (A to Brk.)</b>
<b>596,0407</b>

# Manufacturing Check Sheet for Paragliders

# Piece Check

Glider Type: UP Kuna M	Serial No.:
Rev. No.: xa36rev2.4	Date: 21.12.2004

Line lengths [cm]

R. No.	Area																
	A					B					C						
	Nom.	Left		Right		Nom.	Left		Right		Nom.	Left		Right			
	-2 cm	-1 cm	0 cm	+1 cm	+2 cm		-2 cm	-1 cm	0 cm	+1 cm	+2 cm		-2 cm	-1 cm	0 cm	+1 cm	+2 cm
1	636,0					628,0						635,5					
2	624,5					617,5						623,5					
3	622,5					616,0						622,5					
4	622,0					615,5						621,5					
5	622,0					615,5						621,5					
6	630,5					624,5						629,5					
7	625,5					619,5						626,5					
8	619,0					612,0						619,0					
9	622,0					616,0						621,5					
10	621,5					615,0						622,5					
11	626,0					619,0						625,5					
12	616,5					611,5						616,5					
13	611,0					607,5						611,5					
14	605,5					603,0						604,5					
15	599,5					597,0						597,0					
16	590,5					584,0						584,0					
17	567,5					567,5						573,5					

Total line length in cm from riser quick link to canopy including line loops, following DHV measuring method. Line load is 5 daN.

Rib numbering starts in the center of the wing. Wing sides in flight direction, seen from top.

Measurements are rounded to the next 0,5 cm. Please mark measurements relative to nominal by crossing✕

R. No.	D										E					Brake				
	Nom.	Left		Right		Nom.	Left		Right		Nom.	Left		Right						
		-2 cm	-1 cm	0 cm	+1 cm		+2 cm	-2 cm	-1 cm	0 cm		+1 cm	+2 cm	-2 cm	-1 cm	0 cm	+1 cm	+2 cm		
1	643,5																			
2	633,0					643,0						719,5								
3	632,0											695,5								
4	630,5											684,5								
5	631,5					640,5						673,5								
6	638,5											674,5								
7	633,5											671,0								
8	628,0					636,5						662,0								
9	629,5											662,0								
10	628,0											662,5								
11	632,0											663,5								
12	620,5											670,5								
13	615,5											663,0								
14	607,0											656,0								
15	599,0											655,5								
16	590,5											650,5								
17												651,0								

## Single Line Lengths

Glider Type: UP Kuna M	Serial No.:
Rev. No.: xa36rev2.4	Date: 21.12.2004

Line no.	Quantity	Length [cm]	Diameter [mm]
ao1	2	146,5	1,1
ao2	2	135,0	1,1
ao3	2	133,0	1,1
ao4	2	132,5	1,1
ao5	2	132,5	1,1
ao6	2	141,0	1,1
ao7	2	116,0	1,1
ao8	2	109,5	1,1
ao9	2	112,5	1,1
ao10	2	112,0	1,1
ao11	2	116,5	1,1
ao12	2	87,0	1,1
ao13	2	81,5	1,1
ao14	2	76,0	1,1
ao15	2	70,0	1,1
ao16	2	111,0	1,1
ao17	2	88,0	1,1
bo1	2	138,5	1,1
bo2	2	128,0	1,1
bo3	2	126,5	1,1
bo4	2	126,0	1,1
bo5	2	126,0	1,1
bo6	2	135,0	1,1
bo7	2	110,0	1,1
bo8	2	102,5	1,1
bo9	2	106,5	1,1
bo10	2	105,5	1,1
bo11	2	109,5	1,1
bo12	2	82,0	1,1
bo13	2	78,0	1,1
bo14	2	73,5	1,1
bo15	2	67,5	1,1
bo16	2	104,5	1,1
bo17	2	88,0	1,1
co1	2	146,0	1,1
co2	2	134,0	1,1
co3	2	133,0	1,1
co4	2	132,0	1,1
co5	2	132,0	1,1
co6	2	140,0	1,1
co7	2	117,0	1,1
co8	2	109,5	1,1
co9	2	112,0	1,1
co10	2	113,0	1,1
co11	2	116,0	1,1
co12	2	87,0	1,1
co13	2	82,0	1,1
co14	2	75,0	1,1
co15	2	67,5	1,1
co16	2	104,5	1,1
co17	2	94,0	1,1

Line no.	Quantity	Length [cm]	Diameter [mm]
do1	2	154,0	1,1
do2	2	143,5	1,1
do3	2	142,5	1,1
do4	2	141,0	1,1
do5	2	142,0	1,1
do6	2	149,0	1,1
do7	2	124,0	1,1
do8	2	118,5	1,1
do9	2	120,0	1,1
do10	2	118,5	1,1
do11	2	122,5	1,1
do12	2	91,0	1,1
do13	2	86,0	1,1
do14	2	77,5	1,1
do15	2	69,5	1,1
do16	2	111,0	1,1
eo2	2	153,5	1,1
eo5	2	151,0	1,1
eo8	2	127,0	1,1
aou	6	130,0	1,7
bou	6	130,0	1,7
cou	6	130,0	1,1
dou	6	130,0	1,1
A1	2	360,0	2,15
A2	2	380,0	2,15
A3	2	400,0	2,15
B1	2	360,0	2,15
B2	2	380,0	2,15
B3	2	400,0	2,15
C1	2	360,0	1,7
C2	2	380,0	1,7
C3	2	400,0	1,7
D1	2	360,0	1,7
D2	2	380,0	1,7
Stabi	2	480,0	1,7

Brake no.	Quantity	Length [cm]	Diameter [mm]
brk2	2	175,0	1,1
brk3	2	151,0	1,1
brk4	2	140,0	1,1
brk5	2	129,0	1,1
brk6	2	130,0	1,1
brk7	2	126,5	1,1
brk8	2	117,5	1,1
brk9	2	117,5	1,1
brk10	2	118,0	1,1
brk11	2	119,0	1,1
brk12	2	126,0	1,1
brk13	2	118,5	1,1
brk14	2	111,5	1,1
brk15	2	111,0	1,1
brk16	2	106,0	1,1
brk17	2	106,5	1,1
brkou	12	130,0	1,7
brkuu	6	250,0	1,7
Brk Main	2	165,0	2,3 *)

\*) 2,3 Dyneema

<b>total length</b>	<b>no. of lines</b>
<b>35685,0</b>	<b>240</b>

<b>average line length (A to Brk.)</b>
<b>626,913</b>

# Manufacturing Check Sheet for Paragliders

# Piece Check

Glider Type: UP Kuna L (XA36L)	Serial No.:
Rev. No.: 2	Date: 14.09.04

Line lengths [cm]

R. No.	Area																
	A					B					C						
	Nom.	Left			Right		Nom.	Left			Right		Nom.	Left			Right
-2 cm		-1 cm	0 cm	+1 cm	+2 cm	-2 cm		-1 cm	0 cm	+1 cm	+2 cm	-2 cm		-1 cm	0 cm	+1 cm	+2 cm
1	666,0					658,5					664,5						
2	654,0					647,5					652,5						
3	652,0					646,0					651,0						
4	651,5					645,5					650,5						
5	652,0					645,5					650,5						
6	661,0					654,5					659,0						
7	656,5					650,0					655,0						
8	649,5					643,5					647,5						
9	652,5					646,5					650,0						
10	652,0					645,5					650,5						
11	657,0					649,5					654,0						
12	646,5					642,5					645,0						
13	641,0					638,0					639,5						
14	635,5					633,5					632,5						
15	629,5					627,0					625,0						
16	617,0					611,0					613,5						
17	593,5					594,0					600,5						

Total line length in cm from riser quick link to canopy including line loops, following DHV measuring method. Line load is 5 daN.

Rib numbering starts in the center of the wing. Wing sides in flight direction, seen from top.

Measurements are rounded to the next 0,5 cm. Please mark measurements relative to nominal by crossing ✕

R. No.	D										E										Brake									
	Left					Right					Left					Right					Left					Right				
	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	-2 cm	-1 cm	0 cm	+1 cm	+2 cm	Nom.	-2 cm	-1 cm	0 cm	+1 cm	+2 cm		
1	672,0																													
2	661,5										672,0												752,5							
3	660,0																						727,5							
4	659,0																						716,0							
5	660,0										669,5												704,5							
6	667,0																						705,5							
7	662,0																						701,5							
8	656,5										665,0												692,5							
9	658,0																						692,5							
10	656,5																						693,0							
11	660,5																						694,0							
12	649,0																						701,0							
13	643,5																						693,5							
14	635,0																						686,0							
15	626,0																						686,0							
16	619,5																						681,5							
17																							682,5							

## Single Line Lengths

Glider Type: UP Kuna L (XA36L)	Serial No.:
Rev. No.: 2	Date: 14.09.04

Line no.	Quantity	Length [cm]	Diameter [mm]
ao1	2	154,5	1,1
ao2	2	142,5	1,1
ao3	2	140,5	1,1
ao4	2	140,0	1,1
ao5	2	140,5	1,1
ao6	2	149,5	1,1
ao7	2	124,0	1,1
ao8	2	117,0	1,1
ao9	2	120,0	1,1
ao10	2	119,5	1,1
ao11	2	124,5	1,1
ao12	2	93,0	1,1
ao13	2	87,5	1,1
ao14	2	82,0	1,1
ao15	2	76,0	1,1
ao16	2	115,5	1,1
ao17	2	92,0	1,1
bo1	2	147,0	1,1
bo2	2	136,0	1,1
bo3	2	134,5	1,1
bo4	2	134,0	1,1
bo5	2	134,0	1,1
bo6	2	143,0	1,1
bo7	2	117,5	1,1
bo8	2	111,0	1,1
bo9	2	114,0	1,1
bo10	2	113,0	1,1
bo11	2	117,0	1,1
bo12	2	89,0	1,1
bo13	2	84,5	1,1
bo14	2	80,0	1,1
bo15	2	73,5	1,1
bo16	2	109,5	1,1
bo17	2	92,5	1,1
co1	2	153,0	1,1
co2	2	141,0	1,1
co3	2	139,5	1,1
co4	2	139,0	1,1
co5	2	139,0	1,1
co6	2	147,5	1,1
co7	2	122,5	1,1
co8	2	115,0	1,1
co9	2	117,5	1,1
co10	2	118,0	1,1
co11	2	121,5	1,1
co12	2	91,5	1,1
co13	2	86,0	1,1
co14	2	79,0	1,1
co15	2	71,5	1,1
co16	2	112,0	1,1
co17	2	99,0	1,1

Line no.	Quantity	Length [cm]	Diameter [mm]
do1	2	160,5	1,1
do2	2	150,0	1,1
do3	2	148,5	1,1
do4	2	147,5	1,1
do5	2	148,5	1,1
do6	2	155,5	1,1
do7	2	129,5	1,1
do8	2	124,0	1,1
do9	2	125,5	1,1
do10	2	124,0	1,1
do11	2	128,0	1,1
do12	2	95,5	1,1
do13	2	90,0	1,1
do14	2	81,5	1,1
do15	2	72,5	1,1
do16	2	118,0	1,1
eo2	2	160,5	1,1
eo5	2	158,0	1,1
eo8	2	132,5	1,1
aou	12	136,0	1,7
bou	12	136,0	1,7
cou	12	136,0	1,1
dou	8	136,0	1,1
A1	2	376,0	2,15
A2	2	397,0	2,15
A3	2	418,0	2,15
B1	2	376,0	2,15
B2	2	397,0	2,15
B3	2	418,0	2,15
C1	2	376,0	1,7
C2	2	397,0	1,7
C3	2	418,0	1,7
D1	2	376,0	1,7
D2	2	397,0	1,7
Stabi	2	501,5	1,7

Brake no.	Quantity	Length [cm]	Diameter [mm]
brk2	2	183,0	1,1
brk3	2	158,0	1,1
brk4	2	146,5	1,1
brk5	2	135,0	1,1
brk6	2	136,0	1,1
brk7	2	132,0	1,1
brk8	2	123,0	1,1
brk9	2	123,0	1,1
brk10	2	123,5	1,1
brk11	2	124,5	1,1
brk12	2	131,5	1,1
brk13	2	124,0	1,1
brk14	2	116,5	1,1
brk15	2	116,5	1,1
brk16	2	112,0	1,1
brk17	2	113,0	1,1
brkou	12	136,0	1,1
brkuu	6	262,0	1,7
Brk Main	2	172,0	2,3 *)

\*) 2,3 Dyneema

<b>total length</b>	<b>no. of lines</b>
<b>40205,0</b>	<b>260</b>

<b>average line length (A to Brk.)</b>
<b>656,3837</b>