**UP SUMMIT X L** 

Inflation/take-off

Type designation UP Summit X L

Type test reference no DHV GS-01-2761-23

Holder of certification UP International GmbH

Manufacturer UP International GmbH

**Classification** B

Winch towing Yes

Number of seats min / max 1/1

**Accelerator** Yes

**Test pilots** 

Trimmers No

BEHAVIOUR AT MIN WEIGHT IN BEHAVIOUR AT MAX FLIGHT (100KG)



**WEIGHT IN FLIGHT (125KG)** 



No release

No release

Rising behaviour Easy rising, some pilot correction is

Special take off technique required No

required

Easy rising, some pilot correction is

required No

Landing

Special landing technique required No

Speeds in straight flight В

Trim speed more than 30 km/h Yes Yes

Speed range using the controls larger than 10 Yes Yes

> Minimum speed Less than 25 km/h 25 km/h to 30 km/h

Control movement

Symmetric control pressure Increasing Increasing

Symmetric control travel Greater than 60 cm Greater than 65 cm

Pitch stability exiting accelerated flight

**Dive forward angle on exit** Dive forward less than 30° Dive forward less than 30°

> Collapse occurs No Nο

Pitch stability operating controls during accelerated flight

Collapse occurs No Nο

Roll stability and damping

**Oscillations** Reducing Reducing

Stability in gentle spirals A

Tendency to return to straight flight Spontaneous exit Spontaneous exit

Behaviour exiting a fully developed spiral dive A

Initial response of glider (first 180°) Immediate reduction of rate of turn Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

Immediate reduction of rate of turn Spontaneous exit (g force decreasing, rate of turn decreasing)

Turn angle to recover normal flight Less than 720°, spontaneous recovery	Less than 720°, spontaneous
	recovery

Symmetric front collapse	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Change of course	Keeping course	Keeping course
Cascade occurs	s No	No
Folding lines used	I no	no
Unaccelerated collapse (at least 50 % chord)	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	•	Dive forward 0° to 30°
_	Entering a turn of less than 90°	Keeping course
Cascade occurs		No
Folding lines used	l no	no
Accelerated collapse (at least 50 % chord)	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Change of course	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs	s No	No
Folding lines used	l no	no
Exiting deep stall (parachutal stall)	В	A
Deep stall achieved	Yes	Yes
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
_	Changing course less than 45°	Changing course less than 45°
Cascade occurs		No
High angle of attack recovery	i <sub>A</sub>	A
i	<del></del>	
Recovery Cascade occurs	r Spontaneous in less than 3 s s No	Spontaneous in less than 3 s No
Persyany from a dayslaned full stall	i <sub>B</sub>	ia.
Recovery from a developed full stall	(B	¦A
Dive forward angle on exit		Dive forward 0° to 30°
-	No collapse	No collapse
Cascade occurs (other than collapses)		No 450
	Less than 45°	Less than 45°
Line tension	Most lines tight	Most lines tight
Small asymmetric collapse	A	A
Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 0° to 15°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	s No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous
Total	, No	re inflation)
Twist occurs Cascade occurs		No No
Folding lines used		no
Have accommended as the res	i D	ip.
Large asymmetric collapse	<u> </u>	¦B
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle Re-inflation behaviour	Dive or roll angle 15° to 45° Spontaneous re-inflation	Dive or roll angle 15° to 45° Spontaneous re-inflation

Total change of course Less than 360°

Less than 360°

Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	I no	no
_		
Small asymmetric collapse accelerated	A	A
	<del></del>	±
Change of course until re-inflation		Less than 90°
Maximum dive forward or roll angle	3	Dive or roll angle 0° to 15°
Re-inflation behaviour	· Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	s No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	l no	no
i olullig illios asca		
Large asymmetric collapse accelerated	В	В
<u> </u>	i	±
Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	· Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	l no	no
Directional control with a maintained asymmetric collapse	A	A
Able to keep course		Yes
180° turn away from the collapsed side		Yes
possible in 10 s		
Amount of control range between turn and stall or spin		More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	: No	No
Low speed spin tendency	!A	A
<u> </u>	<del>i</del>	10
Spin occurs	s No	No
Recovery from a developed spin	A	A
	i	±
Spin rotation angle after release Cascade occurs	-	Stops spinning in less than 90° No
B-line stall	A	A
L	<del></del>	
Change of course before release	Changing course less than 45°	Changing course less than 45°
Behaviour before release	Remains stable with straight span	Remains stable with straight span
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Cascade occurs		No
		1
Big ears	В	A
Entry procedure	Standard technique	Standard technique
Behaviour during big ears		Stable flight
kecovery	Recovery through pilot action in less than a further 3 s	Spontaneous III less than 3 S
Dive forward angle on exit	a faithful J J	
	Dive forward 0° to 30°	Dive forward 0° to 30°
		1
Big ears in accelerated flight	: Dive forward 0° to 30°	Dive forward 0° to 30°

**Entry procedure** Standard technique Standard technique

**Behaviour during big ears** Stable flight Stable flight

**Recovery** Recovery through pilot action in less than Spontaneous in less than 3 s

a further 3 s

**Dive forward angle on exit** Dive forward 0° to 30°

Behaviour immediately after releasing the Stable flight

accelerator while maintaining big ears

Dive forward 0° to 30°

Stable flight

Alternative means of directional control	Α
180° turn achievable in 20 s Yes	Yes
Stall or spin occurs No	No

Any other flight procedure and/or configuration described in the user's manual

**UP SUMMIT X M** 

Inflation/take-off

Type designation UP Summit X M Type test reference no DHV GS-01-2760-23 Holder of certification UP International GmbH

Manufacturer UP International GmbH

**Classification** B Winch towing Yes

Number of seats min / max 1/1

**Accelerator** Yes Trimmers No

Test pilots

BEHAVIOUR AT MIN WEIGHT IN BEHAVIOUR AT MAX FLIGHT (85KG)

**WEIGHT IN FLIGHT (110KG)** 



Josef Bauer Mario Eder No release No release

<b>Rising behaviour</b> Easy rising, some pilot correction is	Easv

required

Special take off technique required No

rising, some pilot correction is required

No

Landing	A	A
	Special landing technique required No	No

The state of the s	1	1
Speeds in straight flight	A	B

Trim speed more than 30 km/h Yes Yes Speed range using the controls larger than 10 Yes Yes km/h

> Minimum speed Less than 25 km/h 25 km/h to 30 km/h

Control movement	A	А	
	c control pressure Increasing	Increasing	

Symmetric control travel Greater than 60 cm Greater than 65 cm

Pitch stability exiting accelerated flight	A	A
Divo forward angle on evit	Divo forward loss than 309	Divo forward loss than

Dive forward less than 30° **Dive forward angle on exit** Dive forward less than 30° Collapse occurs No Nο

Pitch stability operating controls during accelerated flight	А	A
Collapse occurs		No

Roll stability and damping Α

Oscillations Reducing	Reducing

The state of the s	The state of the s	I I
Stability in gentle spirals	A	A

Tendency to return to straight flight Spontaneous exit Spontaneous exit

	1
Behaviour exiting a fully developed spiral dive A	Α
L	

Initial response of glider (first 180°) Immediate reduction of rate of turn Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

Immediate reduction of rate of turn Spontaneous exit (g force decreasing, rate of turn decreasing)

_e
_

Less than 720°, spontaneous recovery

Less than 360°

Symmetric front collapse	!A	A
	1	. 47.7
-	Rocking back less than 45° Spontaneous in less than 3 s	Rocking back less than 45° Spontaneous in less than 3 s
Dive forward angle on exit	•	Dive forward 0° to 30°
Change of course		Keeping course
Cascade occurs	. 5	No No
Folding lines used		no
Unaccelerated collapse (at least 50 % chord)	A	A
-	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
Change of course Cascade occurs	Entering a turn of less than 90°	Keeping course
Folding lines used		No no
rolung lines used	1110	110
Accelerated collapse (at least 50 % chord)	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
_	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs		No
Folding lines used	l no	no
Exiting deep stall (parachutal stall)	В	В
Deep stall achieved	 I Yes	Yes
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 30° to 60°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	s No	No
High angle of attack recovery	A	A
i	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	•	No
Recovery from a developed full stall	В	В
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 30° to 60°
	No collapse	No collapse
Cascade occurs (other than collapses)		No
	Less than 45°	Less than 45°
Line tension	n Most lines tight	Most lines tight
Small asymmetric collapse	A	A
Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	I no	no
Large asymmetric collapse	В	В
Change of course until re-inflation	±	90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation

Total change of course Less than 360°

Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	l no	no
<u>-</u>		
Small asymmetric collapse accelerated	A	A
	±	±
Change of course until re-inflation		Less than 90°
Maximum dive forward or roll angle	•	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	Ino	no
i olullig illios asca		
Large asymmetric collapse accelerated	В	В
<u> </u>	±	±
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	s No	No
Cascade occurs	s No	No
Folding lines used	<b>I</b> no	no
Directional control with a maintained asymmetric collapse	<b>A</b>	A
Able to keep course		Yes
180° turn away from the collapsed side		Yes
possible in 10 s		M 50.0/
Amount of control range between turn and stall or spin		control travel
Trim speed spin tendency	A	A
Spin accura	. No	No.
Spin occurs	5 NO	No
Low speed spin tendency	¦A	¦A
Spin occurs	s No	No
Recovery from a developed spin	A	A
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs	-	No
B-line stall	A	A
L	±	
Change of course before release		Changing course less than 45°
	Remains stable with straight span	Remains stable with straight span
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 30° to 60°
Cascade occurs	s No	No
Big ears	В	A
i <del></del>	Chandard to share	<del></del>
	Standard technique	Standard technique
Behaviour during big ears		Stable flight
	Recovery through pilot action in less than a further 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		
	t Dive forward 0° to 30°	Dive forward 0° to 30°
Big ears in accelerated flight	t Dive forward 0° to 30°	Dive forward 0° to 30°

**Entry procedure** Standard technique Standard technique

**Behaviour during big ears** Stable flight Stable flight

**Recovery** Recovery through pilot action in less than Spontaneous in less than 3 s

a further 3 s

**Dive forward angle on exit** Dive forward 0° to 30°

Behaviour immediately after releasing the Stable flight

accelerator while maintaining big ears

Dive forward 0° to 30°

Stable flight

Alternative means of directional control	Α
180° turn achievable in 20 s Yes	Yes
Stall or spin occurs No	No

Any other flight procedure and/or configuration described in the user's manual

**UP SUMMIT X SM** 

Inflation/take-off

Type designation UP Summit X SM Type test reference no DHV GS-01-2759-23 Holder of certification UP International GmbH

Manufacturer UP International GmbH

Classification B Winch towing Yes

Number of seats min / max 1/1

**Accelerator** Yes Trimmers No

> BEHAVIOUR AT MIN WEIGHT IN FLIGHT (75KG)

**BEHAVIOUR AT MAX** WEIGHT IN FLIGHT (100KG)



Josef Bauer

No release

Rising behaviour Easy rising, some pilot correction is

required

Special take off technique required No

Easy rising, some pilot correction is

required No

Α

Yes

Yes

No release

Landing

Special landing technique required No

Speeds in straight flight

Trim speed more than 30 km/h Yes

Speed range using the controls larger than 10 Yes

Roll stability and damping

Minimum speed Less than 25 km/h

Less than 25 km/h

Control movement

Symmetric control pressure Increasing Increasing Symmetric control travel Greater than 55 cm Greater than 60 cm

Pitch stability exiting accelerated flight

**Dive forward angle on exit** Dive forward less than 30°

Collapse occurs No

Dive forward less than 30°

Nο

Nο

Pitch stability operating controls during accelerated flight

Collapse occurs No

**Oscillations** Reducing Reducing

Stability in gentle spirals A

Tendency to return to straight flight Spontaneous exit Spontaneous exit

Behaviour exiting a fully developed spiral dive A

Initial response of glider (first 180°) Immediate reduction of rate of turn Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

Immediate reduction of rate of turn Spontaneous exit (g force decreasing, rate of turn decreasing)

Turn angle to recover normal flight Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery

Symmetric front collapse	A	A
En	try Rocking back less than 45°	Rocking back less than 45°
Recov	ery Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on e	exit Dive forward 0° to 30°	Dive forward 0° to 30°
Change of cou	rse Keeping course	Keeping course
Cascade occ		No
Folding lines us	sed no	no
Unaccelerated collapse (at least 50 % chord	I)  A	A
En	try Rocking back less than 45°	Rocking back less than 45°
	ery Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on e	exit Dive forward 0° to 30°	Dive forward 0° to 30°
	rse Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occ		No
Folding lines us	sed no	no
Accelerated collapse (at least 50 % chord)	A	¦ <b>A</b>
En	<b>try</b> Rocking back less than 45°	Rocking back less than 45°
	ery Spontaneous in less than 3 s	Spontaneous in less than 3 s
_	exit Dive forward 0° to 30°	Dive forward 0° to 30°
	rse Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occ		No
Folding lines us	sed no	no
Exiting deep stall (parachutal stall)	В	В
Deep stall achiev	<b>ved</b> Yes	Yes
Recov	ery Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on e	exit Dive forward 30° to 60°	Dive forward 30° to 60°
Change of cou	rse Changing course less than 45°	Changing course less than 45°
Cascade occ	urs No	No
High angle of attack recovery	A	A
Recov	ery Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occ	urs No	No
Recovery from a developed full stall	В	В
Dive forward angle on e	exit Dive forward 30° to 60°	Dive forward 30° to 60°
Colla	ose No collapse	No collapse
Cascade occurs (other than collapse	es) No	No
Rocking ba	ack Less than 45°	Less than 45°
Line tens	ion Most lines tight	Most lines tight
Small asymmetric collapse	A	A
Change of course until re-inflat		Less than 90°
Maximum dive forward or roll an		Dive or roll angle 15° to 45°
	our Spontaneous re-inflation	Spontaneous re-inflation
Total change of cou		Less than 360°
Collapse on the opposite side occ	urs No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occ	urs No	No
Cascade occ	urs No	No
Folding lines us	sed no	no
Large asymmetric collapse	В	В
Change of course until re-inflat	ion 90° to 180°	90° to 180°
Maximum dive forward or roll an		Dive or roll angle 15° to 45°
	our Spontaneous re-inflation	Spontaneous re-inflation

**Re-inflation behaviour** Spontaneous re-inflation

Total change of course Less than 360°

Spontaneous re-inflation

Less than 360°

Collapse on the opposite side occurs  Twist occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)  No	No (or only a small number of collapsed cells with a spontaneous re inflation)
Cascade occurs	No	No
Folding lines used	no	no
Small asymmetric collapse accelerated	A	A
Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed	No (or only a small number of
	cells with a spontaneous re inflation)	collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no
Large asymmetric collapse accelerated	В	В
Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs		No
Cascade occurs		No
Folding lines used	no	no
Directional control with a maintained asymmetric collapse	A	A
Able to keep course	Yes	Yes
Able to keep course 180° turn away from the collapsed side		Yes Yes
180° turn away from the collapsed side possible in 10 s	Yes	Yes
180° turn away from the collapsed side	Yes  More than 50 % of the symmetric control	Yes
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and	Yes  More than 50 % of the symmetric control	Yes  More than 50 % of the symmetric
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs	Yes  More than 50 % of the symmetric control travel  A  No	Yes  More than 50 % of the symmetric control travel  A
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs	Yes  More than 50 % of the symmetric control travel  A  No	Yes  More than 50 % of the symmetric control travel  A  No
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin	Yes  More than 50 % of the symmetric control travel  A  No  No  A	More than 50 % of the symmetric control travel  A  No  A
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs	Yes  More than 50 % of the symmetric control travel  A  No  A  No  A  Stops spinning in less than 90°	Yes  More than 50 % of the symmetric control travel  A  No
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs	Yes  More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release	Yes  More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span  Spontaneous in less than 3 s  Dive forward 0° to 30°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span  Spontaneous in less than 3 s  Dive forward 0° to 30°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span  Spontaneous in less than 3 s  Dive forward 0° to 30°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  B	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  B  Standard technique	More than 50 % of the symmetric control travel  A  No  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  B  Standard technique
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  B  Standard technique Stable flight	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  B  Standard technique Stable flight
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  B  Standard technique	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  B  Standard technique Stable flight
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  B  Standard technique Stable flight Recovery through pilot action in less than a further 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  B  Standard technique Stable flight Recovery through pilot action in less
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears Recovery	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  B  Standard technique Stable flight Recovery through pilot action in less than a further 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No  B  Standard technique Stable flight Recovery through pilot action in less than a further 3 s

**Entry procedure** Standard technique

Behaviour during big ears Stable flight

**Recovery** Recovery through pilot action in less than Recovery through pilot action in less

a further 3 s

than a further 3 s

Standard technique

**Dive forward angle on exit** Dive forward 0° to 30° Behaviour immediately after releasing the Stable flight

accelerator while maintaining big ears

Dive forward 0° to 30°

Stable flight

Stable flight

Alternative means of directional control	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	s No	No

Any other flight procedure and/or configuration described in the user's manual

**UP SUMMIT X S** 

Type designation UP Summit X S Type test reference no DHV GS-01-2758-23

Holder of certification UP International GmbH

Manufacturer UP International GmbH

**Classification** B

Winch towing Yes

Number of seats min / max 1/1

**Accelerator** Yes

Trimmers No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (68KG)

Test pilots

**BEHAVIOUR AT MAX** WEIGHT IN FLIGHT (85KG)



Josef Bauer

No release

No release Inflation/take-off

Rising behaviour Easy rising, some pilot correction is

required Special take off technique required No

Easy rising, some pilot correction is

required No

Α

Landing

Special landing technique required No

Speeds in straight flight

Trim speed more than 30 km/h Yes Yes

Speed range using the controls larger than 10 Yes Yes

Minimum speed Less than 25 km/h

Less than 25 km/h

Control movement

Symmetric control pressure Increasing Increasing

Symmetric control travel Greater than 55 cm Greater than 60 cm

Pitch stability exiting accelerated flight

**Dive forward angle on exit** Dive forward less than 30° Dive forward less than 30°

> Collapse occurs No Nο

Pitch stability operating controls during

accelerated flight Nο

Collapse occurs No

Roll stability and damping

**Oscillations** Reducing Reducing

Stability in gentle spirals A

Tendency to return to straight flight Spontaneous exit Spontaneous exit

Behaviour exiting a fully developed spiral dive A

Initial response of glider (first 180°) Immediate reduction of rate of turn Tendency to return to straight flight Spontaneous exit (g force decreasing,

Immediate reduction of rate of turn Spontaneous exit (g force rate of turn decreasing) decreasing, rate of turn decreasing)

Turn angle to recover normal	flight Less than	720°, spontaneous recovery	Les
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Less than 720°, spontaneous recovery

Less than 360°

Symmetric front collapse	A	A
Entr	y Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exi	t Dive forward 0° to 30°	Dive forward 0° to 30°
Change of course	Keeping course	Keeping course
Cascade occur	s No	No
Folding lines used	<b>d</b> no	no
Unaccelerated collapse (at least 50 % chord)	A	A
Entr	y Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exi		Dive forward 0° to 30°
Change of course		Keeping course
Cascade occur		No
Folding lines used	d no	no
Accelerated collapse (at least 50 % chord)	A	В
L	y Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exi		Dive forward 30° to 60°
_	Entering a turn of less than 90°	Keeping course
Cascade occur	s No	No
Folding lines used	<b>d</b> no	no
Exiting deep stall (parachutal stall)	¦A	A
L		. 1
Deep stall achieved		Yes
	y Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exi		Dive forward 0° to 30°
	e Changing course less than 45°	Changing course less than 45°
Cascade occur	S NO	No
High angle of attack recovery	A	A
Recover	y Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occur	s No	No
Recovery from a developed full stall	А	A
Dive forward angle on exi	t Dive forward 0° to 30°	Dive forward 0° to 30°
Collaps	e No collapse	No collapse
Cascade occurs (other than collapses	) No	No
Rocking bac	k Less than 45°	Less than 45°
Line tension	n Most lines tight	Most lines tight
Small asymmetric collapse	Α	Α
Change of course until re-inflation	1 Less than 90°	Less than 90°
Maximum dive forward or roll angle		Dive or roll angle 0° to 15°
_	<b>r</b> Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	e Less than 360°	Less than 360°
Collapse on the opposite side occur	s No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous
Word of	- No	re inflation)
Twist occur		No
Cascade occur Folding lines use		No no
Large asymmetric collapse	В	В
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle Re-inflation behaviou	e Dive or roll angle 15° to 45° r Spontaneous re-inflation	Dive or roll angle 15° to 45° Spontaneous re-inflation

Total change of course Less than 360°

Collapse on the opposite side occurs	No (or only a small number of collapsed	No (or only a small number of
	cells with a spontaneous re inflation)	collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no
	1	1
Small asymmetric collapse accelerated	iA .	A
Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no
	!_	<u>-</u>
Large asymmetric collapse accelerated	¦B	¦B
Change of course until re-inflation		90° to 180°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		Less than 360°
	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs		No
Cascade occurs		No
Folding lines used	no	no
Directional control with a maintained asymmetric collapse	А	А
Able to keep course	Yes	Yes
Able to keep course 180° turn away from the collapsed side possible in 10 s	Yes	Yes Yes
180° turn away from the collapsed side	Yes  More than 50 % of the symmetric control	Yes
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	Yes  More than 50 % of the symmetric control travel	Yes  More than 50 % of the symmetric control travel
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs	More than 50 % of the symmetric control travel  A	Yes  More than 50 % of the symmetric control travel  A
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs	More than 50 % of the symmetric control travel  A  No	Yes  More than 50 % of the symmetric control travel  A  No
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs	More than 50 % of the symmetric control travel  A  No	Yes  More than 50 % of the symmetric control travel  A
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs	More than 50 % of the symmetric control travel  A  No	Yes  More than 50 % of the symmetric control travel  A  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin	More than 50 % of the symmetric control travel  A  No  No	Yes  More than 50 % of the symmetric control travel  A  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°	Yes  More than 50 % of the symmetric control travel  A  No  A
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°	Yes  More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No	Yes  More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No	More than 50 % of the symmetric control travel  A  No  A  No  Stops spinning in less than 90°  No
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span  Spontaneous in less than 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery	More than 50 % of the symmetric control travel  A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery  Dive forward angle on exit	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery  Dive forward angle on exit	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery  Dive forward angle on exit Cascade occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery  Dive forward angle on exit Cascade occurs	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  A  Standard technique	More than 50 % of the symmetric control travel  A  No  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No
180° turn away from the collapsed side possible in 10 s  Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery  Dive forward angle on exit Cascade occurs  Big ears  Entry procedure  Behaviour during big ears	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  A  Standard technique	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  A  Standard technique
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No  A  Standard technique Stable flight Spontaneous in less than 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  A  Standard technique Stable flight
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit  Cascade occurs  Big ears  Entry procedure  Behaviour during big ears  Recovery Dive forward angle on exit	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90° No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°	More than 50 % of the symmetric control travel  A  No  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°  No  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin  Trim speed spin tendency  Spin occurs  Low speed spin tendency  Spin occurs  Recovery from a developed spin  Spin rotation angle after release Cascade occurs  B-line stall  Change of course before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Big ears in accelerated flight	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No  A  Standard technique Stable flight Spontaneous in less than 3 s	More than 50 % of the symmetric control travel  A  No  A  Stops spinning in less than 90°  No  A  Changing course less than 45°  Remains stable with straight span Spontaneous in less than 3 s  Dive forward 0° to 30°  No  A  Standard technique Stable flight Spontaneous in less than 3 s

# Behaviour during big ears Stable flight

**Recovery** Spontaneous in less than 3 s

Dive forward angle on exit Dive forward 0° to 30°

## Behaviour immediately after releasing the Stable flight accelerator while maintaining big ears

Stable flight

Spontaneous in less than 3 s Dive forward 0° to 30°

Stable flight

Alternative means of directional control A	А
180° turn achievable in 20 s Yes	Yes
Stall or spin occurs No	No
Any other flight procedure and/or configuration described in the user's manual	