Sebastian Mackrodt

TESTREPORT EN 926-2:2013+A1:2021

UP LHOTSE X M

Stability in gentle spirals

Type designation UP Lhotse X M

Type test reference no DHV GS-01-2960-25

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







No release No release



Landing	A	A
Special landing tech	nique required No	No
Speeds in straight flight	A	A

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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 Less than 25 km/h

Control movement	A	A
	Symmetric control pressure Increasing	Increasing
Symmetric control travel Greater than 60 cm		Greater than 65 cm

Pitch stability exiting accelerated flight	A	A
Dive forward angle on exi	t Dive forward less than 30°	Dive forward less than 30°

Collapse occurs No Nο

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

Roll stability and damping	A	A
	Oscillations Reducing	Reducina

- Reducing	ricadenig

Tendency to return to straight flight Spontaneous exit Spontaneous exit

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Behaviour exiting a fully developed spiral dive A	Α
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Initial response of glider (first 180°) Immediate reduction of rate of turn Immediate reduction of rate of turn Tendency to return to straight flight Spontaneous exit (g force decreasing, 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 360°

Symmetric front collapse	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
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°
Change of course	Keeping course	Keeping course
Cascade occurs	s No	No
Folding lines used	Ino	no
Unaccelerated collapse (at least 50 % chord)	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
Recovery	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	Keeping course	Keeping course
Cascade occurs	s No	No
Folding lines used	Ino	no
Accelerated collapse (at least 50 % chord)	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
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°
Change of course	Keeping course	Keeping course
Cascade occurs	s No	No
Folding lines used	Ino	no
Exiting deep stall (parachutal stall)	A	A
Deep stall achieved	l Yes	Yes
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°
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
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	1	No No
Recovery from a developed full stall	l A	В
Dive forward angle on exit	±	Dive forward 30° to 60°
	No collapse	No collapse
Cascade occurs (other than collapses)	•	No
	Less than 45°	Less than 45°
_	Most lines tight	Most lines tight
Small asymmetric collapse	Α	Α
Change of course until re-inflation		Less than 90°
Maximum dive forward or roll angle		Dive or roll angle 0° to 15°
	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	A
Change of course until re-inflation	90° to 180°	Less than 90°
Maximum dive forward or roll angle		Dive or roll angle 15° to 45°
	Spontaneous re-inflation	Spontaneous re-inflation

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
. oranig inico acce		
Small asymmetric collapse accelerated	A	A
		<u> </u>
Change of course until re-inflation		Less than 90°
Maximum dive forward or roll angle	_	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	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
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°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		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	I no	no
Directional control with a maintained asymmetric collapse	А	А
Alala da labara accurac		Yes
Able to keep course		165
180° turn away from the collapsed side	Yes	Yes
•	e Yes ; I 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	e Yes ; I More than 50 % of the symmetric control	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	e Yes ; I 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 Trim speed spin tendency Spin occurs	Yes I More than 50 % of the symmetric control travel 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	Yes I 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 Low speed spin tendency Spin occurs	Yes I More than 50 % of the symmetric control travel A No	Yes More than 50 % of the symmetric control travel A No 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	Yes I 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	A No 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	Yes More than 50 % of the symmetric control travel A No A SNo A Stops spinning in less than 90°	Yes More than 50 % of the symmetric control travel A No 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	Yes More than 50 % of the symmetric control travel A No A SNo A Stops spinning in less than 90°	Yes More than 50 % of the symmetric control travel A No 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	Yes More than 50 % of the symmetric control travel A No A SNo A Stops spinning in less than 90°	Yes More than 50 % of the symmetric control travel A No 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	A No No A Stops spinning in less than 90° No A	Yes 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	A Shop in the symmetric control travel A No A Shop in the symmetric control travel A Shop in the symmetric control travel 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	A Sho A Sho A Sho A Sho A Sho A Changing course less than 45° Remains stable with straight span	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° 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 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
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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	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 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 stall or spin. 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	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 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 stall or spin. 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	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
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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 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 Dedicated controls
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 Dedicated controls 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	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 Dedicated controls Stable flight 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 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 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 Dedicated controls Stable flight 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 Recovery Dive forward angle on exit Cascade occurs Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 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° 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 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 Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°

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

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

Dive forward 0° to 30°

Spontaneous in less than 3 s

Stable flight

Stable flight

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

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UP LHOTSE X SM

Inflation/take-off

Type designation UP Lhotse X SM Type test reference no DHV GS-01-2961-25

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



Test pilots



Josef Bauer

No release

Rising behaviour Easy rising, some pilot correction is

required

Special take off technique required No

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

Minimum speed Less than 25 km/h

Control movement

Symmetric control pressure Increasing Symmetric control travel Greater than 60 cm

Pitch stability exiting accelerated flight

Dive forward angle on exit Dive forward less than 30°

Collapse occurs No

Pitch stability operating controls during accelerated flight Collapse occurs No

Roll stability and damping

Oscillations Reducing

Stability in gentle spirals

Tendency to return to straight flight 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)

BEHAVIOUR AT MAX

WEIGHT IN FLIGHT (103KG)



Sebastian Mackrodt

No release

Smooth, easy and constant rising

No

Α

Yes Yes

Less than 25 km/h

Increasing

Greater than 65 cm

Dive forward less than 30° Nο

Nο

Reducing

Spontaneous exit

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

Turn angle to recover normal	I flight Less than 720°, spontaneous recovery	L
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Less than 360°

L	A	A
Entry	Rocking back less than 45°	Rocking back less than 45°
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°
Change of course	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	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°
Change of course		Keeping course
Cascade occurs		No
Folding lines used		no
rotating times used		110
	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		Keeping course
Cascade occurs	No	No
Folding lines used	no	no
Exiting deep stall (parachutal stall)	A	В
Deep stall achieved	Yes	Yes
-	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 30° to 60°
_	Changing course less than 45°	Changing course less than 45°
Cascade occurs		No
High angle of attack recovery	!A	A
L	<u> </u>	Spontaneous in less than 3 s
Recovery	Spontaneous in less than 3 s	No
Cascade occurs		
Cascade occurs		
	A	В
	A	Dive forward 30° to 60°
Recovery from a developed full stall Dive forward angle on exit	A	. .
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses)	A Dive forward 0° to 30° No collapse No	Dive forward 30° to 60°
Recovery from a developed full stall Dive forward angle on exit Collapse	A Dive forward 0° to 30° No collapse No	Dive forward 30° to 60° No collapse
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back	A Dive forward 0° to 30° No collapse No	Dive forward 30° to 60° No collapse No
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension	Dive forward 0° to 30° No collapse No Less than 45°	Dive forward 30° to 60° No collapse No Less than 45°
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90°	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90°
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15°	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45°
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360°	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360°
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360°	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation)	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneo
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneo re inflation) No
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation)
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs Twist occurs Cascade occurs Folding lines used	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No No	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneo re inflation) No No No
Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs Twist occurs Cascade occurs Folding lines used	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No
Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs Twist occurs	Dive forward 0° to 30° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No No no B 90° to 180°	Dive forward 30° to 60° No collapse No Less than 45° Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneo re inflation) No No No

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	Α	Α
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°
	r 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	I 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°
	r 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	I no	no
Directional control with a maintained asymmetric collapse	А	А
Able to keep course		Yes
180° turn away from the collapsed side possible in 10 s		Yes
Amount of control range between turn and stall or spir	More than 50 % of the symmetric control	More than 50 % of the symmetric control travel
	0_	r _e
Trim speed spin tendency	¦A	Α
Spin occurs		No
Low speed spin tendency	; A	¦A
Spin occurs	5 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	s No	No
		1
B-line stall	A	A
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
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exi		Dive forward 0° to 30°
Cascade occurs	s No	No
to.	14	i.
Big ears	<u> </u> A	<u> </u> A
Entry procedure	Standard technique	Dedicated controls
Debayious dusing his case	Standard technique	
Behaviour during big ears	Stable flight	Stable flight
Recovery	s Stable flight v Spontaneous in less than 3 s	Spontaneous in less than 3 s
	s Stable flight v Spontaneous in less than 3 s	
Recovery Dive forward angle on exit	s Stable flight y Spontaneous in less than 3 s t Dive forward 0° to 30°	Spontaneous in less than 3 s Dive forward 0° to 30°
Recovery Dive forward angle on exit Big ears in accelerated flight	s Stable flight v Spontaneous in less than 3 s	Spontaneous in less than 3 s

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

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

Dive forward 0° to 30°

Spontaneous in less than 3 s

Stable flight

Stable flight

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

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UP LHOTSE X S

Type designation UP Lhotse X S

Type test reference no DHV GS-01-2962-25

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 (70KG)

WEIGHT IN FLIGHT (90KG)

Easy rising, some pilot correction is

BEHAVIOUR AT MAX



Juliette Schönsee

No release



No release

required

Inflation/take-off

Speeds in straight flight

Rising behaviour Smooth, easy and constant rising

Special take off technique required No

No

Α

Yes

Landing Special landing technique required No

Trim speed more than 30 km/h Yes

Speed range using the controls larger than 10 Yes

Minimum speed Less than 25 km/h

Yes Less than 25 km/h

Control movement

Symmetric control pressure Increasing

Symmetric control travel Greater than 55 cm

Increasing

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

Pitch stability operating controls during accelerated flight

Collapse occurs No

Nο

Roll stability and damping

Reducing

Spontaneous exit

Stability in gentle spirals A Tendency to return to straight flight Spontaneous exit

Behaviour exiting a fully developed spiral dive A

Oscillations Reducing

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 norma	I flight Less than 720°	, spontaneous recovery	Le
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Less than 360°

Symmetric front collapse Entry Rocking b Recovery Spontane Dive forward angle on exit Dive forw	ack less than 45° Rocking back less than 45°
Recovery Spontane	
	use in loca than 2 c
Dive forward angle on exit Dive forw	·
Change of account Keeping	
Change of course Keeping of	. 5
Cascade occurs No	No
Folding lines used no	no
Unaccelerated collapse (at least 50 % chord) A	A
Entry Rocking b	ack less than 45° Rocking back less than 45°
Recovery Spontane	ous in less than 3 s Spontaneous in less than 3 s
Dive forward angle on exit Dive forw	ard 0° to 30° Dive forward 0° to 30°
Change of course Keeping of	ourse Keeping course
Cascade occurs No	No
Folding lines used no	no
Accelerated colleges (at least 50 % about)	i.
Accelerated collapse (at least 50 % chord) A	_ A
-	ack less than 45° Rocking back less than 45°
Recovery Spontane	•
Dive forward angle on exit Dive forw	
Change of course Keeping of	
Cascade occurs No	No
Folding lines used no	no
Exiting deep stall (parachutal stall)	A
Deep stall achieved Yes	Yes
Recovery Spontane	ous in less than 3 s Spontaneous in less than 3 s
Dive forward angle on exit Dive forw	·
Change of course Changing	
Cascade occurs No	No
Carlo	v _e
High angle of attack recovery	¦A
Recovery Spontane	·
Cascade occurs No	No
Recovery from a developed full stall	A
Dive forward angle on exit Dive forw	ard 0° to 30° Dive forward 0° to 30°
Collapse No collapse	
Cascade occurs (other than collapses) No	No
Rocking back Less than	45° Less than 45°
Line tension Most lines	
Small paymentals as linear	i.
Small asymmetric collapse A	A Lear Mary 2000
Change of course until re-inflation Less than	
Maximum dive forward or roll angle Dive or ro	-
Re-inflation behaviour Spontane	
Total change of course Less than	
Collapse on the opposite side occurs No (or on 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
Harge asymmetric collapse	i _P
Large asymmetric collapse B	;B
Change of course until re-inflation 90° to 18	
Maximum dive forward or roll angle Dive or ro	
Re-inflation behaviour Spontane	ous re-inflation Spontaneous re-inflation

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

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

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

Dive forward 0° to 30°

Spontaneous in less than 3 s

Stable flight

Stable flight

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

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UP LHOTSE X XS

Inflation/take-off

Type designation UP Lhotse X XS Type test reference no DHV GS-01-2963-25

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 (60KG)

Test pilots



Juliette Schönsee

No release

Rising behaviour Smooth, easy and constant rising

required

Special take off technique required No

Special landing technique required No

Landing

Speeds in straight flight

Trim speed more than 30 km/h Yes

Speed range using the controls larger than 10 Yes

Minimum speed Less than 25 km/h

Control movement

Symmetric control pressure Increasing

Symmetric control travel Greater than 55 cm

Dive forward angle on exit Dive forward less than 30°

Collapse occurs No

accelerated flight Collapse occurs No

Pitch stability exiting accelerated flight

Pitch stability operating controls during

Roll stability and damping

Oscillations Reducing

Stability in gentle spirals A

Tendency to return to straight flight 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



BEHAVIOUR AT MAX WEIGHT IN FLIGHT (78KG)



Josef Bauer

No release

Easy rising, some pilot correction is

No

Α Yes Yes

Less than 25 km/h

Increasing

Greater than 55 cm

Dive forward less than 30°

Nο

Nο

Reducing

Spontaneous exit

decreasing, rate of turn decreasing)

Turn angle to recover normal flight Less than 720°, spontaneous recover	Turn angle to recover	normal flight	Less than 720°,	spontaneous recovery
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Less than 360°

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	Ino	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°
Change of course		Keeping course
Cascade occurs		No
Folding lines used	I 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°
Change of course	Entering a turn of less than 90°	Keeping course
Cascade occurs	s No	No
Folding lines used	Ino	no
Exiting deep stall (parachutal stall)	A	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°
_	Changing course less than 45°	Changing course less than 45°
Cascade occurs		No
Wich and a of attack recovery	A	A
High angle of attack recovery	±	.±
Recovery Cascade occurs	r Spontaneous in less than 3 s s No	Spontaneous in less than 3 s No
Recovery from a developed full stall	A	В
L	<u></u>	·±
Dive forward angle on exit		Dive forward 30° to 60°
-	No collapse	No collapse
Cascade occurs (other than collapses)	k Less than 45°	No Less than 45°
	Most lines tight	Most lines tight
	i Most lines tight	1 103t lines tight
Small asymmetric collapse	Α	A
Change of course until re-inflation		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	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		No
Folding lines used		no
Large asymmetric collapse	¦B	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

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

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		