

## MAC PARA ARAVIS 21

Type designation Mac Para Aravis 21

Type test reference no DHV GS-01-2665-21

Holder of certification MAC Para Technology

Manufacturer MAC Para Technology

**Classification** A

Winch towing Yes

Number of seats min / max 1/1Accelerator Yes

Trimmers No











Rocking back less than 45°

Josef Baue

	Juliette Schönsee	Josef Bauer
Expert	: Harald Buntz	
	No release	No release
Inflation/take-off	A	A
Rising behaviour	Smooth, easy and constant rising	Smooth, easy and constant rising
Special take off technique required	, ,	No
<u>Landing</u>	A	A
Special landing technique required	L No	No
Special failuring technique required	1140	140
Speeds in straight flight	A	A
	<u>i</u>	
Trim speed more than 30 km/h Speed range using the controls larger than 10 km/h		Yes Yes
	Less than 25 km/h	Less than 25 km/h
r-minitum speed	Less than 23 Killy II	Less utail 23 Killy II
Control movement	A	A
	·	±
Symmetric control pressure	3	Increasing
Symmetric control travel	Greater than 55 cm	Greater than 60 cm
Pitch stability exiting accelerated flight	A	A
		±
Dive forward angle on exit		Dive forward less than 30°
Collapse occurs	S INO	No
Pitch stability operating controls during	1	1
accelerated flight	A	A
Callanas	. N	N
Collapse occurs	S INO	No
Roll stability and damping	A	A
		±
Oscillations	Reducing	Reducing
Chability in months original	1.	1.
Stability in gentle spirals	A	Α
Tendency to return to straight flight	: Spontaneous exit	Spontaneous exit
Behaviour exiting a fully developed spiral dive	¦A	A
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, rate of	Spontaneous exit (g force decreasing,
	turn decreasing)	rate of turn decreasing)
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
Summetrie front college	i a	ia
Symmetric front collapse	A	Α
	B 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 1: 1 11 11 450

**Entry** 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	. 5	Keeping course
Folding lines used		No no
Folding lines used	110	110
Unaccelerated collapse (at least 50 % chord)	A	A
	·k	i
-	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		No.
Folding lines used		no
<b>5</b>		
Accelerated collapse (at least 50 % chord)	A	Α
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	Keeping course
Cascade occurs	No	No
Folding lines used	no	no
Exiting deep stall (parachutal stall)	Α	A
Deep stall achieved	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	No	No
Web and of the boston	!*	
High angle of attack recovery	A	A
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No
	!.	
Recovery from a developed full stall	<u>  </u> A	A
Dive forward angle on exit		Dive forward 0° to 30°
Collapse	No collapse	No collapse
Collapse Cascade occurs (other than collapses)	No collapse No	No collapse No
Collapse Cascade occurs (other than collapses) Rocking back	No collapse No Less than 45°	No collapse No Less than 45°
Collapse Cascade occurs (other than collapses) Rocking back	No collapse No	No collapse No
Collapse Cascade occurs (other than collapses) Rocking back Line tension	No collapse No Less than 45° Most lines tight	No collapse No Less than 45° Most lines tight
Collapse Cascade occurs (other than collapses) Rocking back Line tension Small asymmetric collapse	No collapse No Less than 45° Most lines tight	No collapse No Less than 45° Most lines tight
Collapse Cascade occurs (other than collapses) Rocking back Line tension  Small asymmetric collapse Change of course until re-inflation	No collapse No Less than 45° Most lines tight  A Less than 90°	No collapse No Less than 45° Most lines tight  A Less than 90°
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	No collapse No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15°	No collapse  No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15°
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	No collapse No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation	No collapse  No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation
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	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 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°
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	No collapse No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation	No collapse  No Less than 45° Most lines tight  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation
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	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 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
Collapses 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	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 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
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	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 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
Collapses 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 behavious Total change of course Collapse on the opposite side occurs  Twist occurs Cascade occurs Folding lines used	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 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
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	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 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
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  Large asymmetric collapse  Change of course until re-inflation	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 Less than 360° No	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 Less than 360° No
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  Large asymmetric collapse  Change of course until re-inflation Maximum dive forward or roll angle	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 or roll angle 15° to 45°	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 or roll angle 15° to 45°
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  Large asymmetric collapse  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour	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 or roll angle 15° to 45° Spontaneous re-inflation	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 or roll angle 15° to 45° Spontaneous re-inflation
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  Large asymmetric collapse  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	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  A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360°	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  A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360°
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  Large asymmetric collapse  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	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 or roll angle 15° to 45° Spontaneous re-inflation	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 or roll angle 15° to 45° Spontaneous re-inflation
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  Large asymmetric collapse  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	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 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 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  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 than 360° No (or only a small number of collapsed
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  Large 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	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No	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  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)
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  Cascade occurs Folding lines used  Large 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  Collapse on the opposite side occurs	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No
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  Large 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  Cascade occurs  Twist occurs  Twist occurs  Cascade occurs Folding lines used	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No
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  Large 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  Collapse on the opposite side occurs  Twist occurs  Twist occurs	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated Change of course until re-inflation	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 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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No No no	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated  Change of course until re-inflation Maximum dive forward or roll angle	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no Less than 90° Dive or roll angle 0° to 15°	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15°
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Re-inflation behaviour Total change of course	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360°	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360°
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Re-inflation behaviour Total change of course	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  A Less than 90° Dive or roll angle 0° to 15° Spontaneous re-inflation
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  Large 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  Cascade occurs Folding lines used  Small asymmetric collapse accelerated  Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Re-inflation behaviour Total change of course	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  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) Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No	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  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 Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation) No No no  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 No (or only a small number of collapsed

Cascade occurs	No	No
Folding lines used		no
Large asymmetric collapse accelerated	A	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°	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	No (or only a small number of collapsed
	with a spontaneous re inflation)	cells with a spontaneous re inflation)
Twist occurs		No
Cascade occurs	··-	No
Folding lines used	no	no
Divertional control with a maintained		:
Directional control with a maintained asymmetric collapse	A	A
	<u> </u>	1
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		More than 50 % of the symmetric
	travel	control travel
Trim speed spin tendency	A	A
Spin occurs	No.	No
Spin occurs		
Low speed spin tendency	A	A
Spin occurs	No.	No
Spin occurs	NO .	NO
Recovery from a developed spin	A	A
	h	
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
		N.I.
Cascade occurs		No
Cascade occurs	No	
Cascade occurs  B-line stall	No No	A
Cascade occurs  B-line stall  Change of course before release	No  Changing course less than 45°	A Changing course less than 45°
Cascade occurs  B-line stall  Change of course before release  Behaviour before release	No  Changing course less than 45° Remains stable with straight span	A  Changing course less than 45°  Remains stable with straight span
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery	A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit	A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery	A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit	No  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs	No  Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs	No  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	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
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	No  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	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
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears Recovery	No  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	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
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears	No  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	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
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears Recovery	No  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	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
Cascade occurs  B-line stall  Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs  Big ears  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	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°	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°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure	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°	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°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears	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°  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery	No  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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	No  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°  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery	No  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°  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Behaviour during big ears Recovery Dive forward angle on exit	No  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°  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Behaviour during big ears Recovery Dive forward angle on exit	No  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°  A  Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Behaviour immediately after releasing the accelerator while maintaining big ears	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°  A Standard technique Stable flight 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° Stable flight	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight
Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Behaviour during big ears Recovery Dive forward angle on exit	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight  A Yes	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight
Cascade occurs  B-line stall  Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Behaviour during big ears Recovery Dive forward angle on exit  Behaviour immediately after releasing the accelerator while maintaining big ears  Alternative means of directional control  180° turn achievable in 20 s	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight  A Yes	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight  A Yes
Change of course before release Behaviour 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  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Big ears in accelerated flight  Entry procedure Behaviour during big ears Recovery Dive forward angle on exit  Behaviour immediately after releasing the accelerator while maintaining big ears  Alternative means of directional control	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight  A Yes No	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°  A Standard technique Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°  Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Stable flight  A Yes

No other flight procedure or configuration described in the user's manual