## AIR TURQUOISE SA | PARA-TEST.COM

Route du Pré-au-Comte 8 🔺 CH-1844 Villeneuve 🔺 +41 (0)21 965 65 65

Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



## Flight test report: EN 926-2:2013 & LTF 91/09

Manufacturer Advance Thun AG		Certification number	F	PG_1689.2020		
Address	Uttigenstrasse 87 3600 Thun Switzerland	Flight test	2	9.05.2020		
Glider model	Pi3 19	Classification	E	3		
Serial number	85018	Representative	Ν	/lichi Maurer		
Trimmer	no	Place of test		/illeneuve		
		race or test	٠	Micheave		
Folding lines used	no					
Test pilot		Light pilot under Air Turquoise supervision	C	Claude Thurnheer		
Harness		Flugsau - XX-Lite	A	Advance - Success 4 M		
Harness to risers d	istance (cm)	40	4	4		
Distance between r	` '	40	Δ	4		
	` '			<del>75</del>		
Total weight in fligh	it (kg)	50	′	o O		
1. Inflation/Take-off		Α				
Rising behaviour		Smooth, easy and constant rising	Α	Smooth, easy and constant rising	Α	
Special take off technique	required	No	Α	No	Α	
2. Landing		Α				
Special landing technique	required	No	Α	No	Α	
3. Speed in straight fligh	nt	В				
Trim speed more than 30	km/h	Yes	Α	Yes	Α	
Speed range using the co	ontrols larger than 10 km/h	Yes	Α	Yes	Α	
Minimum speed		Less than 25 km/h	Α	25 km/h to 30 km/h	В	
4. Control movement		Α				
Max. weight in flight up	-					
Symmetric control pressu		Increasing / greater than 55 cm	Α	Increasing / greater than 55 cm	Α	
Max. weight in flight 80	-					
Symmetric control pressu		not available	0	not available	0	
Max. weight in flight gre	=					
Symmetric control pressu		not available	0	not available	0	
5. Pitch stability exiting		<b>A</b>				
Dive forward angle on exi	t	Dive forward less than 30°	A	Dive forward less than 30°	Α	
Collapse occurs		No	Α	No	Α	
6. Pitch stability operati	ng controls during accelerated	Α				
Collapse occurs		No	Α	No	Α	
7. Roll stability and dam	ping	A				
Oscillations		Reducing	Α	Reducing	Α	
8. Stability in gentle spir	rals	A		•		
Tendency to return to stra		Spontaneous exit	Α	Spontaneous exit	Α	
9. Behaviour exiting a fu	ılly developed spiral dive	A				
Initial response of glider (		Immediate reduction of rate of turn	Α	Immediate reduction of rate of turn	Α	
Tendency to return to stra	aight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	Α	Spontaneous exit (g force decreasing, rate of turn decreasing)	Α	
Turn angle to recover nor	mal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α	
10. Symmetric front coll	apse	A				
Approximately 30 % cho	ord					
Entry		Rocking back less than 45°	Α	Rocking back less than 45°	Α	

Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit Change of course	Dive forward 0° to 30° Keeping course	Α	Dive forward 0° to 30° Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
At least 50% chord				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
With accelerator				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
11. Exiting deep stall (parachutal stall)	A			
Deep stall achieved	Yes	Α	Yes	Δ
				A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	Α
Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Cascade occurs	No	Α	No	Α
12. High angle of attack recovery	A			
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	В			
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 30° to 60°	В
Collapse	No collapse	Α	No collapse	Α
Cascade occurs (other than collapses)	No	Α	No	Α
Rocking back	Less than 45°	Α	Less than 45°	Α
Line tension	Most lines tight	Α	Most lines tight	Α
14. Asymmetric collapse	A		-	
Small asymmetric collapse				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	Α	Less than 90° / Dive or roll angle 0° to 15°	Α
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No (or only a small number of	Α	No (or only a small number of	Α
Collapse on the opposite state coolars	collapsed cells with a spontaneous reinflation)	, ,	collapsed cells with a spontaneous reinflation)	,,
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
Large asymmetric collapse				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	Less than 90° / Dive or roll angle 15° to 45°	Α
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs		-		
	No	Α	No	Α
Folding lines used	No No	Α	No No	Α
Folding lines used  Small asymmetric collapse with fully activated accelerator.	No No	Α	No No	Α
Small asymmetric collapse with fully activated accelerator Change of course until re-inflation / Maximum dive forward or	No  Less than 90° / Dive or roll angle	A	No Less than 90° / Dive or roll angle	A
Small asymmetric collapse with fully activated accelerator	No		No	

Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	Less than 90° / Dive or roll angle 15° to 45°	Α
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No.	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
15. Directional control with a maintained asymmetric	A			
collapse				
Able to keep course	Yes	Α	Yes	Α
180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	Α	More than 50 % of the symmetric control travel	Α
16. Trim speed spin tendency	A			
Spin occurs	No	Α	No	Α
17. Low speed spin tendency	A			
Spin occurs	No	Α	No	Α
18. Recovery from a developed spin	Α			
Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Cascade occurs	No	Α	No	Α
19. B-line stall	A			
Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Behaviour before release	Remains stable with straight span	Α	Remains stable with straight span	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Cascade occurs	No	Α	No	Α
20. Big ears	Α			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	Α			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Α	Stable flight	Α
22. Alternative means of directional control	A			
180° turn achievable in 20 s	Yes	Α	Yes	Α
Stall or spin occurs	No	Α	No	Α
23. Any other flight procedure and/or configuration described in the user's manual	A			
Procedure works as described	Yes	Α	not available	0
Procedure suitable for novice pilots	Yes	Α	not available	0
Cascade occurs	No	Α	not available	0

24. Comments of test pilot

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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



Manufacturer	Advance Thun AG	Certification number	F	PG_1689.2020	
Address	Uttigenstrasse 87	Flight test			
71001000	3600 Thun	i light toot	_	.0.00.2020	
	Switzerland				
Glider model	Pi3 19	Classification	Е	3	
Serial number	85018	Representative	N	lone	
		Place of test			
Trimmer	no	Place of lest	٧	/illeneuve	
Folding lines used	no				
Test pilot		Light pilot under Air	_	Claude Thurnheer	
rest pilot		Turquoise supervision	•	daude murmeer	
Harness		Flugsau - XX-Lite	,	Advance - Success 4 M	
	-4	=			
Harness to risers di	, ,	40	4		
Distance between ri	sers (cm)	40	4	4	
Total weight in fligh	t (kg)	50	9	95	
4 Inflation/Take off		A			
1. Inflation/Take-off			Λ	Smooth, easy and constant rising	Λ
Rising behaviour		Smooth, easy and constant rising	A		A
Special take off technique	required	No	А	No	Α
2. Landing	in- d	A	^	No	^
Special landing technique		No	Α	No	Α
3. Speed in straight flight		B	٨	Vaa	^
Trim speed more than 30 k		Yes	A	Yes	A
Speed range using the con	itrois larger than 10 km/h	Yes	A	Yes	A
Minimum speed		Less than 25 km/h	Α	25 km/h to 30 km/h	В
4. Control movement	- 00 loss	Α			
Max. weight in flight up to			^		0
Symmetric control pressure		Increasing / greater than 55 cm	Α	not available	0
Max. weight in flight 80 k			^	la consision / consistent them CO cons	^
Symmetric control pressure		not available	0	Increasing / greater than 60 cm	Α
Max. weight in flight grea	=	not quallable	0	not available	0
Symmetric control pressure		not available	0	not available	0
5. Pitch stability exiting a		A	۸	Divertend less than 20°	۸
Dive forward angle on exit		Dive forward less than 30°	A	Dive forward less than 30°	A
Collapse occurs		No	А	No	Α
flight	g controls during accelerated	Α			
Collapse occurs		No	Α	No	Α
7. Roll stability and damp	ping	A			
Oscillations		Reducing	Α	Reducing	Α
8. Stability in gentle spira	ıls	A			
Tendency to return to straig	ght flight	Spontaneous exit	Α	Spontaneous exit	Α
9. Behaviour exiting a ful	ly developed spiral dive	A			
Initial response of glider (fin	rst 180°)	Immediate reduction of rate of turn	Α	Immediate reduction of rate of turn	Α
Tendency to return to straig	ght flight	Spontaneous exit (g force	Α	-	Α
_	10: 14	decreasing, rate of turn decreasing)		decreasing, rate of turn decreasing)	
Turn angle to recover norm	nai tiight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
10. Symmetric front colla	pse	A			
Approximately 30 % chor	rd				
Entry		Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery		Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Change of course	Dive forward 0° to 30° Keeping	Α	Dive forward 0° to 30° Keeping	Α
-		course		course	

Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
At least 50% chord				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
With accelerator				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
11. Exiting deep stall (parachutal stall)	A			
Deep stall achieved	Yes	Α	Yes	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Cascade occurs	No	Α	No	Α
12. High angle of attack recovery	<b>A</b>			
Recovery	Spontaneous in less than 3 s	Α.	Spontaneous in less than 3 s	A
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	B	۸	Dive forward 30° to 60°	В
Dive forward angle on exit	Dive forward 0° to 30°	Α		В
Collapse Cascade occurs (other than collapses)	No collapse No	A A	No collapse No	A A
Cascade occurs (other than conapses)	NU	~	NU	^
Pocking back	Loce than 45°	٨	Loce than 45°	۸
Rocking back	Less than 45°	A A	Less than 45° Most lines tight	A A
Line tension	Most lines tight	A A	Less than 45° Most lines tight	A A
Line tension 14. Asymmetric collapse				
Line tension	Most lines tight	Α		
Line tension  14. Asymmetric collapse  Small asymmetric collapse  Change of course until re-inflation / Maximum dive forward or	Most lines tight  B  Less than 90° / Dive or roll angle	Α	Most lines tight  Less than 90° / Dive or roll angle	Α
Line tension  14. Asymmetric collapse  Small asymmetric collapse  Change of course until re-inflation / Maximum dive forward or roll angle	Most lines tight  B  Less than 90° / Dive or roll angle 0° to 15°	A A A	Most lines tight  Less than 90° / Dive or roll angle 0° to 15°	Α
Line tension  14. Asymmetric collapse  Small asymmetric collapse  Change of course until re-inflation / Maximum dive forward or roll angle  Re-inflation behaviour	Most lines tight  B  Less than 90° / Dive or roll angle 0° to 15°  Spontaneous re-inflation	A A A	Most lines tight  Less than 90° / Dive or roll angle 0° to 15°  Spontaneous re-inflation	A
Line tension  14. Asymmetric collapse  Small asymmetric collapse  Change of course until re-inflation / Maximum dive forward or roll angle  Re-inflation behaviour  Total change of course	Most lines tight  B  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	A A A	Most lines tight  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	A A A
Line tension  14. Asymmetric collapse  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	Most lines tight  B  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 reinflation)	A A A A	Most lines tight  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 reinflation)	A A A A
Line tension  14. Asymmetric collapse  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	Most lines tight  B  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 reinflation)  No	A A A A	Most lines tight  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 reinflation) No	A A A A A
Line tension  14. Asymmetric collapse  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	Most lines tight  B  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 reinflation)  No  No	A A A A	Most lines tight  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 reinflation)  No No	A A A A A
Line tension  14. Asymmetric collapse  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	Most lines tight  B  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 reinflation)  No  No	A A A A A	Most lines tight  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 reinflation)  No No	A A A A A
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  No  No  No  Less than 90° / Dive or roll angle	A A A A A	Most lines tight  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 reinflation)  No No No No 90° to 180° / Dive or roll angle	A A A A
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  No  No  No  Less than 90° / Dive or roll angle 15° to 45°	A A A A A A A	Most lines tight  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 reinflation)  No No No  90° to 180° / Dive or roll angle 15° to 45°	A A A A A B
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  No No No Solution No No Spontaneous re-inflation	A A A A A 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 reinflation) No No No No Spontaneous re-inflation	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  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	A A A A A A 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 reinflation) No No No So Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous reinflation)	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  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 reinflation)	A A A A A A A A A A A A A A A A A A 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 reinflation) No No No 90° to 180° / 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 reinflation)	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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	Most lines tight  B  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 reinflation)  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 reinflation)  No	A A A A A A A A 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 reinflation) No No No Spontaneous re-inflation No	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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  Twist occurs  Twist occurs Cascade occurs Folding lines used Small asymmetric collapse with fully activated accelerator	Most lines tight  B  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 reinflation)  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 reinflation)  No  No  No	A A A A A A A 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 reinflation) No No No No Spontaneous re-inflation Less than 360° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous reinflation) No No No	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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  Twist occurs Cascade occurs Folding lines used Small asymmetric collapse with fully activated accelerator Change of course until re-inflation / Maximum dive forward or roll angle	Most lines tight  B  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 reinflation)  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 reinflation)  No  No	A A A A A A A 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 reinflation) No No No No Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous reinflation) No No No No No No No No No (or only a small number of collapsed cells with a spontaneous reinflation) No No	A A A A A A A A A A A A A A A A A A A
Line tension  14. Asymmetric collapse 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  Twist occurs Cascade occurs Folding lines used Small asymmetric collapse with fully activated accelerator Change of course until re-inflation / Maximum dive forward or	Most lines tight  B  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 reinflation)  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 reinflation)  No  No  No  No  Less than 90° / Dive or roll angle	A A A A A A A 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 reinflation)  No Or only a small number of collapsed cells with a spontaneous reinflation) No No No No No No No Less than 360° No (or only a small number of collapsed cells with a spontaneous reinflation) No No No No No Less than 90° / Dive or roll angle	A A A A A A A A A A A A A A A A A A A

Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	Α	Spontaneous re-inflation	Α
Total change of course	Less than 360°	Α	Less than 360°	Α
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α	No (or only a small number of collapsed cells with a spontaneous reinflation)	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No		No	
15. Directional control with a maintained asymmetric collapse	Α			
Able to keep course	Yes	Α	Yes	Α
180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	Α	More than 50 % of the symmetric control travel	Α
16. Trim speed spin tendency	Α			
Spin occurs	No	Α	No	Α
17. Low speed spin tendency	Α			
Spin occurs	No	Α	No	Α
18. Recovery from a developed spin	Α			
Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Cascade occurs	No	Α	No	Α
19. B-line stall	Α			
Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Behaviour before release	Remains stable with straight span	Α	Remains stable with straight span	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Cascade occurs	No	Α	No	Α
20. Big ears	Α			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	A			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Α	Stable flight	Α
22. Alternative means of directional control	A			
180° turn achievable in 20 s	Yes	Α	Yes	Α
Stall or spin occurs	No	Α	No	Α
23. Any other flight procedure and/or configuration described in the user's manual	Α			
Procedure works as described	Yes	Α	not available	0
Procedure suitable for novice pilots	Yes	Α	not available	0
Cascade occurs	No	Α	not available	0

24. Comments of test pilot