

Glider model Serial number Apollo XS Classification B Serial number 2151-11-0605 Representative None Timmer no Place of test Villeneuve Tost pilot Light pilot under Air Turquoise supervision Flugsau - XX-Lite Flugsau - XX-Lite Harness Flugsau - XX-Lite Flugsau - XX-Lite Flugsau - XX-Lite Harness to risers (cm) 40 40 - Distance between risers (cm) 40 40 - Total weight in flight (kg) 55 73 - 1 Inflaton/Take-off A Smooth, easy and constant rising A Smooth, easy and constant rising A No Spead take off technique required No A No A Spead in straight flight Ves A Yes A Spead in straight flight vigot vig	Manufacturer Address	Sky Paragliders a.s. Okružní 39 73911 Frýdlant nad Ostravicí Czech Republic	Certification number Date of flight test		PG_1026.2016 07. 03. 2016	
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decreasing, rate of turn decreasing, rate of turn decreasing)	Initial response of glider (fi	rst 180°)		A	Immediate reduction of rate of turn	A
	Tendency to return to strai	ght flight	decreasing, rate of turn	A		A

Turn angle to recover normal flight	Less than 720°, spontaneous recovery	A	Less than 720°, spontaneous recovery	A
10. Symmetric front collapse	В			
Approximately 30 % chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit Change of course	Dive forward 0° to 30° Keeping course	A	Dive forward 0° to 30° Keeping course	A
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
At least 50% chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in less than 3 s	A	Spontaneous in 3 s to 5 s	В
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Entering	A	Dive forward 0° to 30° / Keeping	A
Dive forward angle of exit / change of course	a turn of less than 90°	~	course	A
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
With accelerator				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in 3 s to 5 s	B	Spontaneous in 3 s to 5 s	B
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Entering	A	Dive forward 0° to 30° / Keeping	A
с с	a turn of less than 90°		course	
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A
11. Exiting deep stall (parachutal stall)	A	^	Yes	٨
Deep stall achieved	Yes	A		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°	A
Change of course Cascade occurs	Changing course less than 45°	A	Changing course less than 45°	A
	No	A	No	A
12. High angle of attack recovery	A	^	Cooptonoous in loss than 2 s	^
Recovery Cascade occurs	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
	No A	A	No	A
13. Recovery from a developed full stall	A Dive forward 0° to 30°	^	Dive forward 0° to 30°	٨
Dive forward angle on exit		A		A
Collapse	No collapse	A	No collapse	A
Cascade occurs (other than collapses)	No	A	No	A
Rocking back	Less than 45°	A	Less than 45°	A
Line tension	Most lines tight B	A	Most lines tight	A
14. Asymmetric collapse	D			
Small asymmetric collapse				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45° $$	A	Less than 90° / Dive or roll angle 0° to 15°	A
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a	A	No (or only a small number of collapsed cells with a spontaneous	A
	spontaneous reinflation)		reinflation)	
Twist occurs	No	Α	No	Α
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A
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°	A	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А

Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A
rolding intes used		~		~
Small 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° $$	A	Less than 90° / Dive or roll angle 15° to 45°	A
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
Large asymmetric collapse with fully activated accelerator		_		_
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	В	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	Α
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
15. Directional control with a maintained asymmetric	Α			
collapse				
Able to keep course	Yes	А	Yes	А
180° turn away from the collapsed side possible in 10 s	Yes	А	Yes	А
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	A	More than 50 % of the symmetric control travel	А
16. Trim speed spin tendency	Α			
Spin occurs	No	А	No	А
17. Low speed spin tendency	Α			
Spin occurs	No	А	No	А
18. Recovery from a developed spin	Α			
Spin rotation angle after release	Stops spinning in less than 90°	А	Stops spinning in less than 90°	А
Cascade occurs	No	А	No	А
19. B-line stall	Α			
Change of course before release	Changing course less than 45°	А	Changing course less than 45°	А
Behaviour before release	Remains stable with straight span	A	Remains stable with straight span	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Cascade occurs	No	А	No	А
20. Big ears	В			
Entry procedure	Dedicated controls	А	Dedicated controls	А
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Spontaneous in less than 3 s	A	Recovery through pilot action in	В
		<i>,</i> ,	less than a further 3 s	5
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
21. Big ears in accelerated flight	В			
Entry procedure	Dedicated controls	А	Dedicated controls	А
Behaviour during big ears	Stable flight	А	Stable flight	А
Recovery	Recovery through pilot action in	В	Recovery through pilot action in	В
	less than a further 3 s		less than a further 3 s	

Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	А
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	А	Yes	А
Stall or spin occurs	No	А	No	А
23. Any other flight procedure and/or configuration described in the user's manual	0			
Procedure works as described	not available	0	not available	0
Procedure suitable for novice pilots	not available	0	not available	0
Cascade occurs	not available	0	not available	0
24. Comments of test pilot				



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PG_0997.2015

04.02.2016



Β Class:

In accordance with EN standards 926-2:2013 & 926-1:2006:

Date of issue (DMY):

Manufacturer: Sky Paragliders a.s. Apollo M

Model:

Serial number: 2057-11-1175

Configuration during flight tests

Paraglider

•	
Maximum weight in flight (kg)	94
Minimum weight in flight (kg)	74
Glider's weight (kg)	4.7
Number of risers	3
Projected area (m2)	21.56

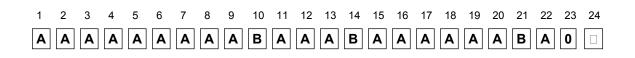
Harness used for testing (max weight)

Harness type	ABS
Harness brand	Flugsau
Harness model	XX-Lite
Harness to risers distance (cm)	41
Distance between risers (cm)	44

Accessories

Range of speed system (cm)	14
Speed range using brakes (km/h)	14
Range of trimmers (cm)	0
Total speed range with accessories (km/h)	28

Inspections (whichever happens first) every 24 monthes or every 100 flying hours Warning! Before use refer to user's manual Person or company having presented the glider for testing: None





Manufacturer	Sky Paragliders a.s.	Certification number		PG_0997.2015	
Address	Okružní 39 73911 Frýdlant nad Ostravicí Czech Republic	Date of flight test		09. 11. 2015	
Glider model	Apollo M	Classification		В	
Serial number	2057-11-1175	Representative		None	
Trimmer	no	Place of test		Villeneuve	
Test pilot		Thurnheer Claude		Zoller Alain	
Harness		Supair - Altiplume S		Flugsau - XX-Lite	
Harness to risers dis	stance (cm)	41		41	
Distance between ris	. ,	40		44	
Total weight in flight	(K <u>g</u>)	74		94	
1. Inflation/Take-off		Α			
Rising behaviour		Smooth, easy and constant rising	А	Smooth, easy and constant rising	А
Special take off technique r	required	No	А	No	А
2. Landing		Α			
Special landing technique r	required	No	А	No	А
3. Speed in straight flight	t	А			
Trim speed more than 30 k	ːm/h	Yes	А	Yes	А
Speed range using the con	trols larger than 10 km/h	Yes	А	Yes	А
Minimum speed		Less than 25 km/h	А	Less than 25 km/h	А
4. Control movement		Α			
Max. weight in flight up to	o 80 ka				
Symmetric control pressure	-	Increasing / greater than 55 cm	А	not available	0
Max. weight in flight 80 kg	g to 100 kg				
Symmetric control pressure		not available	0	Increasing / greater than 60 cm	А
Max. weight in flight grea	ter than 100 kg				
Symmetric control pressure	e / travel	not available	0	not available	0
5. Pitch stability exiting a	ccelerated flight	А			
Dive forward angle on exit		Dive forward less than 30°	А	Dive forward less than 30°	А
Collapse occurs		No	А	No	А
6. Pitch stability operating flight	g controls during accelerated	Α			
Collapse occurs		No	А	No	А
7. Roll stability and damp	bing	Α			
Oscillations		Reducing	А	Reducing	А
8. Stability in gentle spira	als	Α			
Tendency to return to straig	ght flight	Spontaneous exit	А	Spontaneous exit	А
9. Behaviour exiting a full	ly developed spiral dive	А			
Initial response of glider (fir	rst 180°)	Immediate reduction of rate of turn	A	Immediate reduction of rate of turn	A
Tendency to return to straig	ght flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	Spontaneous exit (g force decreasing, rate of turn decreasing)	A
Turn angle to recover norm	nal flight	Less than 720°, spontaneous	А	Less than 720°, spontaneous	А

-					
	proximately 30 % chord				
En	•	Rocking back less than 45°	A	Rocking back less than 45°	A
	covery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Div	e forward angle on exit Change of course	Dive forward 0° to 30° Keeping course	A	Dive forward 0° to 30° Keeping course	A
Ca	scade occurs	No	А	No	А
Fo	ding lines used	No	А	No	А
Δt	least 50% chord				
En		Rocking back less than 45°	А	Rocking back less than 45°	А
	covery	Spontaneous in 3 s to 5 s	В	Spontaneous in less than 3 s	A
	e forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping	A	Dive forward 0° to 30° / Keeping	A
		course		course	
	scade occurs	No	A	No	A
Fo	ding lines used	No	А	No	A
Wi	th accelerator				
En	try	Rocking back less than 45°	А	Rocking back less than 45°	А
Re	covery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Div	e forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	А	Dive forward 0° to 30° / Keeping course	А
Са	scade occurs	No	А	No	А
	ding lines used	No	A	No	A
	Exiting deep stall (parachutal stall)	Α			
	ep stall achieved	Yes	А	Yes	А
	covery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
	re forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
	ange of course	Changing course less than 45°	А	Changing course less than 45°	А
	scade occurs	No	А		А
12	High angle of attack recovery	A			
	covery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Ca	scade occurs	No	А	No	А
13	Recovery from a developed full stall	Α			
Div	re forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Co	llapse	No collapse	А	No collapse	А
Ca	scade occurs (other than collapses)	No	А	No	А
	cking back	Less than 45°	А	Less than 45°	А
Lin	e tension	Most lines tight	А	Most lines tight	А
14	Asymmetric collapse	В			
•					
	nall asymmetric collapse				
	ange of course until re-inflation / Maximum dive forward or angle	Less than 90° / Dive or roll angle 0° to 15°	A	Less than 90° / Dive or roll angle 0° to 15°	A
Re	-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	A
	al change of course	Less than 360°	А	Less than 360°	A
Co	llapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Τw	ist occurs	No	А	No	А
	scade occurs	No	А	No	А
	ding lines used	No	А	No	А
	-				
	rge asymmetric collapse		-		-
	ange of course until re-inflation / Maximum dive forward or angle	90° to 180° / Dive or roll angle 15° to 45°	В	90° to 180° / Dive or roll angle 15° to 45°	В
Re	-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
To	al change of course	Less than 360°	A	Less than 360°	А

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

Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	A
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	А	Yes	А
Stall or spin occurs	No	А	No	А
23. Any other flight procedure and/or configuration described in the user's manual	0			
Procedure works as described	not available	0	not available	0
Procedure suitable for novice pilots	not available	0	not available	0
Cascade occurs	not available	0	not available	0
24. Comments of test pilot				



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PG_1017.2016

04.02.2016



Β Class:

In accordance with EN standards 926-2:2013 & 926-1:2006:

Date of issue (DMY):

Manufacturer: Sky Paragliders a.s. Apollo L

Model:

Serial number: 2058-11-1242

Harness to risers distance (cm)

Distance between risers (cm)

Configuration during flight tests

Paraglider

Maximum weight in flight (kg)	108
Minimum weight in flight (kg)	85
Glider's weight (kg)	4.8
Number of risers	3
Projected area (m2)	23.03
Harness used for testing (max weight)	
Harness type	ABS
Harness brand	Gin Gliders
Harness model	Gingo 2 L

Accessories

Range of speed system (cm)	13.5
Speed range using brakes (km/h)	14
Range of trimmers (cm)	0
Total speed range with accessories (km/h)	28

Inspections (whichever happens first) every 24 months or every 100 flying hours Gliders Warning! Before use refer to user's manual Person or company having presented the glider for testing: None



43

46



i light test rep	OIT. EN 520-2.2010				
Manufacturer	Sky Paragliders a.s.	Certification number		PG_1017.2016	
Address	Okružní 39 73911 Frýdlant nad Ostravicí Czech Republic	Date of flight test		14. 12. 2015	
	A			_	
Glider model	Apollo L	Classification		В	
Serial number	2058-11-1242	Representative		None	
Trimmer	no	Place of test		Villeneuve	
Test pilot		Thurnheer Claude		Zoller Alain	
Harness		Sup' Air - Access M		Gin Gliders - Gingo 2 L	
Harness to risers d	istance (cm)	43		43	
Distance between r	. ,	44		46	
Total weight in fligh	it (Kg)	85		108	
1. Inflation/Take-off		Α			
Rising behaviour		Smooth, easy and constant rising		Smooth, easy and constant rising	Α
Special take off technique	required	No	А	No	А
2. Landing		Α			
Special landing technique		No	А	No	А
3. Speed in straight fligh	it	Α			
Trim speed more than 30	km/h	Yes	А	Yes	А
Speed range using the co	ntrols larger than 10 km/h	Yes	А	Yes	А
Minimum speed		Less than 25 km/h	А	Less than 25 km/h	А
4. Control movement		Α			
Max. weight in flight up	to 80 ka				
Symmetric control pressu	-	not available	0	not available	0
Max. weight in flight 80 l	ka to 100 ka				
Symmetric control pressu		Increasing / greater than 60 cm	А	not available	0
Max. weight in flight gre	ater than 100 kg				
Symmetric control pressu		not available	0	Increasing / greater than 65 cm	А
5. Pitch stability exiting	accelerated flight	Α			
Dive forward angle on exit	t	Dive forward less than 30°	А	Dive forward less than 30°	А
Collapse occurs		No	А	No	А
6. Pitch stability operation flight	ng controls during accelerated	Α			
Collapse occurs		No	А	No	А
7. Roll stability and dam	ping	Α			
Oscillations		Reducing	А	Reducing	А
8. Stability in gentle spir	als	A			
Tendency to return to stra		Spontaneous exit	А	Spontaneous exit	А
	Illy developed spiral dive	Α			
Initial response of glider (f		Immediate reduction of rate of turn	A	Immediate reduction of rate of turn	A
Tendency to return to stra	ight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	Spontaneous exit (g force decreasing, rate of turn decreasing)	A
Turn angle to recover nor	mal flight	Less than 720°, spontaneous recovery	A	Less than 720°, spontaneous recovery	A

Approximately 30 % chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit Change of course	Dive forward 0° to 30° Keeping	A	Dive forward 0° to 30° Keeping	A
	course		course	
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
At least 50% chord	Decking book loss than 45°	^	Decking back loss than 45°	•
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in 3 s to 5 s Dive forward 0° to 30° / Keeping	B	Spontaneous in less than 3 s Dive forward 0° to 30° / Keeping	A
Dive forward angle on exit / Change of course	course	A	course	A
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
With accelerator				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in less than 3 s	A
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping	A	Dive forward 30° to 60° / Keeping	В
Dive forward angle on exit? onlange of oouloe	course		course	D
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
11. Exiting deep stall (parachutal stall)	Α			
Deep stall achieved	Yes	А	Yes	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Change of course	Changing course less than 45°	А	Changing course less than 45°	А
Cascade occurs	No	А	No	А
12. High angle of attack recovery	Α			
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Cascade occurs	No	А	No	А
13. Recovery from a developed full stall	Α			
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Collapse	No collapse	А	No collapse	Α
Cascade occurs (other than collapses)	No	А	No	Α
Rocking back	Less than 45°	А	Less than 45°	A
Line tension	Most lines tight	Α	Most lines tight	A
14. Asymmetric collapse	В			
Small asymmetric collapse				
Change of course until re-inflation / Maximum dive forward or	Less than 90° / Dive or roll angle 15° to 45°	А	Less than 90° / Dive or roll angle 0° to 15°	А
roll angle Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	A	Less than 360°	A
Collapse on the opposite side occurs	No (or only a small number of	A	No (or only a small number of	A
Conapse on the opposite side occurs	collapsed cells with a spontaneous reinflation)	~	collapsed cells with a spontaneous reinflation)	~
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	Α
Folding lines used	No	А	No	А
Large asymmetric collapse				
Large asymmetric collapse Change of course until re-inflation / Maximum dive forward or		R	90° to 180° / Dive or roll angle 15°	в
Large asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	В	90° to 180° / Dive or roll angle 15° to 45°	В
Change of course until re-inflation / Maximum dive forward or roll angle Re-inflation behaviour	90° to 180° / Dive or roll angle 15° to 45° Spontaneous re-inflation	B A	to 45° Spontaneous re-inflation	B A
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°		to 45°	

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

Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	А
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	А	Yes	А
Stall or spin occurs	No	А	No	А
23. Any other flight procedure and/or configuration described in the user's manual	Α			
Procedure works as described	Yes	А	not available	0
Procedure suitable for novice pilots	Yes	А	not available	0
Cascade occurs	No	А	not available	0
24. Comments of test pilot				



Air Turquoise SA Rte du Pré-au-Comte 8 | CH-1844 Villeneuve tel. +41 21 965 65 65 | mobile +41 79 202 52 30 info@para-test.com

PG_1016.2016

24.03.2016



Class: **B**

In accordance with EN standards 926-2:2013 & 926-1:2006:

Date of issue (DMY):

Manufacturer: Sky Paragliders a.s. Model: Apollo S

Serial number: 02060-11-1414

Configuration during flight tests

Paraglider

-	
Maximum weight in flight (kg)	81
Minimum weight in flight (kg)	64
Glider's weight (kg)	4.4
Number of risers	3
Projected area (m2)	20.19

Harness used for testing (max weight)

······································	
Harness type	ABS
Harness brand	Sup' Air
Harness model	Altiplume M
Harness to risers distance (cm)	43
Distance between risers (cm)	44

Accessories

Range of speed system (cm)	14.3
Speed range using brakes (km/h)	14
Range of trimmers (cm)	0
Total speed range with accessories (km/h)	28

Inspections (whichever happens first) every 24 months or every 100 flying hours Warning! Before use refer to user's manual Person or company having presented the glider for testing: **None**





Manufacturer	Sky Paragliders a.s.	Certification number		PG 1016.2016	
Address	Okružní 39	Date of flight test		26. 02. 2016	
	73911 Frýdlant nad Ostravicí Czech Republic				
Glider model	Apollo S	Classification		В	
Serial number	02060-11-1414	Representative		None	
		Place of test			
Trimmer	no	Place of lest		Villeneuve	
Test pilot		Fukuoka Seiko		Thurnheer Claude	
Harness		Sup' Air - Altiplume S		Sup' Air - Altiplume M	
Harness to risers di	stance (cm)	43		43	
Distance between ri	. ,	40		44	
Total weight in fligh		64		81	
rotar weight in high	it (kg)	04		01	
1. Inflation/Take-off		Α			
Rising behaviour		Smooth, easy and constant rising		Smooth, easy and constant rising	A
Special take off technique	required	No	А	No	A
2. Landing		Α			
Special landing technique		No	A	No	A
3. Speed in straight flight		A		×.	
Trim speed more than 30 k		Yes	A	Yes	A
Speed range using the cor	htrois larger than 10 km/h	Yes	A	Yes	A
Minimum speed		Less than 25 km/h	A	Less than 25 km/h	A
4. Control movement		Α			
Max. weight in flight up t	o 80 kg				
Symmetric control pressure	e / travel	Increasing / greater than 55 cm	А	not available	0
Max. weight in flight 80 k	rg to 100 kg				
Symmetric control pressure	e / travel	not available	0	Increasing / greater than 60 cm	А
Max. weight in flight grea	ater than 100 kg				
Symmetric control pressure	e / travel	not available	0	not available	0
5. Pitch stability exiting a	accelerated flight	А			
Dive forward angle on exit		Dive forward less than 30°	А	Dive forward less than 30°	А
Collapse occurs		No	А	No	А
6. Pitch stability operatin flight	ig controls during accelerated	Α			
Collapse occurs		No	А	No	А
7. Roll stability and damp	ping	А			
Oscillations		Reducing	А	Reducing	А
8. Stability in gentle spira	als	Α			
Tendency to return to strain	ght flight	Spontaneous exit	А	Spontaneous exit	А
9. Behaviour exiting a ful	lly developed spiral dive	A			
Initial response of glider (fi	rst 180°)	Immediate reduction of rate of turn	A	Immediate reduction of rate of turn	A
Tendency to return to straig	ght flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	Spontaneous exit (g force decreasing, rate of turn decreasing)	A
Turn angle to recover norm	a l flight	Less than 720°, spontaneous	А	Less than 720°, spontaneous	А

Approximately 30 % chord				
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit Change of course	Dive forward 0° to 30° Keeping course	A	Dive forward 0° to 30° Keeping course	A
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
At loss t 50% about				
At least 50% chord	Pooking book loss than 45°	۸	Pooking book loss than 15°	^
Entry	Rocking back less than 45°	A	Rocking back less than 45° Spontaneous in 3 s to 5 s	A B
Recovery	Spontaneous in less than 3 s Dive forward 0° to 30° / Keeping	A	Dive forward 0° to 30° / Keeping	ь А
Dive forward angle on exit / Change of course	course	A	course	
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A
With accelerator				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in 3 s to 5 s	в
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	А	Dive forward 0° to 30° / Keeping course	А
Cascade occurs	No	А	No	А
Folding lines used	No	A	No	A
11. Exiting deep stall (parachutal stall)	A	~		~
Deep stall achieved	Yes	А	Yes	А
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°	A
Change of course	Changing course less than 45°	A	Changing course less than 45°	A
			changing course lees that to	
Cascade occurs	No	Δ	No	Δ
Cascade occurs 12. High angle of attack recovery	No A	А	No	А
12. High angle of attack recovery	A			
	A Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
12. High angle of attack recovery Recovery Cascade occurs	A Spontaneous in less than 3 s No			
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall 	A Spontaneous in less than 3 s No A	А	Spontaneous in less than 3 s No	A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit 	A Spontaneous in less than 3 s No A Dive forward 0° to 30°	A A	Spontaneous in less than 3 s No Dive forward 0° to 30°	А
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse 	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse	A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse	A A A
12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)	A Spontaneous in less than 3 s No A Dive forward 0° to 30°	A A A	Spontaneous in less than 3 s No Dive forward 0° to 30°	A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse 	A Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A
12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)Rocking back	A Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No	A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No	A A A A A
12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)Rocking backLine tension14. Asymmetric collapse	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A A
12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)Rocking backLine tension	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A
12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)Rocking backLine tension14. Asymmetric collapse	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight Less than 90° / Dive or roll angle	A A A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle 	A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle 15° to 45°	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle Re-inflation behaviour 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 	A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 No 	A A A A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 No 	A A A A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 No 	A A A A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 A A A A A A A
 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 Folding lines used Large asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle 	 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight 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 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)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
Small 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°	А	Less than 90° / Dive or roll angle 15° to 45°	A
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
Large asymmetric collapse with fully activated accelerator Change of course until re-inflation / Maximum dive forward or	90° to 180° / Dive or roll angle	В	90° to 180° / Dive or roll angle 15°	в
roll angle	15° to 45°	D	to 45°	D
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
15. Directional control with a maintained asymmetric collapse	Α			
Able to keep course	Yes	А	Yes	А
180° turn away from the collapsed side possible in 10 s	Yes	А	Yes	А
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	А	More than 50 % of the symmetric control travel	А
16. Trim speed spin tendency	Α			
Spin occurs	No	А	No	А
17. Low speed spin tendency	Α			
Spin occurs	No	А	No	А
18. Recovery from a developed spin	Α			
Spin rotation angle after release	Stops spinning in less than 90°	А	Stops spinning in less than 90°	А
Cascade occurs				
	No	А	No	А
19. B-line stall	Α	A		A
Change of course before release		A A	No Changing course less than 45°	A
	Α	_		
Change of course before release	A Changing course less than 45° Remains stable with straight	А	Changing course less than 45°	A
Change of course before release Behaviour before release	A Changing course less than 45° Remains stable with straight span	A A	Changing course less than 45° Remains stable with straight span	A A
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	A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	A A A
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°	A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure	 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 	A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls	A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during 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 Dedicated controls Stable flight	A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight	A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery	 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 	A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s	A A A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. 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 Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° 	A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight	A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big ears in accelerated flight	 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° B 	A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30°	A A A A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big ears in accelerated flight Entry procedure	 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° B Dedicated controls 	A A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Dedicated controls	A A A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big ears in accelerated flight Entry procedure Behaviour during 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 Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° B Dedicated controls Stable flight 	A A A A A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Dedicated controls Stable flight	A A A A A A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big ears in accelerated flight Entry procedure	 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° B Dedicated controls 	A A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Dedicated controls	A A A A A A A A
Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big ears in accelerated flight Entry procedure Behaviour during 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 Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° B Dedicated controls Stable flight Recovery through pilot action in 	A A A A A A A A A A A A	Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No Dedicated controls Stable flight Spontaneous in less than 3 s Dive forward 0° to 30° Dedicated controls Stable flight Recovery through pilot action in	A A A A A A A A A A

Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	A
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	А	Yes	А
Stall or spin occurs	No	А	No	А
23. Any other flight procedure and/or configuration described in the user's manual	0			
Procedure works as described	not available	0	not available	0
Procedure suitable for novice pilots	not available	0	not available	0
Cascade occurs	not available	0	not available	0
24. Comments of test pilot				



Manufacturer	Sky Paragliders a.s.	Certification number		PG_1021.2016	
Address	Okružní 39 73911 Frýdlant nad	Date of flight test		11. 04. 2016	
	Ostravicí Czech Republic				
Glider model	Apollo XL	Classification		В	
Serial number	2152-11-0639	Representative		None	
Trimmer		Place of test		Villeneuve	
	no	Flace of lesi		VIIIerieuve	
Test pilot		Thurnheer Claude		Zoller Alain	
Harness		Niviuk - Hamak M		Gin Gliders - Gingo 2 L	
Harness to risers distance (cm)		44		43	
Distance between risers (cm)		44		46	
Total weight in flight (kg)		99		125	
rotai weight in high	it (kg)	55		125	
1. Inflation/Take-off		Α			
Rising behaviour		Smooth, easy and constant rising		Smooth, easy and constant rising	Α
Special take off technique	required	No	А	No	A
2. Landing		Α			
Special landing technique required		No	A	No	A
3. Speed in straight flight		Α			
Trim speed more than 30 k		Yes	A	Yes	A
Speed range using the cor	htrols larger than 10 km/h	Yes	A	Yes	A
Minimum speed		Less than 25 km/h	А	Less than 25 km/h	A
4. Control movement		Α			
Max. weight in flight up t	o 80 kg				
Symmetric control pressure / travel		not available	0	not available	0
Max. weight in flight 80 k	tg to 100 kg				
Symmetric control pressure	e / travel	Increasing / greater than 60 cm	А	not available	0
Max. weight in flight grea	ater than 100 kg				
Symmetric control pressure / travel		not available	0	Increasing / greater than 65 cm	А
5. Pitch stability exiting a	accelerated flight	А			
Dive forward angle on exit		Dive forward less than 30°	А	Dive forward less than 30°	А
Collapse occurs		No	А	No	А
6. Pitch stability operatin flight	ig controls during accelerated	Α			
Collapse occurs		No	А	No	А
7. Roll stability and damp	ping	Α			
Oscillations		Reducing	А	Reducing	А
8. Stability in gentle spira	als	А			
Tendency to return to strai	ght flight	Spontaneous exit	А	Spontaneous exit	А
9. Behaviour exiting a fully developed spiral dive		Α			
Initial response of glider (first 180°)		Immediate reduction of rate of turn	A	Immediate reduction of rate of turn	A
Tendency to return to strai	ght flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	Spontaneous exit (g force decreasing, rate of turn decreasing)	A
Turn angle to recover norn	a l flight	Less than 720°, spontaneous	А	Less than 720°, spontaneous	А

Approximately 30 % chord				
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit Change of course	Dive forward 0° to 30° Keeping course	A	Dive forward 0° to 30° Keeping course	A
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
At least 50% chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in less than 3 s	A
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping	A	Dive forward 0° to 30° / Keeping	A
	course		course	
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	А
With accelerator				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 30° to 60° / Keeping course	В
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
11. Exiting deep stall (parachutal stall)	Α			
Deep stall achieved	Yes	А	Yes	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Change of course	Changing course less than 45°	А	Changing course less than 45°	А
Cascade occurs	No	А	No	А
-		А	No	А
Cascade occurs	No	A	No Spontaneous in less than 3 s	A
Cascade occurs 12. High angle of attack recovery	No A			
Cascade occurs 12. High angle of attack recovery Recovery	No A Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs	No A Spontaneous in less than 3 s No	А	Spontaneous in less than 3 s	А
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall	No A Spontaneous in less than 3 s No A	A A	Spontaneous in less than 3 s No	A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit	No A Spontaneous in less than 3 s No A Dive forward 0° to 30°	A A A	Spontaneous in less than 3 s No Dive forward 0° to 30°	A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse	A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse	A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses)	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No	A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No	A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45°	A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45°	A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle 15° to 45°	A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight	A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle Re-inflation behaviour	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle 15° to 45° Spontaneous re-inflation	A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight Less than 90° / Dive or roll angle 0° to 15° Spontaneous re-inflation	A A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360°	A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight Less than 90° / Dive or roll angle 0° to 15° Spontaneous re-inflation Less than 360°	A A A A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. Asymmetric collapse Small asymmetric collapse Change of course until re-inflation / Maximum dive forward or roll angle Re-inflation behaviour	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B Less than 90° / Dive or roll angle 15° to 45° Spontaneous re-inflation	A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° Most lines tight Less than 90° / Dive or roll angle 0° to 15° Spontaneous re-inflation	A A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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	A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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 A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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 A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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 A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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 Folding lines used	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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 A A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back Line tension 14. 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 Folding lines used Large asymmetric collapse	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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	A A A A A A A A A A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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 A A A A A A A A A A
Cascade occurs12. High angle of attack recoveryRecoveryCascade occurs13. Recovery from a developed full stallDive forward angle on exitCollapseCascade occurs (other than collapses)Rocking backLine tension14. Asymmetric collapseChange of course until re-inflation / Maximum dive forward or roll angleRe-inflation behaviourTotal change of courseCollapse on the opposite side occursTwist occursFolding lines usedLarge asymmetric collapseChange of course until re-inflation / Maximum dive forward or roll angleRe-inflation behaviourTotal change of courseCollapse on the opposite side occursChange of courseCollapse on the opposite side occursCascade occursFolding lines usedLarge asymmetric collapseChange of course until re-inflation / Maximum dive forward or roll angle	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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	A A A A A A A A A A A A
Cascade occurs 12. High angle of attack recovery Recovery Cascade occurs 13. Recovery from a developed full stall Dive forward angle on exit Collapse Cascade occurs (other than collapses) Rocking back 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 Events Cascade occurs Folding lines used Large asymmetric collapse Change of course until re-inflation / Maximum dive forward or	No A Spontaneous in less than 3 s No A Dive forward 0° to 30° No collapse No Less than 45° Most lines tight B 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 A A A A A A A	Spontaneous in less than 3 s No Dive forward 0° to 30° No collapse No Less than 45° 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	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)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	A	No	A
		~		
Small 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°	A	Less than 90° / Dive or roll angle 15° to 45°	A
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or	90° to 180° / Dive or roll angle	в	90° to 180° / Dive or roll angle 15°	в
roll angle	15° to 45°	D	to 45°	D
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No	А	No	А
15. Directional control with a maintained asymmetric collapse	Α			
Able to keep course	Yes	А	Yes	А
180° turn away from the collapsed side possible in 10 s	Yes	А	Yes	А
Amount of control range between turn and stall or spin	More than 50 % of the	А	More than 50 % of the symmetric	А
	symmetric control travel		control travel	
16. Trim speed spin tendency	Α			
Spin occurs	No	Α	No	А
17. Low speed spin tendency	Α			
Spin occurs	No	А	No	А
18. Recovery from a developed spin	В			
Spin rotation angle after release	Stops spinning in 90° to 180°	В	Stops spinning in 90° to 180°	В
Cascade occurs	No	А	No	А
19. B-line stall	Α			
Change of course before release	Changing course less than 45°	А	Changing course less than 45°	А
Behaviour before release	Remains stable with straight span	A	Remains stable with straight span	A
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Cascade occurs	No	А	No	А
20. Big ears	В			
Entry procedure	Dedicated controls	А	Dedicated controls	А
Behaviour during big ears	Stable flight	А	Stable flight	А
Recovery	Spontaneous in 3 s to 5 s	В	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
21. Big ears in accelerated flight	Α			
Entry procedure	Dedicated controls	А	Dedicated controls	А
Behaviour during big ears	Stable flight	А	Stable flight	А
Recovery	Spontaneous in 3 s to 5 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А

Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	A
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	А	Yes	А
Stall or spin occurs	No	А	No	А
23. Any other flight procedure and/or configuration described in the user's manual	0			
Procedure works as described	not available	0	not available	0
Procedure suitable for novice pilots	not available	0	not available	0
Cascade occurs	not available	0	not available	0
24. Comments of test pilot				