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Ozone Gliders LTD

test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

Manufacturer



Certification number PG_2593.2025

Flight test report: EN 926-2:2013+A1:2021 and NfL 2024-2-785

Address	16 Barnes Green EH54 8PP Livingston United Kingdom		Flight test		03.03.2020		
Glider model	Alpina 4 GT ML		Classification		С		
Serial number	PR23-V-07E-013	Representative			Russel Ogden		
Trimmer	no	Place of test			Villeneuve		
Folding lines used	no						
Test pilot		Claude Thurnheer			Alain Zoller		
Harness		Supair s.a.s. Evo XC 3 M			Advance Thun AG Success 4 L		
Harness to risers distance [cm]		43			43		
Distance between r		44			46		
2.0.0	ioo.o [o]						
Total weight in fligl	nt [kg]	85		105			
1. Inflation/Take-off		В					
Rising behaviour		Easy rising, some pilo	t correction is required	В	Easy rising, some pilot correction is required	В	
Special take off technique	e required	No A		Α	No	Α	
2. Landing		A					
Special landing technique	e required	No		Α	No	Α	
<u> </u>		A					
Speed in straight flightTrim speed more than 30		A Yes		Α	Yes	Α	
min speed more than 50	KIII/II	103		Α	103		
Speed range using the controls larger than 10 km/h		Yes		Α	Yes	Α	
Minimum speed		Less than 25 km/h		Α	Less than 25 km/h	Α	
4. Control movement		С					
Max. weight in flight up	to 80 kg						
Symmetric control pressu		not available		0	not available	0	
Max. weight in flight 80	= =						
Symmetric control pressure / travel		Increasing / greater th	an 60 cm	Α	not available	0	
Max. weight in flight gre	eater than 100 kg						
Symmetric control pressure / travel		not available		0	Increasing / 50 cm to 65 cm	С	
,							
5. Pitch stability exiting accelerated flight		A					
Dive forward angle on exit		Dive forward less than	1 30°	Α	Dive forward less than 30°	Α	
Collapse occurs		No		Α	No	Α	
6. Pitch stability operating controls during accelerated flight		A					
Collapse occurs		No		Α	No	Α	
7. Roll stability and dam	nping	A					
Oscillations		Reducing		Α	Reducing	Α	
0.04-1-1114		A					
8. Stability in gentle spirals Tendency to return to straight flight		A Spontaneous exit		Α	Spontaneous exit	Α	
Tendency to return to straight flight		oponianeous exit		А	оронаперия ехп	А	

Transancy to return to straight flight Turn angle to recover normal flight 10. Symmetric front collapse Approximately 30 % chord Entry Recovery Rec	9. Behaviour exiting a fully developed spiral dive	A			
thur angle to recover normal flight 10. Symmetric front collapse Approximately 30 % chord Entry Recovery Spontaneous in less than 45° Recovery Spontaneous in less than 45° A Bosking back less than 45° A Proximately 30 % chord Entry Recovery Spontaneous in less than 3 s Dive forward angle on exit Change of course Angle Casacade occurs No A No At least 50% chord Entry Recovery Spontaneous in less than 45° Recovery Boltaneous in less than 45° Recovery Reco	Initial response of glider (first 180°)	Immediate reduction of rate of turn	Α	Immediate reduction of rate of turn	Α
10. Symmetric front collapse Approximately 30 % chord Entry Recovery Spontaneous in less than 3 x A Rosking back less than 45° Recovery Dive forward angle on exit Change of course Cascade occurs No A No A No At	Tendency to return to straight flight		Α		Α
Approximately 30 % chord Entry Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit Change of course Ne forward 0" to 30" / Keeping course A Dive forward 0" to 30" / Keeping course Cascade occurs Ne No A No At least 50% chord Entry Recovery Spontaneous in less than 3 s A Spontaneous in less than 45" A Rocking back less than 3 s Dive forward angle on exit / Change of course A No A N	Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward or 10 30" / Keeping course Cascade occurs No A No A No At least 50% chord Entry Rocking back less than 45" A Rocking back less than 45" A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A No At least 50% chord Entry Rocking back less than 45" A Rocking back less than 45" A Rocking back less than 45" A Rocking back less than 3 s A Spontaneous in less than 3 s A No At least 50% chord Entry Rocking back less than 45" A Rocking back less than 45" A No A N	·	С			
Dive forward angle on exit Change of course Dive forward 0" to 30" / Keeping course	Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Cascade occurs No No A No No A No No At Ieast 50% chord Entry Recovery Spontameous in less than 45° A Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 3 s A Spontameous in less than 3 s A No No No A No No No No A No	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Folding lines used At least 50% chord Entry Recovery Rec	Dive forward angle on exit Change of course	Dive forward 0° to 30° / Keeping course		Dive forward 0° to 30° / Keeping course	Α
At least 50% chord Entry Recovery Spontaneous in less than 45° A Rocking back less than 45° Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course A Dive forward 0° to 30° / Keeping course Cascade occurs No A No With accelerator Entry Recovery Spontaneous in less than 45° A Rocking back greater than 45° Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course A Dive forward 0° to 30° / Keeping course Cascade occurs No A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Yes A Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Yes Recovery Spontaneous in less than 3 s A Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit Change of course Changing course in less than 3 s A Spontaneous in less than 3 s A Yes Recovery Spontaneous in less than 45° A Changing course less than 45° Change of course Changing course less than 45° A Changing course less than 45° Cascade occurs No A No A No 12. High angle of attack recovery A Spontaneous in less than 3 s A Spontaneous in less than 3 s No A No 13. Recovery Cascade occurs A Dive forward 0° to 30° A Dive forward 30° to 60° 14. No collapse A Dive forward 30° to 30° A Dive forward 30° to 60° 15. Recovery From a developed full stall Dive forward 0° to 30° A Dive forward 30° to 60°	Cascade occurs	No	Α	No	Α
Entry Rocking back less than 45° A Rocking back less than 45° A Rocking back less than 45° Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward on 30° / Keeping course A Dive forward on 30° / Keeping course A No A No A No With accelerator Entry Rocking back less than 45° A Rocking back greater than 45° A Rocking back gr	Folding lines used	No	Α	No	Α
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s		Rocking back loss than 45°	Δ	Rocking back less than 45°	Α
Dive forward angle on exit / Change of course Dive forward 0" to 30" / Keeping course A Dive forward 0" to 30" / Keeping course A No A No With accelerator Entry Rocking back less than 45" A Rocking back greater than 45" Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit / Change of course Cascade occurs No No A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Yes Recovery Spontaneous in less than 3 s Dive forward 0" to 30" / Keeping course A Yes Recovery Spontaneous in less than 3 s A Yes Recovery Spontaneous in less than 3 s Dive forward 0" to 30" A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Yes Recovery Spontaneous in less than 3 s A Overforward 0" to 30" Change of course Changing course less than 45" A Changing course less than 45" A No 12. High angle of attack recovery Spontaneous in less than 3 s No A No A No 13. Recovery from a developed full stall Dive forward 0" to 30" A Dive forward 30" to 60"	, _	-			A
Cascade occurs No No A No With accelerator Entry Recovery Entry Recovery Dive forward one with / Change of course No No No A No No No A Rocking back less than 45° A Rocking back greater than 45° A Recovery Dive forward one with / Change of course Dive forward one with / Change of course Dive forward one with / Change of course No A No A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward one with one with one with one with a spontaneous in less than 45° Change of course Cascade occurs No A No A No 12. High angle of attack recovery Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 45° A Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward angle on exit Dive forward angle on exit Dive forward one with one w	·				A
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Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course A Dive forward 0° to 30° / Keeping course A No A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Yes A Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit Change of course Changing course less than 45° A Changing course less than 45° Cascade occurs No A No 12. High angle of attack recovery A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall B Dive forward o° to 30° A Dive forward 30° to 60° Collapse No collapse	_	Rocking back less than 45°	Α	Rocking back greater than 45°	С
Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course A Dive forward 0° to 30° / Keeping course A No A No Folding lines used No A No 11. Exiting deep stall (parachutal stall) Deep stall achieved Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit Changing course less than 45° Changing course less than 45° A Changing course less than 45° Cascade occurs No A No 12. High angle of attack recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 45° A No 13. Recovery from a developed full stall Dive forward 0° to 30° A Dive forward 0° to 30° A No Collapse No collapse A No collapse	·	-			Α
Cascade occurs No A No			Α		Α
Folding lines used No A No A No 11. Exiting deep stall (parachutal stall) A Peep stall achieved No Spontaneous in less than 3 s A Dive forward on to 300 A Changing course Changing course less than 450 A Changing course less than 450 A Changing course less than 450 A No 12. High angle of attack recovery Recovery No Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward on to 300 A Dive forward 300 to 600 A No collapse					Α
11. Exiting deep stall (parachutal stall) Deep stall achieved Yes A Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward on to 30 on Change of course Change of course Changing course less than 45 on A No 12. High angle of attack recovery Recovery Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward on to 30 on A Dive forward 30 on to 60 on Collapse No collapse A No collapse		No	Α	No	Α
Deep stall achieved Yes A Yes Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Dive forward angle on exit Dive forward 0° to 30° Change of course Changing course less than 45° A Changing course less than 45° A Changing course less than 45° A No 12. High angle of attack recovery Recovery A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward 0° to 30° A Dive forward 30° to 60° Collapse No collapse A No collapse		A			
Dive forward angle on exit Dive forward 0° to 30° Change of course Changing course less than 45° A Changing course less than 45° Cascade occurs No A No 12. High angle of attack recovery Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward 0° to 30° A Dive forward 30° to 60° A Dive forward 30° to 60° A No collapse No collapse			Α	Yes	Α
Change of course Changing course less than 45° A Changing course less than 45° Cascade occurs No A No 12. High angle of attack recovery Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall B Dive forward angle on exit Dive forward 0° to 30° No collapse No collapse	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs No A No A No 12. High angle of attack recovery Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A No Cascade occurs No A No A No 13. Recovery from a developed full stall Dive forward angle on exit Dive forward 0° to 30° A Dive forward 30° to 60° Collapse No collapse A No collapse	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
12. High angle of attack recovery Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A No 13. Recovery from a developed full stall Dive forward angle on exit Dive forward 0° to 30° No collapse A No collapse	Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s Cascade occurs No A No 13. Recovery from a developed full stall B Dive forward angle on exit Dive forward 0° to 30° A Dive forward 30° to 60° Collapse No collapse A No collapse	Cascade occurs	No	Α	No	Α
Cascade occurs No A No 13. Recovery from a developed full stall B Dive forward angle on exit Dive forward 0° to 30° A Dive forward 30° to 60° Collapse No collapse A No collapse			A	Spontaneous in less than 3 s	Α
Dive forward angle on exit Dive forward 0° to 30° A Dive forward 30° to 60° Collapse No collapse A No collapse	·	No	Α	No	Α
Collapse No collapse A No collapse			Α	Dive forward 30° to 60°	В
		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	В			
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°	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 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	Α	No	Α
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
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	Α	No	Α
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°	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	Α	No	Α
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	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	Α	No	Α
15. Directional control with a maintained asymmetric collapse	A			
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 Spin occurs	A No	Α	No	Α
Cpiii Goodio				
18. Recovery from a developed spin	B Stone enigning in 00% to 190%	ь	Stone enimping in 00% to 100%	ь
Spin rotation angle after release	Stops spinning in 90° to 180°	В	Stops spinning in 90° to 180°	В
Cascade occurs	No	Α	No	Α
19. B-line stall	С			
Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Behaviour before release	Remains stable without straight span	С	Remains stable without straight span	С
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	В			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Recovery through pilot action in less than a further 3 s	В	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	В			
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	Recovery through pilot action in less than a further 3 s	В
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	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