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

C. Del Ter, 6 Nave D

test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

Manufacturer

Address



Certification number PG_2450.2024

28.08.2024

Flight test

Flight test report: EN 926-2:2013+A1:2021* and NfL 2-565-20

Niviuk Gliders / Air Games S.L.

	17165 La Cellera de	Ter Girona				
Glider model Serial number Trimmer Folding lines used	Spain Takoo 6 44 TAKOO6344 Opened no		Classification Representative Place of test		B None Villeneuve	
Test pilot		Claude Thurnh	neer		Alexandre Jofresa	
Harness Harness to risers distance [cm] Distance between risers [cm] Length of rigid spreaders [cm] Total weight in flight [kg]		Advance Thun AG Bi-pro 3 M 42 55 15 140			Advance Thun AG Bi-pro 3 M 42 55 15 240	
1. Inflation/Take-off Rising behaviour			B Easy rising, some pilot correction is required E		Smooth, easy and constant rising	А
Special take off technique required		No		Α	No	Α
2. Landing Special landing technique required		A No		Α	No	А
3. Speed in straight flight Trim speed more than 30 km/h		B Yes		Α	Yes	А
Speed range using the controls larger than 10 km/h		Yes		Α	Yes	Α
Minimum speed		25 km/h to 30 km/h		В	25 km/h to 30 km/h	В
4. Control movement Max. weight in flight up to 80 kg Symmetric control pressure / travel		A not available		0	not available	0
Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel		not available		0	not available	0
Max. weight in flight greater than 100 kg Symmetric control pressure / travel		Increasing / greater th	nan 65 cm	Α	Increasing / greater than 65 cm	А
5. Pitch stability exiting Dive forward angle on exi		0 not available		0	not available	0
Collapse occurs		not available		0	not available	0
6. Pitch stability operati	ng controls during	0				
accelerated flight Collapse occurs		not available		0	not available	0
7. Roll stability and dam Oscillations	ping	A Reducing		A	Reducing	Α
8. Stability in gentle spin	rals	Α				

9. Behaviour exiting a fully developed spiral dive	В			
Initial response of glider (first 180°)	No immediate reaction	В	No immediate reaction	В
Tendency to return to straight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	Α	Spontaneous exit (g force decreasing, rate of turn decreasing)	ı A
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	Α
10. Symmetric front collapse Approximately 30 % chord	A			
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
Folding lines used	No	Α	No	Α
At least 50% chord	Dealing heat loss than 459	٨	Dealing heat loss than 45°	٨
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	A	No	A
Folding lines used	No	Α	No	Α
With accelerator				
Entry	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit / Change of course	not available	0	not available	0
Cascade occurs	not available	0	not available	0
Folding lines used	Not available	0	Not available	0
11. Exiting deep stall (parachutal stall)	A Yes	Δ	Yes	Α
Deep stall achieved	Spontaneous in less than 3 s		Spontaneous in less than 3 s	A
Recovery				
Dive forward angle on exit	Dive forward 0° to 30°		Dive forward 0° to 30°	A
Change of course	Changing course less than 45°		Changing course less than 45°	Α .
Cascade occurs	No	Α	No	Α
12. High angle of attack recovery Recovery	A Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	A			
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Collapse	No collapse	Α	No collapse	Α
Cascade occurs (other than collapses)	No	Α	No	Α

Rocking back	Less than 45°	Α	Less than 45°	Α
Line tension	Most lines tight	Α	Most lines tight	Α
14. Asymmetric collapse Small asymmetric collapse	В			
Change of course until re-inflation / Maximum	Less than 90° / Dive or roll angle 15° to 45°	Α	Less than 90° / Dive or roll angle 0° to 15°	Α
dive forward or roll angle 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
Cascade occurs	No	Α	No	Α
Folding lines used	No	Α	No	Α
Large asymmetric collapse				
Change of course until re-inflation / Maximum 90° to 180° / Dive or roll angle 15° to 45° dive forward or roll angle		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	not available	0	not available	0
Re-inflation behaviour	not available	0	not available	0
Total change of course	not available	0	not available	0
Collapse on the opposite side occurs	not available	0	not available	0
Twist occurs	not available	0	not available	0
Cascade occurs	not available	0	not available	0
Folding lines used	Not available	0	Not available	0
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	not available	0	not available	0
Re-inflation behaviour	not available	0	not available	0
Total change of course	not available	0	not available	0
Collapse on the opposite side occurs	not available	0	not available	0
Twist occurs	not available	0	not available	0
Cascade occurs	not available	0	not available	0

Folding lines used	Not available	0	Not available	0
15. Directional control with a maintained asymmetric collapse	Α			
Able to keep course	Yes	Α	Yes	Α
180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	Α	More than 50 % of the symmetric control travel	Α
16. Trim speed spin tendency	A			
Spin occurs	No	А	No	Α
17. Low speed spin tendency Spin occurs	A No	Α	No	Α
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	Α	No	Α
19. B-line stall	0			
Change of course before release	not available	0	not available	0
Behaviour before release	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
Cascade occurs	not available	0	not available	0
20. Big ears	A			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	0			
Entry procedure	not available	0	not available	0
Behaviour during big ears	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
Behaviour immediately after releasing the accelerator while maintaining big ears	not available	0	not available	0
22. Alternative means of directional control	Α			
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