Flight test report

Manufacturer	**Niviuk Gliders**	**Certification number**	PG 049.2007
Address	Air Games S.L, C/Doctore Cordina, 29 Bajos 17165 La Cellera de Ter Girona Spain	**Date of flight test** **Place of test**	18/04/2007 Villeneuve
Representive	Olivier Nef	**Classification B**	
Type of glider	**NK1 XS**		
Trimmer	**not available**		

Test Pilot	Seiko Fukuoka	Claude Thurnheer
Harness	sup air light	sup air light
Total weight in flight	60 kg	75 kg

	Min weight		**Max weight**	
1. Inflation/Take-off				
Rising behaviour	Smooth, easy and constant rising	A	Smooth, easy and constant rising	A
Special take off technique required	No	A	No	A
2. Landing				
Special landing technique required	No	A	No	A
3. Speed in straight flight				
Trim speed more than 30 km/h	Yes	A	Yes	A
Speed range using the controls 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				
Max. weight in flight up to 80 kg				
Symmetric control pressure/travel	Increasing, Greater than 55 cm	A	Increasing, Greater than 55 cm	A
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	not available	0	not available	0
5. Pitch stability exiting accelerated flight				
Dive forward angle on exit	Dive forward less than 30°	A	Dive forward less than 30°	A
Collapse occurs	No	A	No	A
6. Pitch stability operating controls during accelerated flight				
Collapse occurs	No	A	No	A
7. Roll stability and damping				
Oscillations	Reducing	A	Reducing	A
8. Stability in gentle spirals				
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
9. Behaviour in a steeply banked turn				
Sink rate after two turns	More than 14 m/s	B	More than 14 m/s	B
10. Symmetric front collapse				
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	Dive foward 0°to 30°, Keeping course	A	Dive foward 0°to 30°, Keeping course	A
Cascade occurs	No	A	No	A
With accelerator				
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	Dive foward 0°to 30°, Keeping course	A	Dive foward 0°to 30°, Keeping course	A
Cascade occurs	No	A	No	A
11. Exiting deep stall (parachutal stall)				
Deep stall achieved	Yes	A	Yes	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	Changing course less than 45°	A	Changing course less than 45°	A
Cascade occurs	No	A	No	A
12. High angle of attack recovery				
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Cascade occurs	No	A	No	A
13. Recovery from a developed full stall				
Dive forward angle on exit	Dive forward 0°to 30°	A	Dive forward 0°to 30°	A
Collapse	No collapse	A	No collapse	A
Cascade occurs (other than collapse)	No	A	No	A
Rocking back	Less than 45°	A	Less than 45°	A
Line tension	Most line tight	A	Most line tight	A
14. Asymmetric collapse				
With 50% collapse-Maximum dive forward or roll angle				
Change of course until re-inflation	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	A	Spontaneous re-inflation	A
Total change of course	Less than 360°	A	Less than 360°	A
Collapse on the opposite side occurs	No	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
With 75% collapse-Maximum dive forward or roll angle				
Change of course until re-inflation	90° to 180°, Dive or roll angle 15° to 45°	B	Less than 90°, Dive or roll angle 15° to 45°	A
Re-inflation behaviour	Spontaneous re-inflation	A	Spontaneous re-inflation	A
Total change of course	Less than 360°	A	Less than 360°	A
Collapse on the opposite side occurs	No	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
With 50% collapse and accelerator-Maximum dive forward or roll angle				
Change of course until re-inflation	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	A	Spontaneous re-inflation	A
Total change of course	Less than 360°	A	Less than 360°	A
Collapse on the opposite side occurs	No	A	No	A

	Twist occurs	No	A	No	A
	Cascade occurs	No	A	No	A
	With 75% collapse and accelerator-Maximum dive forward or roll angle				
	Change of course until re-inflation	90° to 180°, Dive or roll angle 0° to 15°	A	Less than 90°, Dive or roll angle 15° to 45°	A
	Re-inflation behaviour	Spontaneous re-inflation	A	Spontaneous re-inflation	A
	Total change of course	Less than 360°	A	Less than 360°	A
	Collapse on the opposite side occurs	No	A	No	A
	Twist occurs	No	A	No	A
	Cascade occurs	No	A	No	A
15. Directional control with a maintained asymmetric collapse					
	Able to keep course	Yes	A	Yes	A
	180° turn away from the collapsed side possible in 10 s	Yes	A	Yes	A
	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	A
16. Trim speed spin tendency					
	Spin occurs	No	A	No	A
17. Low speed spin tendency					
	Spin occurs	No	A	No	A
18. Recovery from a developed spin					
	Spin rotation angle after release	Stops spinning in less than 90°	A	Stops spinning in less than 90°	A
	Cascade occurs	No	A	No	A
19. B-line stall					
	Change of course before release	Change of course less than 45°	A	Change of course less than 45°	A
	Behaviour before release	Remains stable with straight span	A	Remains stable with straight span	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
	Cascade occurs	No	A	No	A
20. Big ears					
	Entry procedure	Dedicated controls	A	Dedicated controls	A
	Behaviour during big ears	Stable flight	A	Stable flight	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
21. Big ears in accelerated flight					
	Entry procedure	Dedicated controls	A	Dedicated controls	A
	Behaviour during big ears	Stable flight	A	Stable flight	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
	Behaviour immediately after releasing the accelerator while	Stable flight	A	Stable flight	A
22. Behaviour exiting a steep spiral					
	Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
	Turn angle to recover normal flight	Less than 720°,spontaneous recovery	A	Less than 720°,spontaneous recovery	A
	Sink rate when evaluating spiral stability [m/s]	15 m/s		19 m/s	
23. Alternative means of directional control					
	180° turn achievable in 20 s	Yes	A	Yes	A
	Stall or spin occurs	No	A	No	A
24. Any other flight procedure and/or configuration described in the user's manual					
	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
Comments of test pilot					
	Comments	no		no	

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