

Flight test report



Manufacturer Niviuk Gliders
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 17165 La Cellera de Ter Girona
 Spain
Representive Olivier Nef
Type of glider Takoo 42
Trimmer Open trimmer

Certification number PG 020.2006
Date of flight test 28.12.2006
Place of test Villeneuve

Classification B

Test Pilot	Claude Thurnheer	Alain Zoller
Harness	Advance Bi-pro	Advance Bi pro 2
Total weight in flight	130 kg	220 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	25 km/h to 30 km/h	B
4. Control movement				
<i>Max. weight in flight up to 80 kg</i>				
Symmetric control pressure/travel	not available	0	not available	0
<i>Max. weight in flight 80 kg to 100 kg</i>				
Symmetric control pressure/travel	not available	0	not available	0
<i>Max. weight in flight greater than 100 kg</i>				
Symmetric control pressure/travel	Increasing, Greater than 65 cm	A	Increasing, Greater than 65 cm	A
5. Pitch stability exiting accelerated flight				
Dive forward angle on exit	not available	0	not available	0
Collapse occurs	not available	0	not available	0
6. Pitch stability operating controls during accelerated flight				
Collapse occurs	not available	0	not available	0
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 forward 0° to 30°, Keeping course	A	Dive forward 0° to 30°, Keeping course	A
Cascade occurs	No	A	No	A
<i>With accelerator</i>				
Entry	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
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	see comments	0	see comments	0
Cascade occurs	see comments	0	see comments	0
13. Recovery from a developed full stall				
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 30° to 60°	B
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				
<i>With 50% collapse-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	Less than 90°, 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
<i>With 75% collapse-Maximum dive forward or roll angle</i>				
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
<i>With 50% collapse and accelerator-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	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
<i>With 75% collapse and accelerator-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	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
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	see comments	0	see comments	0
Behaviour before release	see comments	0	see comments	0
Recovery	see comments	0	see comments	0
Dive forward angle on exit	see comments	0	see comments	0
Cascade occurs	see comments	0	see comments	0
20. Big ears				
Entry procedure	Dedicated controls	A	Dedicated controls	A
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Spontaneous in 3 s to 5 s	B	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	not available	0
21. Big ears in accelerated flight				
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	not available	0	not available	0
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]	21 m/s		26 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	B stall is impossible		Impossible to make the B-Stall at this weight and	



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