

**LTF flight test report**

Manufacturer Niviuk Gliders
Address Air Games S.L. C/Doctore Cordina, 29 Bajos
 17165 La Celler de Ter Girona
 Spain
Representive Nef Olivier
Type of glider Koyot XL
Trimmer not available

Date of flight test: 30/07/2008
Place of test: Villeneuve

LTF 1

Test Pilot Claude Thurnheer
Harness Niviuk - Hamak
Total weight in flight 110 kg

Alain Zoller
 Sol - Slider L
 135 kg

		Min weight		Max weight	
1. Take-off					
	Inflation Behaviour	evenly, immediately	1	evenly, immediately	1
	Rising behaviour	immediately comes over pilot	1	immediately comes over pilot	1
	Take off speed	stallspeed < 30 km/h	pos	stallspeed < 30 km/h	pos
	Take off handling	easy	1	easy	1
2. Straight Flight					
	Trim speed at minimum take off weight	> 30 km/h	pos	> 30 km/h	pos
	Speed range	> 10 km/h	pos	> 10 km/h	pos
	Roll Damping	high	1	high	1
	Pitching	not available	0	not available	0
	Yaw stability	not available	0	not available	0
3. Turn handling					
	Control travel	average	pos	high	pos
	Agility	not available	0	not available	0
	Control pressure increase	high increase	1	high increase	1
	Spin tendency	not available	1	not available	1
	Control without brakes	yes	pos	yes	pos
4. Symmetrical Stall using Brakes					
	Deep stall limit	> 75 cm	1	> 75 cm	1
	Exit of deep Stall	spontaneous, quickly	1	spontaneous, quickly	1
	Standard exit	yes	pos	yes	pos
	Full stall limit	> 80 cm	1	> 80 cm	1
	Full stall with full steering way	soft stall	pos	soft stall	pos
	Increase in steering power	high	1	high	1
5. Front collapse					
	A-Riser Travel until collapse	high > 10 cm	pos	high > 10 cm	pos
	Pre-Acceleration	not available	0	not available	0
	Opening behaviour	spontaneous, quickly = <1,5 s	1	spontaneous, quickly = <1,5 s	1
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
	With accelerator				
	A-Riser Travel until collapse	high > 10 cm	pos	high > 10 cm	pos
	Pre-Acceleration	not available	0	not available	0
	Opening behaviour	spontaneous, quickly = <1,5 s	1	spontaneous, quickly = <1,5 s	1
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
6. Asymmetric Collapse					
	With 50% collapse				
	Maximum recovery behaviour	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
	With 75% collapse				
	Maximum recovery behaviour	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
	With 50% collapse and accelerator				
	Maximum recovery behaviour	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1	<90°- <360°- average - <45°- average - spontaneous - spontaneous	1
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
	With 75% collapse and accelerator				
	Maximum recovery behaviour	<180°- <360° - slight - <45°- average - spontaneous - spontaneous	1	<180°- <360° - slight - <45°- average - spontaneous - spontaneous	1
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				
7. Countersteering an asymmetric collapse					
	Stabilisation	spontaneous, countersteering easy	1	spontaneous, countersteering easy	1
	Turn in opposite direction	easy, no tendency to stall	1	easy, no tendency to stall	1
	Control pressure increase	high increase	1	high increase	1
	Control travel	high	pos	high	pos
8.Full Stall Symmetrical Exit					
	Behaviour after entry	stable	pos	stable	pos
	Reaction	slight shoot forward <30°	pos	slight shoot forward <30°	pos
	Reaction if asymmetric collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behaviour</i>				

	Reaction if symmetric collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
9. Big ears	Entry	easy	pos	easy	pos
	Exit	spontaneous, quickly	1	spontaneous, quickly	1
	If not spontaneously exit; asymm. collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	If not spontaneously exit; symm. collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	With accelerator				
	Entry	easy	pos	easy	pos
	Exit	spontaneous, quickly	1	spontaneous, quickly	1
	If not spontaneously exit; asymm. collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	If not spontaneously exit; symm. collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
10. Spin from straight flight	Exit	spontaneous	1	spontaneous	1
	Reaction	not available	0	not available	0
	Reaction, if asymmetric collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	Reaction, if symmetric collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
11. Spin from Turn	Reaction	slight shoot forward <30°	pos	slight shoot forward <30°	pos
	Reaction if asymmetric collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	Reaction if symmetric collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
12. Spiral dive	Spin tendency	not available	1	slight	1
	Entry	easy	1	easy	1
	Exit	spontaneous, turn continues < 180°	1	spontaneous, turn continues < 180°	1
	Exit if stable steep spiral > 14 m/s	no acceleration, easy controllable sink rate and	1	no acceleration, easy controllable sink rate and	1
	Sink rate after 720° [m/s]	16 m/s		19 m/s	
13. B Line stall	Entry	easy	1	easy	1
	Exit	spontaneous	1	spontaneous	1
	If not spontaneously with asym. collapse	not available	0	not available	0
	<i>Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
	If not spontaneously with symm. collapse	not available	0	not available	0
	<i>Asymmetrical, Turn tendency- Change of course- Rate of turn- Pitch and Roll angle- Loss of altitude- Stabilisation- Opening behavior</i>				
14. Landing	Entry	average	1	average	1
	Landing speed	not available	0	not available	0
	Landing behaviour	easy	1	easy	1
Comments of test pilot	Comments	no		no	



Air Turquoise SA

Route du Pré-au-Comte 8
Case postale 10
CH- 1844 Villeneuve
Switzerland
mobile: +41 79 202 52 30
Tel. no : +41 21 965 65 65
fax : +41 219 65 65 68
email: info@para-test.com
homepage: www.para-test.com

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BUREAU VERITAS
Certification



ISO 9001:2000

pos = positive
neg = negative
x = relevant if extreme
na = not available