

**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 Alain Zoller
Harness Niviuk - Hamak Sol - Slider L
Total weight in flight 110 kg 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	



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BUREAU VERITAS
Certification



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