

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

Manufacturer	<b>Niviuk Gliders / Air Games S.L.</b>	Certification number	PG_2322.2024
Address	C. Del Ter, 6 Nave D 17165 La Cellera de Ter Girona Spain	Flight test	13.03.2024
Glider model	<b>Ikuma 3 20</b>	<b>Classification</b>	<b>B</b>
Serial number	IKUMA320FT	Representative	None
Trimmer	no	Place of test	Villeneuve
Folding lines used	no		

**Test pilot** Light pilot under Air Turquoise supervision Claude Thurnheer

<b>Harness</b>	Woody Valley srl Wani Light 2 S	Woody Valley srl Wani Light 2 M
<b>Harness to risers distance [cm]</b>	41	43
<b>Distance between risers [cm]</b>	40	43
<b>Total weight in flight [kg]</b>	55	75

<b>1. Inflation/Take-off</b>	<b>B</b>			
Rising behaviour	Easy rising, some pilot correction is required	B	Easy rising, some pilot correction is required	B
Special take off technique required	No	A	No	A
<b>2. Landing</b>	<b>A</b>			
Special landing technique required	No	A	No	A
<b>3. Speed in straight flight</b>	<b>B</b>			
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
<b>4. Control movement</b>	<b>A</b>			
<b>Max. weight in flight up to 80 kg</b>				
Symmetric control pressure / travel	Increasing / greater than 55 cm	A	Increasing / greater than 55 cm	A
<b>Max. weight in flight 80 kg to 100 kg</b>				
Symmetric control pressure / travel	not available	0	not available	0
<b>Max. weight in flight greater than 100 kg</b>				
Symmetric control pressure / travel	not available	0	not available	0
<b>5. Pitch stability exiting accelerated flight</b>	<b>A</b>			
Dive forward angle on exit	Dive forward less than 30°	A	Dive forward less than 30°	A
Collapse occurs	No	A	No	A
<b>6. Pitch stability operating controls during accelerated flight</b>	<b>A</b>			
Collapse occurs	No	A	No	A
<b>7. Roll stability and damping</b>	<b>A</b>			
Oscillations	Reducing	A	Reducing	A
<b>8. Stability in gentle spirals</b>	<b>A</b>			
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A

\*This standard is NOT covered by accreditation D-IS-19457-01

<b>9. Behaviour exiting a fully developed spiral dive</b>			
Initial response of glider (first 180°)	<b>B</b> No immediate reaction	B No immediate reaction	B
Tendency to return to straight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A Spontaneous exit (g force decreasing, rate of turn decreasing)	A
Turn angle to recover normal flight	720° to 1 080°, spontaneous recovery	B 720° to 1 080°, spontaneous recovery	B
<b>10. Symmetric front collapse</b>			
<b>Approximately 30 % chord</b>			
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	A No	A
<b>At least 50% chord</b>			
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	A No	A
<b>With accelerator</b>			
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	A No	A
<b>11. Exiting deep stall (parachutal stall)</b>			
Deep stall achieved	<b>A</b> 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
<b>12. High angle of attack recovery</b>			
Recovery	<b>A</b> Spontaneous in less than 3 s	A Spontaneous in less than 3 s	A
Cascade occurs	No	A No	A
<b>13. Recovery from a developed full stall</b>			
Dive forward angle on exit	<b>B</b> Dive forward 0° to 30°	A Dive forward 30° to 60°	B
Collapse	No collapse	A No collapse	A
Cascade occurs (other than collapses)	No	A No	A

Rocking back	Less than 45°	A	Less than 45°	A
Line tension	Most lines tight	A	Most lines tight	A

#### 14. Asymmetric collapse

#### B

##### Small asymmetric collapse

Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	A	Less than 90° / Dive or roll angle 0° to 15°	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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A

##### Large asymmetric collapse

Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	B	90° to 180° / Dive or roll angle 15° to 45°	B
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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A

##### Small asymmetric collapse with fully activated accelerator

Change of course until re-inflation / Maximum dive forward or roll angle	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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A

##### Large asymmetric collapse with fully activated accelerator

Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	B	90° to 180° / Dive or roll angle 15° to 45°	B
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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A

Folding lines used	No	A	No	A
<b>15. Directional control with a maintained asymmetric collapse</b>	<b>A</b>			
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
<b>16. Trim speed spin tendency</b>	<b>A</b>			
Spin occurs	No	A	No	A
<b>17. Low speed spin tendency</b>	<b>A</b>			
Spin occurs	No	A	No	A
<b>18. Recovery from a developed spin</b>	<b>B</b>			
Spin rotation angle after release	Stops spinning in less than 90°	A	Stops spinning in 90° to 180°	B
Cascade occurs	No	A	No	A
<b>19. B-line stall</b>	<b>A</b>			
Change of course before release	Changing course less than 45°	A	Changing 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
<b>20. Big ears</b>	<b>B</b>			
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	Dive forward 0° to 30°	A
<b>21. Big ears in accelerated flight</b>	<b>B</b>			
Entry procedure	Dedicated controls	A	Dedicated controls	A
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Recovery through pilot action in less than a further 3 s	B	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 maintaining big ears	Stable flight	A	Stable flight	A
<b>22. Alternative means of directional control</b>	<b>A</b>			
180° turn achievable in 20 s	Yes	A	Yes	A
Stall or spin occurs	No	A	No	A
<b>23. Any other flight procedure and/or configuration described in the user's manual</b>	<b>0</b>			
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