

## Flight test report: EN 926-2:2013 & LTF 91/09

|  |  |                         |                      |
|--|--|-------------------------|----------------------|
| Manufacturer                           | <b>Niviuk Gliders / Air Games S.L.</b>                               | Certification number    | PG_1303.2018         |
| Address                                | C. Del Ter, 6 ? Nave D<br>17165 La Cellera de Ter<br>Girona<br>Spain | Flight test             | 20.04.2018           |
| Glider model                           | <b>Artik 5 28</b>  | <b>Classification</b>   | <b>C</b>             |
| Serial number                          | Artik5 5-28  | Representative          | None                 |
| Trimmer                                | no   | Place of test           | Villeneuve           |
| Folding lines used                     | no   |                         |                      |
| <b>Test pilot</b>                      |  | Alain Zoller            | Anselm Rauh          |
| <b>Harness</b>                         |  | Gin Gliders - Gingo 2 L | Ava Sport - Acro 1 L |
| <b>Harness to risers distance (cm)</b> |  | 43                      | 43                   |
| <b>Distance between risers (cm)</b>    |  | 46                      | 48                   |
| <b>Total weight in flight (kg)</b>     |  | 105                     | 125                  |

|  |  |   |  |   |
|--|--|---|--|---|
| <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  | 25 km/h to 30 km/h   | B | 25 km/h to 30 km/h   | B |
| <b>4. Control movement</b>   | <b>C</b>   |   |  |   |
| <b>Max. weight in flight up to 80 kg</b>                               |  |   |  |   |
| Symmetric control pressure / travel                                    | not available  | 0 | not available  | 0 |
| <b>Max. weight in flight 80 kg to 100 kg</b>                           |  |   |  |   |
| Symmetric control pressure / travel                                    | Increasing / 45 cm to 60 cm                                    | C | not available  | 0 |
| <b>Max. weight in flight greater than 100 kg</b>                       |  |   |  |   |
| Symmetric control pressure / travel                                    | not available  | 0 | Increasing / 50 cm to 65 cm                                    | C |
| <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 |
| <b>9. Behaviour exiting a fully developed spiral dive</b>              | <b>B</b>   |   |  |   |
| Initial response of glider (first 180°)                                | Immediate reduction of rate of turn                            | A | 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                                    | Less than 720°, spontaneous recovery                           | A | 720° to 1 080°, spontaneous recovery                           | B |
| <b>10. Symmetric front collapse</b>                                    | <b>B</b>   |   |  |   |

**Approximately 30 % chord**

|   |                                       |   |                                       |   |
|---|---------------------------------------|---|---------------------------------------|---|
| 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                                    |   | No                                    |   |

**At least 50% chord**

|   |   |   |   |   |
|---|---|---|---|---|
| Entry   | Rocking back less than 45°              | A | Rocking back less than 45°              | A |
| Recovery                                      | Spontaneous in less than 3 s            | A | Spontaneous in 3 s to 5 s               | B |
| 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                                      |   | No                                      |   |

**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 3 s to 5 s               | B |
| 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                                      |   | No                                      |   |

**11. Exiting deep stall (parachutal stall)**

|  |                               |   |                               |   |
|--|-------------------------------|---|-------------------------------|---|
| <b>11. Exiting deep stall (parachutal stall)</b> | <b>A</b>                      |   |                               |   |
| 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**

|  |                              |   |                              |   |
|--|------------------------------|---|------------------------------|---|
| <b>12. High angle of attack recovery</b> | <b>A</b>                     |   |                              |   |
| 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**

|   |                         |   |                         |   |
|---|-------------------------|---|-------------------------|---|
| <b>13. Recovery from a developed full stall</b> | <b>B</b>                |   |                         |   |
| Dive forward angle on exit                      | Dive forward 30° to 60° | B | 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****Small asymmetric collapse**

|  |  |   |  |   |
|--|--|---|--|---|
| <b>14. Asymmetric collapse</b>   | <b>C</b>   |   |  |   |
| <b>Small asymmetric collapse</b>   |  |   |  |   |
| 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 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   |   | No   |   |

**Large asymmetric collapse**

|  |  |   |  |   |
|--|--|---|--|---|
| <b>Large asymmetric collapse</b>   |  |   |  |   |
| Change of course until re-inflation / Maximum dive forward or roll angle | Less than 90° / Dive or roll angle 0° to 15°                                   | A | 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   |   | No   |   |

**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   |   | No   |   |
| <b>Large asymmetric collapse with fully activated accelerator</b>                         |  |   |  |   |
| 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 45° to 60°                                    | C |
| 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   |   | No   |   |
| <b>15. Directional control with a maintained asymmetric collapse</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>   |  |   |  |   |
| Spin occurs   | No   | A | No   | A |
| <b>17. Low speed spin tendency</b>  |  |   |  |   |
| Spin occurs   | No   | A | No   | A |
| <b>18. Recovery from a developed spin</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>   |  |   |  |   |
| 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>   |  |   |  |   |
| 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 | Recovery through pilot action in less than a further 3 s                       | B |
| 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>   |  |   |  |   |
| 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 3 s to 5 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>                                       |  |   |  |   |
| 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> |  |   |  |   |
| 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 |

**24. Comments of test pilot**