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test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

Manufacturer



Certification number PG_2478.2024

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

Niviuk Gliders / Air Games S.L.

| Address | C. Del Ter, 6 Nave D 17165 La Cellera de Spain | | Flight test | | 04.09.2024 | | |
|--|---|---------------------------------|---------------------------|-----|--|-----|--|
| Glider model | Hiko P 28 | | Classification | | В | | |
| Serial number | PHIKO28 | | Representative | | None | | |
| Trimmer | no | | Place of test | | Villeneuve | | |
| | no | | i lace of test | | Villerieuve | | |
| Folding lines used | 110 | | | | | | |
| Test pilot | | Claude Thurnheer | | | Anselm Rauh | | |
| Harness | | Advance Thun AG Success 4 M | | | Niviuk Makan L | | |
| Harness to risers d | | 43 | | | 41 | | |
| Distance between r | isers [cm] | 44 | | | 48 | | |
| Total weight in fligh | nt [kg] | 95 | | | 115 | | |
| 1. Inflation/Take-off | | В | | | | | |
| Rising behaviour | | Easy rising, some pilo | ot correction is required | В | Easy rising, some pilot correction is required | В | |
| Special take off technique | required | No | | Α | No | Α | |
| 2. Landing | | Α | | | | | |
| Special landing technique required | | No | | Α | No | Α | |
| 3 Speed in straight fligh | nt | A | | | | | |
| 3. Speed in straight flight Trim speed more than 30 km/h | | Yes | | Α | Yes | Α | |
| Trimi opoda moro man oo | | | | | | | |
| Speed range using the co | ntrols larger than 10 km/h | Yes A | | Α | Yes | Α | |
| Minimum speed | | Less than 25 km/h | | Α | Less than 25 km/h | Α | |
| 4. Control movement | | Α | | | | | |
| Max. weight in flight up | to 80 kg | | | | | | |
| Symmetric control pressu | re / travel | not available | | 0 | not available | 0 | |
| Max. weight in flight 80 kg to 100 kg | | | | | | | |
| Symmetric control pressure / travel | | Increasing / greater than 60 cm | | Α | not available | 0 | |
| Max. weight in flight gre | ater than 100 kg | | | | | | |
| Symmetric control pressur | | not available | | 0 | Increasing / greater than 65 cm | Α | |
| | 10 / 114101 | | | | | | |
| 5. Pitch stability exiting | | Α | | | | | |
| Dive forward angle on exi | t | Dive forward less than | n 30° | Α | Dive forward less than 30° | Α | |
| Collapse occurs | | No | | Α | No | Α | |
| 6. Pitch stability operation | ng controls during | Α | | | | | |
| Collapse occurs | | No | | Α | No | Α | |
| 7. Roll stability and dam | ping | Α | | | | | |
| Oscillations | | Reducing | | Α | Reducing | Α | |
| 8. Stability in gentle spir | rale | A | | | | | |
| Tendency to return to stra | | Spontaneous exit | | Α | Spontaneous exit | Α | |
| Tondonoy to rotuin to stild | gg | -1 | | - • | • | - • | |

| 9. Behaviour exiting a fully developed spiral dive | В | | | |
|--|--|---|--|---|
| nitial response of glider (first 180°) | No immediate reaction | В | No immediate reaction | В |
| Tendency to return to straight flight | Spontaneous exit (g force decreasing, rate of turn decreasing) | Α | Spontaneous exit (g force decreasing, rate of turn decreasing) | Α |
| Turn angle to recover normal flight | Less than 720°, spontaneous recovery | Α | Less than 720°, spontaneous recovery | , |
| IO. Symmetric front collapse Approximately 30 % chord | A | | | |
| Entry | Rocking back less than 45° | Α | Rocking back less than 45° | , |
| Recovery | Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | |
| Dive forward angle on exit Change of course | Dive forward 0° to 30° / Keeping course | Α | Dive forward 0° to 30° / Keeping course | |
| Cascade occurs | No | Α | No | |
| Folding lines used | No | Α | No | |
| At least 50% chord | Rocking back less than 45° | Α | Rocking back less than 45° | |
| Entry | Spontaneous in less than 3 s | A | Spontaneous in less than 3 s | |
| Recovery | | | | |
| Dive forward angle on exit / Change of course | Dive forward 0° to 30° / Keeping course | A | Dive forward 0° to 30° / Keeping course | |
| Cascade occurs | No | A | No | |
| folding lines used | No | Α | No | |
| Vith accelerator | | | | |
| Entry | Rocking back less than 45° | Α | Rocking back less than 45° | |
| Recovery | Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | |
| Dive forward angle on exit / Change of course | Dive forward 0° to 30° / Keeping course | Α | Dive forward 0° to 30° / Keeping course | |
| Cascade occurs | No | Α | No | |
| Folding lines used | No | Α | No | |
| 1. Exiting deep stall (parachutal stall) | A Yes | ٨ | Yes | |
| Deep stall achieved | | | Spontaneous in less than 3 s | |
| Recovery | Spontaneous in less than 3 s | | | |
| Dive forward angle on exit | Dive forward 0° to 30° | Α | Dive forward 0° to 30° | |
| Change of course | Changing course less than 45° | Α | Changing course less than 45° | |
| Cascade occurs | No | Α | No | |
| 2. High angle of attack recovery Recovery | A Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | |
| Cascade occurs | No | | No | |
| 3. Recovery from a developed full stall | A | | | |
| Dive forward angle on exit | Dive forward 0° to 30° | Α | Dive forward 0° to 30° | |
| Collapse | No collapse | Α | No collapse | |
| Cascade occurs (other than collapses) | No | Α | No | |

| Rocking back | Less than 45° | Α | Less than 45° | Α |
|--|---|---|---|---|
| Line tension | Most lines tight | Α | Most lines tight | Α |
| 14. Asymmetric collapse | В | | | |
| 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° | Α | Less than 90° / Dive or roll angle 0° to 15° | Α |
| Re-inflation behaviour | Spontaneous re-inflation | Α | Spontaneous re-inflation | Α |
| Total change of course | Less than 360° | Α | Less than 360° | Α |
| Collapse on the opposite side occurs | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α |
| Twist occurs | No | Α | No | Α |
| Cascade occurs | No | Α | No | Α |
| Folding lines used | No | Α | No | Α |
| Large asymmetric collapse | | | | |
| Change of course until re-inflation / Maximum dive forward or roll angle | Less than 90° / Dive or roll angle 15° to 45° | Α | Less than 90° / Dive or roll angle 15° to 45° | Α |
| Re-inflation behaviour | Spontaneous re-inflation | Α | Spontaneous re-inflation | Α |
| Total change of course | Less than 360° | Α | Less than 360° | Α |
| Collapse on the opposite side occurs | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α |
| Twist occurs | No | Α | No | Α |
| Cascade occurs | No | Α | No | Α |
| Folding lines used | No | Α | No | Α |
| 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° | Α | Less than 90° / Dive or roll angle 0° to 15° | Α |
| Re-inflation behaviour | Spontaneous re-inflation | Α | Spontaneous re-inflation | Α |
| Total change of course | Less than 360° | Α | Less than 360° | Α |
| Collapse on the opposite side occurs | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α |
| Twist occurs | No | Α | No | Α |
| Cascade occurs | No | Α | No | Α |
| Folding lines used | No | Α | No | Α |
| 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° | В | Less than 90° / Dive or roll angle 15° to 45° | Α |
| Re-inflation behaviour | Spontaneous re-inflation | Α | Spontaneous re-inflation | Α |
| Total change of course | Less than 360° | Α | Less than 360° | Α |
| Collapse on the opposite side occurs | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α | No (or only a small number of collapsed cells with a spontaneous reinflation) | Α |
| Twist occurs | No | Α | No | Α |
| Cascade occurs | No | Α | No | Α |

| A Parameter | Folding lines used | No | Α | No | Α |
|--|--|--|---|--|---|
| Able to keep course Yes A Yes A Yes A Yes A Now the collapsed side possible in 10 a Amount of control range between turn and stall or spin More then 50 % of the symmetric control travel A Now then 50 % of the symmetric control travel A Cascade occurs A Carraging course lices than 40 % to Now then 50 % of the symmetric control travel travel A Spontaneous in less than 2 s A Spontaneous in less than 2 s A Spontaneous in less than 3 s A Spontaneous in les | | A | | | |
| Amount of control range between turn and stall or spin 16. Trim speed spin tendency | | Yes | Α | Yes | Α |
| 16. Trim speed spin tendency Spin occurs No No A | 180° turn away from the collapsed side possible in 10 s | Yes | Α | Yes | А |
| Spin occurs No A No | Amount of control range between turn and stall or spin | More than 50 % of the symmetric control travel | Α | More than 50 % of the symmetric control travel | Α |
| The Content of Conte | 16. Trim speed spin tendency | A | | | |
| Spin occurs No A No A No A 18. Recovery from a developed spin Spin rotation angle after release Stops spinning in 90° to 180° B Stops spinning in 80° to 180° A No A 19. B-line stall A Change of course before release Changing course less than 45° A Changing course less than 3 s A Changing course less than 4° Deductor course and Changing course course than 4° Deductor course and Changing course cour | Spin occurs | No | Α | No | Α |
| Spin rotation angle after release No A No A 19. B-line stall Change of course before release Change of course before release Remains stable with staight span A Recovery Spontaneous in less than 3s A Dive forward or to 30° A No A 20. Big ears Entry procedure Dedicated controls A Recovery Spontaneous in less than 3s A Dive forward or to 30° A Behaviour during big ears Subje flight A Entry procedure Dedicated controls A 21. Big ears in accelerated flight Entry procedure Dedicated controls A 21. Big ears in accelerated flight Entry procedure Dedicated controls A 22. Alternative means of directional control A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A 23. Big ears in accelerated flight Entry procedure Dedicated controls A 24. Big ears in accelerated flight Entry procedure Dedicated controls A 25. Big ears in accelerated flight Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A 26. Behaviour during big ears Stable flight A Entry procedure Dedicated controls A Stable flight A Stable flight A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A Stable flight A Behaviour immediately after releasing the accelerator while maintaining big ears No No A | | | Α | No | Α |
| Spin rotation angle after release No A No A 19. B-line stall Change of course before release Change of course before release Remains stable with staight span A Recovery Spontaneous in less than 3s A Dive forward or to 30° A No A 20. Big ears Entry procedure Dedicated controls A Recovery Spontaneous in less than 3s A Dive forward or to 30° A Behaviour during big ears Subje flight A Entry procedure Dedicated controls A 21. Big ears in accelerated flight Entry procedure Dedicated controls A 21. Big ears in accelerated flight Entry procedure Dedicated controls A 22. Alternative means of directional control A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A 23. Big ears in accelerated flight Entry procedure Dedicated controls A 24. Big ears in accelerated flight Entry procedure Dedicated controls A 25. Big ears in accelerated flight Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A 26. Behaviour during big ears Stable flight A Entry procedure Dedicated controls A Stable flight A Stable flight A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A Stable flight A Behaviour immediately after releasing the accelerator while maintaining big ears No No A | 18 Pacayary from a dayaloned spin | В | | | |
| Pis. B-line stall Change of course before release Changing course less than 45° A Remains stable with straight span A Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward on the straight span A Cascade occurs No A No A No A No A No A No A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward on to 30° A Dive forward on the straight span A Stable flight A Dive forward on to 30° A Stable flight A | | | В | Stops spinning in less than 90° | Α |
| Change of course before release Remains stable with straight span Recovery Spontaneous in less than 3 s Recovery Spontaneous in less than 3 s Recovery Remains stable with straight span A Recovery Spontaneous in less than 3 s A Dive forward angle on exit Dive forward 0° to 30° A No A No A No A No A Recovery Remains stable with straight span A Recovery A Recovery A Recovery No A Recovery R | Cascade occurs | No | Α | No | Α |
| 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 on to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward on to 30° A Dive forward on t | 19. B-line stall | | | | |
| Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0° to 30° A No A Dive forward 0° to 30° A No A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Dive forward 0° to 30° A Dive | Change of course before release | Changing course less than 45° | Α | Changing course less than 45° | Α |
| Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A No Cascade occurs A Dedicated controls A Stable flight A Stable flight A Dive forward 0° to 30° A Dedicated controls A Dive forward 0° to 30° A Dedicated controls A Dive forward 0° to 30° A Dedicated controls A Dedicated controls | Behaviour before release | Remains stable with straight span | Α | Remains stable with straight span | Α |
| Cascade occurs No A 20. Big ears Entry procedure Dedicated controls A Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Stable flight A Stable flight A Entry procedure 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 on to 30° A Entry procedure Dedicated controls A Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Recovery Spontaneous in less than 3 s A Stable flight A Behaviour during big ears Stable flight A Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Entry procedure Spontaneous in less than 3 s A Dive forward 0° to 30° A Dive forward on the spontaneous in less than 3 s A Dive forward on the spontaneous in less than 3 s A Dive forward on the spontaneous in less than 3 s A Entry procedure Stable flight A Entry procedure Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure and/or to 30° Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure and/or to 30° A Entry procedure and/or to 30° Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure and/or to 30° Behaviour immediately after releasing the accelerator while maintaining big ears A Entry procedure and/or to 30° Behaviour in less than 3 s A Entry procedure and/or to 30° Behaviour in less than 3 s A Entry procedure and/or to 30° Behaviour in less than 3 s A Entry procedure and/or to 30° Behaviour in less than 3 s A Entry procedure and/or to 30° Behaviour in less than 3 s A Entry procedure and/or to 30° Behaviour in less than 3 s A E | Recovery | Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | Α |
| 20. Big ears Entry procedure Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Stable flight A Dive forward uning big ears A Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Stable flight A Stable fl | Dive forward angle on exit | Dive forward 0° to 30° | Α | Dive forward 0° to 30° | Α |
| Entry procedure Dedicated controls A Dedicated controls A Stable flight A Dive forward or to 30° A Dive forward or to 30° A Dive forward or to 30° A Dedicated controls A Stable flight A Stable flight A Stable flight A Stable flight A Dive forward or to 30° A D | Cascade occurs | No | Α | No | Α |
| Behaviour during big ears Stable flight A Stable flight A Stable flight Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable f | 20. Big ears | Α | | | |
| Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Stable flight A Spontaneous in less than 3 s A Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° | Entry procedure | Dedicated controls | Α | Dedicated controls | Α |
| Dive forward angle on exit Dive forward 0° to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stable flight A Stable flight A Stable flight A Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0 | Behaviour during big ears | Stable flight | Α | Stable flight | Α |
| 21. Big ears in accelerated flight Entry procedure Dedicated controls A Behaviour during big ears Stable flight A Recovery Spontaneous in less than 3 s A Dive forward angle on exit Dive forward 0° to 30° A Behaviour immediately after releasing the accelerator while maintaining big ears 22. Alternative means of directional control A Stable flight A Pres A Tes A Stall or spin occurs No A No A No A Dive forward 0° to 30° A The stable flight A Stable flight A The stable flight A T | Recovery | Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | Α |
| Entry procedure Dedicated controls A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Dive forward angle on exit Dive forward 0° to 30° A Stable flight A S | Dive forward angle on exit | Dive forward 0° to 30° | Α | Dive forward 0° to 30° | Α |
| Behaviour during big ears Stable flight A Stable flight A Stable flight A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward on to 30 on the forward on to 30 on the forward on to 30 on the flight of the fli | 21. Big ears in accelerated flight | Α | | | |
| Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward on the stream of the stream | Entry procedure | Dedicated controls | Α | Dedicated controls | Α |
| Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Behaviour immediately after releasing the accelerator while maintaining big ears 22. Alternative means of directional control 180° turn achievable in 20 s Yes A Yes A Stable flight A Stable flight A Stable flight A Stable flight A Pres A Pres A Pres A Pres Procedure flight procedure and/or configuration described in the user's manual Procedure works as described Not available O not available O not available O not available O | Behaviour during big ears | Stable flight | Α | Stable flight | Α |
| Behaviour immediately after releasing the accelerator while maintaining big ears 22. Alternative means of directional control 180° turn achievable in 20 s Stall or spin occurs No A Stall or spin occurs No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available not available 0 not available 0 not available 0 not available 0 | Recovery | Spontaneous in less than 3 s | Α | Spontaneous in less than 3 s | Α |
| while maintaining big ears 22. Alternative means of directional control 180° turn achievable in 20 s Yes A Yes A Stall or spin occurs No No A No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available o not available | Dive forward angle on exit | Dive forward 0° to 30° | Α | Dive forward 0° to 30° | Α |
| 180° turn achievable in 20 s Yes A Yes A Stall or spin occurs No No A No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 | | Stable flight | Α | Stable flight | Α |
| Stall or spin occurs No A No A 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 not available 0 not available 0 not available 0 | | | | V | _ |
| 23. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available 0 not available 0 not available 0 not available 0 on tot available 0 | 180° turn achievable in 20 s | Yes | Α | Yes | Α |
| 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 | Stall or spin occurs | No | Α | No | Α |
| Procedure suitable for novice pilots not available 0 not available 0 | 23. Any other flight procedure and/or configuration described in the user's manual | 0 | | | |
| | Procedure works as described | not available | 0 | not available | 0 |
| Cascade occurs 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 |