# Flight test report

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| **Manufacturer** | **Gradient s.r.o.** | **Certification number** | PG 108.2007 |
| **Address** | Plzeňská 221/130 | **Date of flight test** | 07/11/2007 |
| | 150 00 Praha 5 - Motol | **Place of test** | Villeneuve |
| | Czech Republic | | |
| **Representive** | None | **Classification C** | |
| **Type of glider** | **Avax XC2 24** | | |
| **Trimmer** | **not available** | | |

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| **Test Pilot** | Seiko Fukuoka | Claude Thurnheer |
| **Harness** | advance progress | Gin Genie 3 |
| **Total weight in flight** | 75 kg | 95 kg |

| | | Min weight | | Max weight | |
|---|---|---|---|---|---|
| **1. Inflation/Take-off** | | | | | |
| | Rising behaviour | Overshoots, shall be slowed down to avoid front collapse | C | Overshoots, shall be slowed down to avoid front collapse | C |
| | Special take off technique required | No | A | No | A |
| **2. Landing** | | | | | |
| | Special landing technique required | No | A | No | A |
| **3. Speed in straight flight** | | | | | |
| | 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 |
| **4. Control movement** | | | | | |
| | *Max. weight in flight up to 80 kg* | | | | |
| | Symmetric control pressure/travel | Increasing, 40 cm to 55 cm | C | not available | 0 |
| | *Max. weight in flight 80 kg to 100 kg* | | | | |
| | Symmetric control pressure/travel | not available | 0 | Increasing, 45 cm to 60 cm | C |
| | *Max. weight in flight greater than 100 kg* | | | | |
| | Symmetric control pressure/travel | not available | 0 | not available | 0 |
| **5. Pitch stability exiting accelerated flight** | | | | | |
| | Dive forward angle on exit | Dive forward less than 30° | A | Dive forward less than 30° | A |
| | Collapse occurs | No | A | No | A |
| **6. Pitch stability operating controls during accelerated flight** | | | | | |
| | Collapse occurs | No | A | No | A |
| **7. Roll stability and damping** | | | | | |
| | Oscillations | Reducing | A | Reducing | A |
| **8. Stability in gentle spirals** | | | | | |
| | Tendency to return to straight flight | Spontaneous exit | A | Spontaneous exit | A |
| **9. Behaviour in a steeply banked turn** | | | | | |
| | Sink rate after two turns | More than 14 m/s | B | More than 14 m/s | B |
| **10. Symmetric front collapse** | | | | | |
| | 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 | Dive foward 0°to 30°, Keeping course | A | Dive foward 0°to 30°, Entering a turn less than 90° | A |
| | Cascade occurs | No | A | No | A |
| | *With accelerator* | | | | |
| | Entry | Rocking back less than 45° | A | Rocking back greater than 45° | C |
| | Recovery | Spontaneous in less than 3 s | A | Spontaneous in less than 3 s | A |
| | Dive forward angle on exit | Dive foward 0°to 30°, Entering a turn less than 90° | A | Dive foward 0°to 30°, Keeping course | A |
| | Cascade occurs | No | A | No | A |
| **11. Exiting deep stall (parachutal stall)** | | | | | |
| | 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** | | | | | |
| | 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** | | | | | |
| | Dive forward angle on exit | Dive forward 0°to 30° | A | Dive forward 30°to 60° | B |
| | Collapse | No collapse | A | No collapse | A |
| | Cascade occurs (other than collapse) | No | A | No | A |
| | Rocking back | Less than 45° | A | Less than 45° | A |
| | Line tension | Most line tight | A | Most line tight | A |
| **14. Asymmetric collapse** | | | | | |
| | *With 50% collapse-Maximum dive forward or roll angle* | | | | |
| | Change of course until re-inflation | Less than 90°, Dive or roll angle 0° to 15° | 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 | A | No | A |
| | Twist occurs | No | A | No | A |
| | Cascade occurs | No | A | No | A |
| | *With 75% collapse-Maximum dive forward or roll angle* | | | | |
| | Change of course until re-inflation | Less than 90°, Dive or roll angle 15° to 45° | A | 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 | A | No | A |
| | Twist occurs | No | A | No | A |
| | Cascade occurs | No | A | No | A |
| | *With 50% collapse and accelerator-Maximum dive forward or roll angle* | | | | |
| | Change of course until re-inflation | Less than 90°, Dive or roll angle 15° to 45° | A | Less than 90°, Dive or roll angle 15° to 45° | A |

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| | 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 | A | No | A |
| | Twist occurs | No | A | No | A |
| | Cascade occurs | No | A | No | A |
| | *With 75% collapse and accelerator-Maximum dive forward or roll angle* | | | | |
| | Change of course until re-inflation | 180° to 360°, Dive or roll angle 15° to 45° | C | 90° to 180°, Dive or roll angle 60° to 90° | 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 | Yes, no turn reversal | C | No | A |
| | Twist occurs | No | A | No | A |
| | Cascade occurs | No | A | No | A |
| **15. Directional control with a maintained asymmetric collapse** | | | | | |
| | 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 |
| **16. Trim speed spin tendency** | | | | | |
| | Spin occurs | No | A | No | A |
| **17. Low speed spin tendency** | | | | | |
| | Spin occurs | No | A | No | A |
| **18. Recovery from a developed spin** | | | | | |
| | Spin rotation angle after release | Stops spinning in less than 90° | A | Stops spinning in less than 90° | A |
| | Cascade occurs | No | A | No | A |
| **19. B-line stall** | | | | | |
| | Change of course before release | Change of course less than 45° | A | Change of 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 |
| **20. Big ears** | | | | | |
| | Entry procedure | Standard technique | A | Standard technique | 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 |
| **21. Big ears in accelerated flight** | | | | | |
| | Entry procedure | Standard technique | A | Standard technique | 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 |
| | Behaviour immediately after releasing the accelerator while | Stable flight | A | Stable flight | A |
| **22. Behaviour exiting a steep spiral** | | | | | |
| | Tendency to return to straight flight | Spontaneous exit | A | Spontaneous exit | A |
| | Turn angle to recover normal flight | Less than 720°,spontaneous recovery | A | Less than 720°,spontaneous recovery | A |
| | Sink rate when evaluating spiral stability [m/s] | 16 m/s | | 18 m/s | |
| **23. Alternative means of directional control** | | | | | |
| | 180° turn achievable in 20 s | Yes | A | Yes | A |
| | Stall or spin occurs | No | A | No | A |
| **24. Any other flight procedure and/or 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 |
| | Cascade occurs | not available | 0 | not available | 0 |
| **Comments of test pilot** | | | | | |
| | Comments | no | | no | |


**Air Turquoise**
Rue de la Poterlaz 6
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 66
email: info@airturquoise.ch
homepage: www.para-test.com


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