

## Flight test report

**Manufacturer** Gradient  
**Address** Plzeňská 221/130  
 150 00 Praha 5 - Motol  
 Czech Republic  
**Representative** None  
**Type of glider** Avax XC 2 30  
**Trimmer** not available

**Certification number** PG 104.2007  
**Date of flight test** 17/10/2007  
**Place of test** Villeneuve



<b>Classification C</b>
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<b>Test Pilot</b> Claude Thurnheer	Alain Zoller
<b>Harness</b> Gin Genie 3	Sol Paragliders - Slider L
<b>Total weight in flight</b> 105 kg	130 kg

	Min weight		Max weight	
<b>1. Inflation/Take-off</b>				
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
<b>2. Landing</b>				
Special landing technique required	No	A	No	A
<b>3. Speed in straight flight</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>				
<i>Max. weight in flight up to 80 kg</i> Symmetric control pressure/travel	not available	0	not available	0
<i>Max. weight in flight 80 kg to 100 kg</i> Symmetric control pressure/travel	not available	0	not available	0
<i>Max. weight in flight greater than 100 kg</i> Symmetric control pressure/travel	Approximately constant, 50 cm to 65 cm	C	Increasing, 50 cm to 65 cm	C
<b>5. Pitch stability exiting accelerated flight</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>				
Collapse occurs	No	A	No	A
<b>7. Roll stability and damping</b>				
Oscillations	Reducing	A	Reducing	A
<b>8. Stability in gentle spirals</b>				
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
<b>9. Behaviour in a steeply banked turn</b>				
Sink rate after two turns	More than 14 m/s	B	More than 14 m/s	B
<b>10. Symmetric front collapse</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	Dive forward 0° to 30°, Entering a turn less than 90°	A	Dive forward 30° to 60°, Keeping course	B
Cascade occurs	No	A	No	A
<i>With accelerator</i>				
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	Dive forward 0° to 30°, Keeping course	A	Dive forward 30° to 60°, Keeping course	B
Cascade occurs	No	A	No	A
<b>11. Exiting deep stall (parachutal stall)</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
<b>12. High angle of attack recovery</b>				
Recovery	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	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	Greater than 45°	C
Line tension	Most line tight	A	Most line tight	A
<b>14. Asymmetric collapse</b>				
<i>With 50% collapse-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	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	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
<i>With 75% collapse-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	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	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
<i>With 50% collapse and accelerator-Maximum dive forward or roll angle</i>				
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
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
<i>With 75% collapse and accelerator-Maximum dive forward or roll angle</i>				
Change of course until re-inflation	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	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
<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 90° to 180°	C	Stops spinning in less than 90°	A
Cascade occurs	No	A	No	A
<b>19. B-line stall</b>				
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
<b>20. Big ears</b>				
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
<b>21. Big ears in accelerated flight</b>				
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
<b>22. Behaviour exiting a steep spiral</b>				
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]	18 m/		22 m/s	
<b>23. 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>24. 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
<b>Comments of test pilot</b>				
Comments	no		no	



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