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AIR TURQUOISE SA certified by

Flight test report: EN

no

Trimmer



Manufacturer	MCC Aviation SA	Certification number	PG_0503.2011
Address	La Tuilière 1091 Grandvaux Switzerland	Date of flight test	28. 10. 2011
Representative	none	Place of test	Villeneuve
Glider model	Orbea evo L	Classification	В

	t Thurnheer Claude		Zoller Alain	
Harness	Sup'Air - Evo XC M		Sky Paragliders - Revel 2 L	
Total weight in flight (kg) 100		130	
1. Inflation/Take-off	Α			
Rising behaviour	Smooth, easy and constant rising	Α	Smooth, easy and constant rising	Α
Special take off technique required	No	Α	No	Α
2. Landing	Α			
Special landing technique required	No	Α	No	Α
3. Speed in straight flight	A			
Trim speed more than 30 km/h	Yes	Α	Yes	Α
Speed range using the controls larger than 10 km/h	Yes	Α	Yes	Α
Minimum speed	Less than 25 km/h	Α	Less than 25 km/h	Α
4. Control movement	A			
Max. weight in flight up to 80 kg				
Symmetric control pressure / 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 greater than 100 kg				
Symmetric control pressure / travel	not available	0	Increasing / greater than 65 cm	Α
5. Pitch stability exiting accelerated flight	A			
Dive forward angle on exit	Dive forward less than 30°	Α	Dive forward less than 30°	Α
Collapse occurs	No	Α	No	Α
6. Pitch stability operating controls during accelerated flight	Α			
Collapse occurs	No	Α	No	Α
7. Roll stability and damping	Α			
Oscillations	Reducing	Α	Reducing	Α
8. Stability in gentle spirals	Α			
Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	Α
9. Behaviour in a steeply banked turn	В			
Sink rate after two turns	12 m/s to 14 m/s	Α	More than 14 m/s	В
10. Symmetric front collapse	Α			
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
With accelerator				
Entry	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α

Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Keeping course	Α
Cascade occurs	No	Α	No	Α
11. Exiting deep stall (parachutal stall)	A			
Deep stall achieved	Yes	Α	Yes	Α
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Change of course	Changing course less than 45°	Α	Changing course less than 45°	Α
Cascade occurs	No	Α	No	Α
12. High angle of attack recovery	A			•
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	A			
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Collapse	No collapse	Α	No collapse	Α
Cascade occurs (other than collapses)	No	Α	No	Α
Rocking back	Less than 45°	Α	Less than 45°	Α
Line tension	Most lines tight	Α	Most lines tight	Α
	B	^	wost intes tight	^
14. Asymmetric collapse With 50% collapse	ь			
Change of course until re-inflation / Maximum dive forward or	Loop than 00° / Divo or roll angle	۸	Less than 90° / Dive or roll angle 0°	۸
roll angle	Less than 90° / Dive or roll angle 0° to 15°	А	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	Α	No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
With 75% collapse	110	,,	110	,,
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	Α	90° to 180° / Dive or roll angle 15° to 45°	В
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	Α	No No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	A
	140	^	NO	^
With 50% collapse and 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 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
G				
Collapse on the opposite side occurs	No	A	No	A
Twist occurs Cascade occurs	No	A	No	A
	No	Α	No	Α
With 75% collapse and accelerator	00% to 400% / Divergence the second	_	00% to 400% / Diverge and Harris 45%	_
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	В	90° to 180° / Dive or roll angle 15° to 45°	В
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	Α	No	Α
Twist occurs	No	Α	No	Α
Cascade occurs	No	Α	No	Α
15. Directional control with a maintained asymmetric collapse	Α			
Able to keep course	Yes	Α	Yes	Α
180° turn away from the collapsed side possible in 10 s	Yes	Α	Yes	Α
Amount of control range between turn and stall or spin	More than 50 % of the	Α	More than 50 % of the symmetric	Α
	symmetric control travel		control travel	

Spin occurs	16. Trim speed spin tendency	Α			
Spin occurs No	Spin occurs	No	Α	No	Α
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 No	17. Low speed spin tendency	Α			
Spin rotation angle after release Stops spinning in less than 90° A Cascade occurs No	Spin occurs	No	Α	No	Α
Cascade occurs No No No No No No No N	18. Recovery from a developed spin	Α			
19. B-line stall Change of course before release Changing course less than 45° A Changing course less than 3 s A Chedicated course course A Dedicated control S A Changing less than 45° A Changing course less than 3 s A Changing course less than 3 s A Changing course less than 3 s A Changing less than 45° A Changing less than 45° A Changing less than 45° A Changing course less than 3 s A Changing less than 45° A Chan	Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Change of course before release Behaviour before release Remains stable with straight span Recovery Spontaneous in less than 3 s A Spontaneous in less than 3 s A Dive forward 0 re to 30 reached occurs No A	Cascade occurs	No	Α	No	Α
Remains stable with straight span Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than a further 3 s Recovery Recovery Recovery through pilot action in less than a further 3 s Recovery Recovery Recovery through pilot action in less than a further 3 s Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action	19. B-line stall	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 Stable flight A Stable flight A Stable flight A Dive forward 0° to 30° A Dive f	Change of course before release	Changing course less than 45°	Α	Changing course less than 45°	Α
Dive forward angle on exit Cascade occurs No No A	Behaviour before release	S S S S S S S S S S S S S S S S S S S	Α	Remains stable with straight span	Α
Cascade occurs No A No A 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 Spontaneous in less than 3 s A Dive forward angle on exit Dive forward 0° to 30° A Dive forward 0° to 30° A Dive forward 0° to 30° A Entry procedure Dedicated controls A 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 Dive forward 0° to 30° A Behaviour immediately after releasing the accelerator while maintaining big ears A Dive forward 0° to 30° A Dive forward 0° to 30° A 2. Behaviour exiting a steep spiral A A Stable flight A Stable flight A Turn angle to recover normal flight Spontaneous exit A A <	Recovery	Spontaneous in less than 3 s	Α	Spontaneous in less than 3 s	Α
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 3 will rest 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 21. Big ears in accelerated flight 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 Recovery through pilot action in less than 2 s B Spontaneous in less than 3 s A Behaviour immediately after releasing the accelerator while maintaining big ears A Dive forward 0° to 30° A Dive forward 0° to 30° A 22. Behaviour exitting a steep spiral A A Stable flight A Turn angle to recover normal flight Spontaneous exit A Less than 720°, spontaneous exit A 180° turn achievable in 20 s Yes A Yes <td< td=""><td>Dive forward angle on exit</td><td>Dive forward 0° to 30°</td><td>Α</td><td>Dive forward 0° to 30°</td><td>Α</td></td<>	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 on the stand and a further 3 s Dive forward angle on exit Dive forward on to 30° A Dedicated controls A Dedicated controls A Dedicated controls A Dedicated controls A Stable flight A Stab	Cascade occurs	No	Α	No	Α
Behaviour during big ears Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Dive forward 0° to 30° A 21. Big ears in accelerated flight B Entry procedure Dedicated controls A Behaviour during big ears Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery Recovery Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3 s Recovery through pilot action in less than 3	20. Big ears	В			
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Dive forward angle on exit Dive forward 0° to 30° Dedicated controls Dedicated controls Dedicated controls Stable flight A Dive forward 0° to 30° A Stable flight A S	Behaviour during big ears	Stable flight	Α	Stable flight	Α
21. Big ears in accelerated flight Entry procedure Dedicated controls A Dedicated controls A Stable flight A Dive forward on the stream of the stable flight B Spontaneous in less than 3 s A less than a further 3 s Dive forward angle on exit Dive forward on the stream of the stable flight B Spontaneous in less than 3 s A less than 3	Recovery		В	Spontaneous in less than 3 s	Α
Entry procedure Dedicated controls A Dedicated controls A Stable flight A Dive forward angle on exit Behaviour immediately after releasing the accelerator while maintaining big ears 22. Behaviour exiting a steep spiral A Stable flight A Spontaneous in less than 3 s A Behaviour immediately after releasing the accelerator while maintaining big ears 22. Behaviour exiting a steep spiral A Stable flight A Spontaneous exit A Spontaneous exit A Spontaneous exit A Less than 720°, spontaneous exit A Stable flight A Spontaneous exit A Less than 720°, spontaneous exit A Less than 720	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Behaviour during big ears Recovery Recovery through pilot action in less than a further 3 s Dive forward angle on exit Dive forward 0° to 30° Dive forward 0° t	21. Big ears in accelerated flight	В			
Recovery through pilot action in less than 3 s	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. Behaviour exiting a steep spiral Tendency to return to straight flight Spontaneous exit A Spontaneous exit A Spontaneous exit A Less than 720°, spontaneous R R Less than 720°, spontaneous R Less than 720°, spontaneous R R Less than 720°, spontaneous R Less than 720°, spontaneous R R R Less than 720°, spontaneous R R R Less than 720°, spontaneous R R R Less than 720	Behaviour during big ears	Stable flight	Α	Stable flight	Α
Behaviour immediately after releasing the accelerator while maintaining big ears 22. Behaviour exiting a steep spiral A Tendency to return to straight flight Spontaneous exit A Spontaneous exit A Spontaneous exit A Less than 720°, spontaneous recovery Sink rate when evaluating spiral stability [m/s] 18 23. Alternative means of directional control A Stable flight A Spontaneous exit A Less than 720°, spontaneous recovery Ina A Less than 720°, spontaneous recovery	Recovery		В	Spontaneous in less than 3 s	Α
maintaining big ears 22. Behaviour exiting a steep spiral A Tendency to return to straight flight Spontaneous exit A Turn angle to recover normal flight Less than 720°, spontaneous recovery A Less than 720°, spontaneous recovery Sink rate when evaluating spiral stability [m/s] 18 23. Alternative means of directional control A 180° turn achievable in 20 s Yes A Stall or spin occurs No A 24. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available not available 0 25. Comments of test pilot	Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Tendency to return to straight flight Spontaneous exit A Spontaneous exit A Less than 720°, spontaneous recovery Sink rate when evaluating spiral stability [m/s] 18 18 23. Alternative means of directional control 180° turn achievable in 20 s Stall or spin occurs No A Yes A Yes A Stall or spin occurs No A No 24. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available not available o second occurs o not available o second occurs o not available		Stable flight	Α	Stable flight	Α
Turn angle to recover normal flight Less than 720°, spontaneous recovery Sink rate when evaluating spiral stability [m/s] 18 23. Alternative means of directional control A 180° turn achievable in 20 s Stall or spin occurs No A 24. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available not available not available o not available	22. Behaviour exiting a steep spiral	Α			
recovery Sink rate when evaluating spiral stability [m/s] 23. Alternative means of directional control A 180° turn achievable in 20 s Stall or spin occurs No No A 24. 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 cascade occurs not available 0 not available 0 not available 0 not available 0 25. Comments of test pilot	Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	Α
23. Alternative means of directional control 180° turn achievable in 20 s Yes A Yes A Stall or spin occurs No A 24. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available o not available o not available cascade occurs not available o not available	Turn angle to recover normal flight		Α		Α
180° turn achievable in 20 s Yes A Yes A Stall or spin occurs No A No A No A 24. Any other flight procedure and/or configuration described in the user's manual Procedure works as described not available O not available O not available O cascade occurs not available O not available O not available O second occurs O not available	Sink rate when evaluating spiral stability [m/s]	18		18	
Stall or spin occurs No A No A No A No A No A No A A No A A A A	23. Alternative means of directional control	Α			
24. Any other flight procedure and/or configuration described in the user's manual 0 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 25. Comments of test pilot	180° turn achievable in 20 s	Yes	Α	Yes	Α
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 25. Comments of test pilot	Stall or spin occurs	No	Α	No	Α
Procedure suitable for novice pilots not available 0 not available 0 Cascade occurs not available 0 not available 0 not available 0 25. Comments of test pilot		0			
Cascade occurs not available 0 not available 0 25. Comments of test pilot	Procedure works as described	not available	0	not available	0
25. Comments of test pilot	Procedure suitable for novice pilots	not available	0	not available	0
	Cascade occurs	not available	0	not available	0
Comments	25. Comments of test pilot				
	Comments				