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Flight test report



Manufacturer **Ozone Gliders** Certification number PG_0219.2009 Address 2, Queens Drive Date of flight test 15.02.2009 LA46LN.

UK

Representative Dagault David Place of test Villeneuve

Mantra M3 M Classification D Glider model

Trimmer no				
Test nilot	Thurnheer Claude		Zoller Alain	
•	Sup'Air - Altiplume M		Sup'Air - Altiplume M	
	•		•	
Total weight in flight (kg)			102	
1. Inflation/Take-off	C Overshoots, shall be slowed	С	Overshoots, shall be slowed down	С
Rising behaviour	down to avoid a front collapse	C	to avoid a front collapse	C
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	В			
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	25 km/h to 30 km/h	В	25 km/h to 30 km/h	В
4. Control movement	С			
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 / 45 cm to 60 cm	С	not available	0
Max. weight in flight greater than 100 kg				
Symmetric control pressure / travel	not available	0	Increasing / 50 cm to 65 cm	С
5. Pitch stability exiting accelerated flight	A			
Dive forward angle on exit	Dive forward less than 30°	A	Dive forward less than 30°	Α
Collapse occurs	No	Α	No	Α
6. Pitch stability operating controls during accelerated flight	A			
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	More than 14 m/s	В	More than 14 m/s	В
10. Symmetric front collapse	C		Dealine has been the at 450	0
Entry	Rocking back less than 45°	A	Rocking back greater than 45°	С
Recovery	Spontaneous in less than 3 s	A	Spontaneous in 3 s to 5 s	В
Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α .	Dive forward 0° to 30° / Entering a turn of less than 90°	Α .
Cascade occurs	No	Α	No	Α
With accelerator		_		_
Entry	Rocking back greater than 45°	C ·	Rocking back greater than 45°	С
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in 3 s to 5 s	В

Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	Α	Dive forward 0° to 30° / Entering a turn of less than 90°	Α
Cascade occurs	No	Α	No	Α
11. Exiting deep stall (parachutal stall)	Α			
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	C			, .
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	Greater than 45°	C
Line tension	Most lines tight	Α	Most lines tight	A
14. Asymmetric collapse	C	, ,	West mes agin	,,
With 50% 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°	A
Collapse on the opposite side occurs	No	Α	No	A
Twist occurs	No	A	No	
Cascade occurs		A	No	A
	No	А	NO	Α
With 75% collapse	00° to 400° / Diversity and the state	_	00° to 400° / Dive on roll and 45°	0
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 45° to 60°	C	90° to 180° / Dive or roll angle 45° to 60°	C
Re-inflation behaviour	Spontaneous re-inflation	Α.	Spontaneous re-inflation	A
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 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 45° to 60°	С
Re-inflation behaviour	Spontaneous re-inflation	Α	Inflates in less than 3 s from start of pilot action	С
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	not available	0
Cascade occurs	No	Α	No	Α
With 75% collapse and accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 45° to 60°	С	90° to 180° / Dive or roll angle 45° to 60°	С
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	Yes, no turn reversal	С
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 symmetric control travel	Α	More than 50 % of the symmetric control travel	Α
16. Trim speed spin tendency	A			

Spin occurs	No	Α	No	Α
17. Low speed spin tendency	D			
Spin occurs	No	Α	Yes	D
18. Recovery from a developed spin	A			
Spin rotation angle after release	Stops spinning in less than 90°	Α	Stops spinning in less than 90°	Α
Cascade occurs	No	Α	No	Α
19. B-line stall	D			
Change of course before release	Changing course more than 45°	С	Changing course more than 45°	С
Behaviour before release	Unstable	D	Unstable	D
Recovery	Recovery through pilot action in less than a further 3 s	D	Recovery through pilot action in less than a further 3 s	D
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
Cascade occurs	No	Α	No	Α
20. Big ears	В			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Recovery through pilot action in less than a further 3 s	В	Spontaneous in less than 3 s	Α
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	A			
Entry procedure	Dedicated controls	Α	Dedicated controls	Α
Behaviour during big ears	Stable flight	Α	Stable flight	Α
Recovery	Spontaneous in 3 s to 5 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
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Α	Stable flight	Α
22. Behaviour exiting a steep spiral	D			
Tendency to return to straight flight	Turn remains constant	D	Turn remains constant	D
Turn angle to recover normal flight	With pilot action	D	With pilot action	D
Sink rate when evaluating spiral stability [m/s]	23		26	
23. Alternative means of directional control	A			
180° turn achievable in 20 s	Yes	Α	Yes	Α
Stall or spin occurs	No	Α	No	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				
Comments				