

AIR TURQUOISE SA certified by

## Flight test report: EN

no

Trimmer



Manufacturer	Ozone Gliders	Certification number	PG_0544.2012
Address	2, Queens Drive LA46LN . UK	Date of flight test	22. 02. 2012
Representative	David Dagault	Place of test	Villeneuve
Glider model	Enzo L	Classification	D

Test pllot   Thurnheer Claude   Harness   Niviuk Gliders - Hamak M   Total weight in flight (kg)   110   125   1. Inflation/Take-off   C   C   C   C   C   C   C   C   C	•				
Harmess Niviuk Gilders - Harmak M Total weight in flight (kg) 110 125  1. Inflation/Take-off Rising behaviour Overshoots, shall be slowed down to avoid a front collapse down to avoid a front collapse Course for the value of technique required No A No	Test pilot	Thurnheer Claude		Berruex Gilles	
Inflation/Take-off   C   C   C   C   C   C   C   C   C	-			Gin Gliders - Gingo 2 I	
Description   C   C   C   C   C   C   C   C   C				=	
Rising behaviour  Special take off technique required  No  No  A  A  A  A  A  A  A  A  A  A  A  A  A				120	
Special take off technique required No No A No A No A No A Special landing technique required No A A No A No A Special landing technique required No A No A No A Special landing technique required No A No A No A Special landing technique required No A No A No A Special landing technique required No A No A No A Special landing technique required B No A No A No A Special straight flight B STRING SPECIAL SP			С	Overshoots, shall be slowed down	С
Special landing technique required No A No A No A No A Special landing technique required No A Special Instraight flight B Trim speed more than 30 km/h Yes A Yes A Special range using the controls larger than 10 km/h Yes A Yes A Yes A Minimum speed 25 km/h to 30 km/h B 25 km/h to 3	3 1 1 1				
Special anding technique required   No   A   No   A   No   A   No   A   So   So   A   So   So   A   So   So	Special take off technique required	No	Α	No	Α
3. Speed in straight flight Trims speed more than 30 km/h Yes A Yes A Yes A Speed range using the controls larger than 10 km/h Minimum speed 4. Control movement C Max. weight in flight up to 80 kg Symmetric control pressure / travel Max. weight in flight up to 80 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight 80 kg to 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel Max. weight in flight greater than 100 kg Symmetric control pressure / travel  A Dive forward less than 30° A Dive forward less than 30° A Dive forward less than 30° A No A No A No A No A No A Reducing A Seducing A Sedu	•	Α			
Trim speed more than 30 km/h  Speed range using the controls larger than 10 km/h  Yes  A Yes  A Yes  A Yes  A Minimum speed  25 km/h to 30 km/h  B 25 km/h to 30 km/h  B 25 km/h to 30 km/h  C  Max. weight in flight up to 80 kg  Symmetric control pressure / travel  Max. weight in flight 80 kg to 100 kg  Symmetric control pressure / travel  not available  0 not available  1 not av	Special landing technique required		Α	No	Α
Speed range using the controls larger than 10 km/h Minimum speed 25 km/h to 30 km/h B 26 km/h to 30 km/h B 26 km/h to 30 km/h B 27 km/h to 30 km/h B 36 km/h to 30 km/h B 37 km/h to 30 km/h B 37 km/h to 30 km/h B 38 km/h to 30 km/h B 39 km/h to 30 km/h B 30 km/h to 30 km/h B 4		В			
Minimum speed 25 km/h to 30 km/h B 25 km/h to 30 km/h B 4. Control movement C  Max. weight in flight up to 80 kg Symmetric control pressure / travel not available 0 not avail	Trim speed more than 30 km/h	Yes	Α	Yes	Α
A. Control movement  Max. weight in flight up to 80 kg  Symmetric control pressure / travel  not available  not available  not available  0 Increasing / 50 cm to 65 cm  C Increasing / 50 cm t		Yes	Α	Yes	Α
Symmetric control pressure / travel not available 0 not available no			В	25 km/h to 30 km/h	В
Symmetric control pressure / travel not available 0 not availa		С			
Symmetric control pressure / travel not available 0 not availa					
Symmetric control pressure / travel not available 0 not available 0 not available 0 Max. weight in flight greater than 100 kg  Symmetric control pressure / travel Increasing / 50 cm to 65 cm C Increasing / 50 cm to 65 cm C 5. Pitch stability exiting accelerated flight Dive forward less than 30° A No A N		not available	0	not available	0
Max. weight in flight greater than 100 kg  Symmetric control pressure / travel					
Symmetric control pressure / travel Increasing / 50 cm to 65 cm C Increasing / 50 cm to 65 cm C  5. Pitch stability exiting accelerated flight Dive forward angle on exit Collapse occurs No A No A No A  6. Pitch stability operating controls during accelerated flight Collapse occurs No A No A No A  7. Roll stability and damping Oscillations Reducing A  8. Stability in gentle spirals Tendency to return to straight flight Spontaneous exit A  9. Behaviour in a steeply banked turn Sink rate after two turns More than 14 m/s B  10. Symmetric front collapse Entry Recovery Recovery through pilot action in less than 45° Recovery Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A  No A Dive forward 0° to 30° / Keeping course Cascade occurs No A No A  Dive forward 0° to 30° / Keeping course Cascade occurs No A No A  Dive forward 0° to 30° / Keeping course Cascade occurs No A No A  Dive forward 0° to 30° / Keeping course Cascade occurs No A No A  Dive forward 0° to 30° / Keeping course Cascade occurs No A No A  Dive forward 0° to 30° / Keeping course	•	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 No A 6. Pitch stability operating controls during accelerated flight Collapse occurs No A No A No A 7. Roll stability and damping A Coscillations Reducing A Reducing A Reducing A Reducing A Spontaneous exit A Recovery through pilot action in less than 45° A Recovery through pilot action in less than a further 3 s Dive forward angle on exit / Change of course Dive forward or to 30° / Keeping course Cascade occurs No A No A No A No A With accelerator					
Dive forward angle on exit  Collapse occurs  No  No  A  No  A  No  A  No  A  Collapse occurs  No  No  A  No  A  No  A  No  A  Collapse occurs  No  No  A  No  A  No  A  No  A  No  A  Reducing  A  Seducing  A  Seducing  A  Seducing  A  Sepontaneous exit  A  Sepontaneous exit  A  Sepontaneous exit  A  Sepontaneous exit  A  Secovery  Recovery through pilot action in less than 45°  Recovery  Dive forward on to 30° / Keeping course  No  A  No  A  Dive forward less than 30°  A  No  A  A  No  A  A  No  A  A  A  A  Collapse occurs  A  No  A  No  A  No  A  No  A  No  A  A  No  A  A  Collapse occurs  A  No  A  No  A  No  A  No  A  A  No  A  A  Collapse occurs  A  No  A  No  A  No  A  A  No  A  A  Collapse  A  No  A  No  A  A  Collapse  A  No  A  No  A  Collapse  A  Collapse  A  No  A  No  A  A  Collapse  A  Collapse  A  No  A  Collapse  Cascade occurs  No  A  Collapse  A  Collapse  A  Collapse  A  Collapse  Cascade occurs  No  A  No  A  No  A  No  A  Collapse  A  Collapse  Cascade occurs  No  A  No  A  No  A  No  A  Collapse  Cascade occurs  No  A  No  A  Collapse  Cascade occurs  No  A  No  A  No  A  Collapse  Cascade occurs  No  A  No  Cascade occurs  No  A  No  Cascade occurs  Cascade occurs  No  Cascade occurs  Cascade occurs  Cascade occurs  C			С	Increasing / 50 cm to 65 cm	С
Collapse occurs  No A No A No A Reducing B Reducing A Recovery to return to straight flight B Recovery Recovery through plack less than 45° Recovery Recovery through pilot action in less than a further 3 s Dive forward angle on exit / Change of course Dive forward 0° to 30° / Keeping course Cascade occurs No A No					
6. Pitch stability operating controls during accelerated flight  Collapse occurs  No  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  9. Behaviour in a steeply banked turn  Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  Entry  Recovery  Recovery  Recovery through pilot action in less than 45°  Recovery  Dive forward angle on exit / Change of course  Cascade occurs  No  A  No  No	· · · · · · · · · · · · · · · · · · ·	Dive forward less than 30°	Α		Α
Flight Collapse occurs  No A  No A  No A  Reducing A  Recovery treatment to straight flight B  Recovery through panked turn B  Recovery through pilot action in less than 45° Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Cascade occurs  No  No  A  No  A  No  Recovery through A  No  Recovery through A  Recov			Α	No	Α
7. Roll stability and damping Oscillations Reducing A Recovery to return to straight flight B Recovery turns B Recovery through part action in less than 45° Recovery through pilot action in less than a further 3 s Dive forward angle on exit / Change of course Cascade occurs No A Recovery Recovery Recovery through pilot action in less than a further 3 s Dive forward 0° to 30° / Keeping course A Recovery Recovery Recovery through pilot action in less than a further 3 s Dive forward 0° to 30° / Keeping course A Recovery Recovery Recovery through pilot action in less than a further 3 s Dive forward 0° to 30° / Keeping course A Recovery Recovery Recovery through pilot action in less than a further 3 s Dive forward 0° to 30° / Keeping course A Recovery Recovery through pilot action in less than a further 3 s Dive forward 0° to 30° / Keeping course A Recovery Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than a further 3 s A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery through pilot action in less than 45° A Recovery		A			
Oscillations       Reducing       A Reducing       A         8. Stability in gentle spirals       A       A         Tendency to return to straight flight       Spontaneous exit       A       Spontaneous exit       A         9. Behaviour in a steeply banked turn       B       B         Sink rate after two turns       More than 14 m/s       B       More than 14 m/s       B         10. Symmetric front collapse       D       A       Rocking back less than 45°       A       Rocking back less than 45°       A         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       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D       D       Recovery through pilot action in less than a further 3 s       D<	·	No	Α	No	Α
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  10. Symmetric front collapse  Entry  Recovery  Recovery through pilot action in less than 45°  Recovery  Dive forward angle on exit / Change of course  Cascade occurs  No  A Spontaneous exit					
Tendency to return to straight flight  9. Behaviour in a steeply banked turn  8 Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  Entry  Recovery  Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Cascade occurs  No  A Spontaneous exit  A Spon			Α	Reducing	Α
9. Behaviour in a steeply banked turn  Sink rate after two turns  More than 14 m/s  B  10. Symmetric front collapse  Entry  Recovery  Recovery through pack less than 45°  Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A  No  No		A			
Sink rate after two turns  More than 14 m/s  B More than 14 m/s  A Rocking back less than 45° A  Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A Dive forward 0° to 30° / Keeping course  A No  A No  A With accelerator		· ·	Α	Spontaneous exit	Α
10. Symmetric front collapse  Entry  Recovery  Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  No  No  A Rocking back less than 45° A Recovery through pilot action in less than a further 3 s  Dive forward 0° to 30° / Keeping course  A Dive forward 0° to 30° / Keeping course  A No  A No  A With accelerator		_			
Entry Recovery Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Dive forward 0° to 30° / Keeping course  No  A Recovery through pilot action in less than a further 3 s  Dive forward 0° to 30° / Keeping course  A Dive forward 0° to 30° / Keeping course  A No  A With accelerator		More than 14 m/s	В	More than 14 m/s	В
Recovery through pilot action in less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Dive forward 0° to 30° / Keeping course  No  A  No  A  No  A  No  A  No  A					
less than a further 3 s  Dive forward angle on exit / Change of course  Dive forward 0° to 30° / Keeping course  Cascade occurs  No  A  Dive forward 0° to 30° / Keeping course  A  No  A  No  A  With accelerator		-	_		
Cascade occurs  No A No A With accelerator	Recovery		D		D
With accelerator	Dive forward angle on exit / Change of course		Α		Α
	Cascade occurs	No	Α	No	Α
Entry Rocking back greater than 45° C Rocking back greater than 45° C	With accelerator				
	Entry	Rocking back greater than 45°	С	Rocking back greater than 45°	С

5		_	5	_
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 / 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)	В			
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 30° to 60°	В
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	С			
Recovery	Spontaneous in less than 3 s	Α	Spontaneous in 3 s to 5 s	С
Cascade occurs	No	Α	No	Α
13. Recovery from a developed full stall	С			
Dive forward angle on exit	Dive forward 60° to 90°	С	Dive forward 60° to 90°	С
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
14. Asymmetric collapse	D			
With 50% 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	Inflates in less than 3 s from start of pilot action	С	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				
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 45° to 60°	С	$90^{\circ}$ to $180^{\circ}$ / Dive or roll angle $45^{\circ}$ to $60^{\circ}$	С
Re-inflation behaviour	Inflates in less than 3 s from start of pilot action	С	Inflates in 3 s to 5 s from start of pilot action	D
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	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Inflates in less than 3 s from start of pilot action	С	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	No	Α
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 60° to 90°	С	90° to 180° / Dive or roll angle 60° to 90°	С
Re-inflation behaviour	Inflates in less than 3 s from start of pilot action	С	Inflates in 3 s to 5 s from start of pilot action	D
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 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	A			
Spin occurs	No	Α	No	Α
18. Recovery from a developed spin	D			
Spin rotation angle after release	Stops spinning in 180° to 360°	D	Stops spinning in less than 90°	Α
Cascade occurs	No	Α	No	Α
19. B-line stall	0			
Change of course before release	not available	0	not available	0
Behaviour before release	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
Cascade occurs	not available	0	not available	0
20. Big ears	С			
Entry procedure	Standard technique	Α	Standard technique	Α
Behaviour during big ears	Stable flight	Α	Unstable flight	C
Recovery	Recovery through pilot action in	В	Recovery through pilot action in	Е
•	less than a further 3 s		less than a further 3 s	
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Α
21. Big ears in accelerated flight	С			
Entry procedure	Standard technique	Α	Standard technique	Α
Behaviour during big ears	Unstable flight	С	Unstable flight	C
Recovery	Spontaneous in less than 3 s	Α	Recovery through pilot action in less than a further 3 s	E
Dive forward angle on exit	Dive forward 0° to 30°	Α	Dive forward 0° to 30°	Δ
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Α	Unstable flight	C
22. Behaviour exiting a steep spiral	A			
Tendency to return to straight flight	Spontaneous exit	Α	Spontaneous exit	A
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Α	Less than 720°, spontaneous recovery	A
Sink rate when evaluating spiral stability [m/s]	18		18	
23. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	Α	Yes	A
Stall or spin occurs	No	Α	No	A
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			This glider meets the minimum requirements of EN/LTF class D. According to the manufacturer and confirmed by our own testing this glider addresses highly experienced comp-pilots (PWC level) exclusively and is no replacement for the standard D-class-glider of the same	