para-test.com
paragliding by air turquoise

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AIR TURQUOISE SA certified by ISO 9001 BUREAU VERITAS Certification

Flight test report: EN

Manufacturer	**Apco Aviation Ltd.**	Certification number	PG_0350.2010
Address	7, Chalamish St., Industrial park 38900 Caesarea Israel	Date of flight test	10. 12. 2010
Representative	None	Place of test	Villeneuve
Glider model	**Force S**	**Classification**	**C**
Trimmer	yes: closed		

	Test pilot	Dupont Philippe		Thurnheer Claude	
	Harness	Sup' Air - Access S		Niviuk Gliders - Hamak M	
	Total weight in flight (kg)	80		90	
1. Inflation/Take-off		**A**			
Rising behaviour		Smooth, easy and constant rising	A	Smooth, easy and constant rising	A
Special take off technique required		No	A	No	A
2. Landing		**A**			
Special landing technique required		No	A	No	A
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
4. Control movement		**A**			
Max. weight in flight up to 80 kg					
Symmetric control pressure / travel		Increasing / greater than 55 cm	A	not available	0
Max. weight in flight 80 kg to 100 kg					
Symmetric control pressure / travel		not available	0	Increasing / greater than 60 cm	A
Max. weight in flight greater than 100 kg					
Symmetric control pressure / travel		not available	0	not available	0
5. Pitch stability exiting accelerated flight		**A**			
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		**A**			
Collapse occurs		No	A	No	A
7. Roll stability and damping		**A**			
Oscillations		Reducing	A	Reducing	A
8. Stability in gentle spirals		**A**			
Tendency to return to straight flight		Spontaneous exit	A	Spontaneous exit	A
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
10. Symmetric front collapse		**C**			
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 / Change of course		Dive forward 30° to 60° / Keeping course	B	Dive forward 0° to 30° / Keeping course	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 / Change of course	Dive forward 30° to 60° / Keeping course	B	Dive forward 30° to 60° / Keeping course	B
Cascade occurs	No	A	No	A
11. Exiting deep stall (parachutal stall)	**A**			
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	**C**			
Recovery	Spontaneous in less than 3 s	A	Spontaneous in 3 s to 5 s	C
Cascade occurs	No	A	No	A
13. Recovery from a developed full stall	**A**			
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	A
Collapse	No collapse	A	No collapse	A
Cascade occurs (other than collapses)	No	A	No	A
Rocking back	Less than 45°	A	Less than 45°	A
Line tension	Most lines tight	A	Most lines tight	A
14. Asymmetric collapse	**C**			
With 50% collapse				
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	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				
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 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	No	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
With 50% 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°	C	Less than 90° / 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 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°	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	No	A	No	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
15. Directional control with a maintained asymmetric collapse	**A**			
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	**A**			
Spin occurs	No	A	No	A
17. Low speed spin tendency	**A**			
Spin occurs	No	A	No	A
18. Recovery from a developed spin	**A**			
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	**A**			
Change of course before release	Changing course less than 45°	A	Changing 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 30° to 60°	A	Dive forward 0° to 30°	A
Cascade occurs	No	A	No	A
20. Big ears	**0**			
Entry procedure	not available	0	not available	0
Behaviour during big ears	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
21. Big ears in accelerated flight	**0**			
Entry procedure	not available	0	not available	0
Behaviour during big ears	not available	0	not available	0
Recovery	not available	0	not available	0
Dive forward angle on exit	not available	0	not available	0
Behaviour immediately after releasing the accelerator while maintaining big ears	not available	0	not available	0
22. Behaviour exiting a steep spiral	**A**			
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		23	
23. Alternative means of directional control	**A**			
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	**A**			
Procedure works as described	Yes	A	Yes	A
Procedure suitable for novice pilots	Yes	A	Yes	A
Cascade occurs	No	A	No	A
25. Comments of test pilot				
Comments	Impossible to maintain the big ears		Impossible to maintain Big-ears	