



Apco Aviation Ltd.
Mr Cohn Anatoly
7, Chalamish St., Industrial park
38900 Caesarea
Israel

Certificate

The hereunder sample of paraglider has been tested
in accordance with the following standards:
EN 926-2:2005 & EN 926-1:2006



Certification number **PG_0183.2008**
Manufacturer **Apco Aviation Ltd.**
Glider model **Karma Sport S**
Category **B**
Maximum weight in flight (kg) **90 kg**
Minimum weight in flight (kg) **60 kg**
Glider's weight (kg) **5.4 kg**

Date of flight test

Flight tests **07. 10. 2008**
Serial number **PR00413**

Best Regards,

Alain Zoller

Randi Eriksen



Class: **B**

In accordance with EN standards 926-2:2005 & 926-1:2006:

PG_0183.2008

Date of issue (DMY):

01. 05. 2009

Manufacturer: **Apco Aviation Ltd.**

Model: **Karma Sport S**

Serial number:

Configuration during flight tests

Paraglider

Maximum weight in flight (kg)	90
Minimum weight in flight (kg)	60
Glider's weight (kg)	5.4
Number of risers	4
Projected area (m2)	23.6

Accessories

Range of speed system (cm)	10
Speed range using brakes (km/h)	11
Range of trimmers (cm)	0
Total speed range with accessories (km/h)	17

Harness used for testing (max weight)

Harness type	ABS
Harness brand	Gin Gliders
Harness model	Genie III M
Harness to risers distance (cm)	49
Distance between risers (cm)	45

Inspections (whichever happens first)

every 12 months
Warning! Before use refer to user's manual
Person or company having presented the glider for testing: None

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	A	A	A	A	A	A	B	A	A	A	A	A	A	A	A	A	B	B	A	A	0



Flight test report



Manufacturer	Apco Aviation Ltd.	Certification number	PG_0183.2008
Address	7, Chalamish St., Industrial park 38900 Caesarea Israel	Date of flight test	07. 10. 2008
Representative	none	Place of test	Villeneuve
Glider model	Karma Sport S	Classification	B
Trimmer	no		

Test pilot Dupont Philippe Thurnheer Claude
Harness Advance - Light Gin - Genie III

Total weight in flight (kg) 60 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	A			
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	Less than 25 km/h	A	Less than 25 km/h	A
4. Control movement	A			
<i>Max. weight in flight up to 80 kg</i>				
Symmetric control pressure / travel	Increasing / greater than 55 cm	A	not available	0
<i>Max. weight in flight 80 kg to 100 kg</i>				
Symmetric control pressure / travel	not available	0	Increasing / greater than 60 cm	A
<i>Max. weight in flight greater than 100 kg</i>				
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	Up to 12 m/s	A	More than 14 m/s	B
10. Symmetric front collapse	A			
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 0° to 30° / Keeping course	A	Dive forward 0° to 30° / Keeping course	A
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 less than 3 s	A

Dive forward angle on exit / Change of course	Dive forward 0° to 30° / Keeping course	A	Dive forward 0° to 30° / Keeping course	A
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	A			
Recovery	not available	0	Spontaneous in less than 3 s	A
Cascade occurs	not available	0	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	A			
<i>With 50% collapse</i>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	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</i>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	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 50% collapse and accelerator</i>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	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</i>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	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
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	not available	0	Changing course less than 45°	A
Behaviour before release	not available	0	Remains stable with straight span	A
Recovery	not available	0	Spontaneous in less than 3 s	A
Dive forward angle on exit	not available	0	Dive forward 0° to 30°	A
Cascade occurs	not available	0	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	Spontaneous in 3 s to 5 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			
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
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	A
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]	14		17	
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	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	Impossible to make a B-line stall.			