Flight test report: EN 926-2:2013+A1:2021* & NfL 2-565-20

Manufacturer	**Apco Aviation Ltd.**	Certification number	PG_2188.2023
Address	Chalamish 7, Caesarea Industrial Park 3088900 Caesarea Israel	Flight test	24.05.2023
Glider model	**NESTRA S**	**Classification**	**B**
Serial number	Pr1014	Representative	None
Trimmer	no	Place of test	Villeneuve
Folding lines used	no		

Test pilot		Philippe Dupont	Claude Thurnheer
Harness		Woody Valley - Wani Light 2 S	Niviuk Gliders - Konvers M
Harness to risers distance (cm)		41	44
Distance between risers (cm)		40	44
Total weight in flight (kg)		60	80

1. Inflation/Take-off	**B**				
Rising behaviour	Easy rising, some pilot correction is required	B	Easy rising, some pilot correction is required	B	
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	Increasing / greater than 55 cm	A	
Max. weight in flight 80 kg to 100 kg					
Symmetric control pressure / travel	not available	0	not available	0	
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 exiting a fully developed spiral dive	**B**				
Initial response of glider (first 180°)	Immediate reduction of rate of turn	A	No immediate reaction	B	
Tendency to return to straight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	Spontaneous exit (g force decreasing, rate of turn decreasing)	A	
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	A	720° to 1 080°, spontaneous recovery	B	
10. Symmetric front collapse	**B**				

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Approximately 30 % chord

Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in 3 s to 5 s	B	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
Folding lines used	No	A	No	A

At least 50% chord

Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in 3 s to 5 s	B	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
Folding lines used	No	A	No	A

With accelerator

Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in 3 s to 5 s	B	Spontaneous in 3 s to 5 s	B
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
Folding lines used	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	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Cascade occurs	No	A	No	A

13. Recovery from a developed full stall — B

Dive forward angle on exit	Dive forward 30° to 60°	B	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 — B

Small asymmetric collapse

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 (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A

Large asymmetric collapse

Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	B	90° to 180° / Dive or roll angle 15° to 45°	B
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 (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A

Small asymmetric collapse with fully activated accelerator

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Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	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 (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No	A	No	A
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	B	90° to 180° / Dive or roll angle 15° to 45°	B
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 (or only a small number of collapsed cells with a spontaneous reinflation)	A	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	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	**B**			
Spin rotation angle after release	Stops spinning in 90° to 180°	B	Stops spinning in 90° to 180°	B
Cascade occurs	No	A	No	A
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	**B**			
Entry procedure	Dedicated controls	A	Dedicated controls	A
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in 3 s to 5 s	B
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	Recovery through pilot action in less than a further 3 s	B
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. Alternative means of directional control	**A**			
180° turn achievable in 20 s	Yes	A	Yes	A
Stall or spin occurs	No	A	No	A
23. 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

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24. Comments of test pilot

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