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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



Flight test report: EN 926-2:2013 & LTF 91/09

Manufacturer Address	Sky Country Astronomicheskaya street, 27,29 61085 Kharkov Ukraine	Certification number Date of flight test		PG_1107.2016 17. 08. 2016	
Glider model	Space M	Classification		D	
Serial number	0316-2546-01	Representative		None	
Trimmer	no	Place of test		Villeneuve	
Folding lines used	yes				
Test pilot		Thurnheer Claude		Zoller Alain	
Harness		Supair - Access M		Supair - Access M	
Harness to risers distance (cm)		43		44	
Distance between risers (cm)		44		46	
Total weight in flight (kg)		80		100	
1. Inflation/Take-off		C			
Rising behaviour		Overshoots, shall be slowed down to avoid a front collapse	С	Overshoots, shall be slowed down to avoid a front collapse	С
Special take off technique	required	No	Α	No	А
2. Landing		Α			
Special landing technique required		No	A	No	A
3. Speed in straight fligh		В		×	
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 4. Control movement		25 km/h to 30 km/h C	В	Less than 25 km/h	A
4. Control movement		C C			
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 pressu	Symmetric control pressure / travel		С	Increasing / 45 cm to 60 cm	С
Mare mainht in flight and	star than 100 km				
Max. weight in flight greater than 100 kg		not available	0	not available	0
Symmetric control pressure / travel 5. Pitch stability exiting accelerated flight		A	0		0
Dive forward angle on exi		Dive forward less than 30°	А	Dive forward less than 30°	А
Collapse occurs		No	A		A
6. Pitch stability operati flight	ng controls during accelerated	Α			
Collapse occurs		No	А	No	А
7. Roll stability and damping		Α			
Oscillations		Reducing	Α	Reducing	А
8. Stability in gentle spirals		Α			
Tendency to return to stra		Spontaneous exit	A	Spontaneous exit	А
9. Behaviour exiting a fully developed spiral dive Initial response of glider (first 180°)		A Immediate reduction of rate of	A	Immediate reduction of rate of turn	A
		turn			

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	Less than 720°, spontaneous recovery	A
10. Symmetric front collapse	D			
Approximately 30 % chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in 3 s to 5 s	в
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	А	No	А
Folding lines used	No		No	
At least 50% chord				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
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° / Keeping course	A
Cascade occurs	No	А	No	А
Folding lines used	No		Yes	
With accelerator				
Entry	Rocking back less than 45°	А	Rocking back less than 45°	А
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	A	Dive forward 0° to 30° / Keeping course	A
Cascade occurs	No	А	No	А
Folding lines used	Yes		Yes	
11. Exiting deep stall (parachutal stall)	Α			
Deep stall achieved	Yes	А	Yes	А
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Change of course	Changing course less than 45°	А	Changing course less than 45°	А
Cascade occurs	No	А	No	А
12. High angle of attack recovery	A			
Recovery	Spontaneous in less than 3 s	А	Spontaneous in less than 3 s	А
Cascade occurs	No	A	No	A
13. Recovery from a developed full stall	A	7.		7.
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
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		Most lines tight	A
	C	A	Most mes light	A
14. Asymmetric collapse	C			
Small asymmetric collapse				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	А	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
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	A	No (or only a small number of	A
	collapsed cells with a spontaneous reinflation)	~	collapsed cells with a spontaneous reinflation)	Λ
Twist occurs	No	А	No	А
Cascade occurs	No	А	No	А
Folding lines used			No	
	No		No	

Change of course until re-inflation / Maximum dive forward or roll angle	90° to 180° / Dive or roll angle 15° to 45°	В	Less than 90° / Dive or roll angle 45° to 60°	С
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
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	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	No		No	
Small asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	А	90° to 180° / Dive or roll angle 15° to 45°	В
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
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	А	No	А
Cascade occurs	No	А	No	А
Folding lines used	Yes		Yes	
Large asymmetric collapse with fully activated accelerator				
Change of course until re-inflation / Maximum dive forward or	90° to 180° / Dive or roll angle	в	Less than 90° / Dive or roll angle	С
roll angle	15° to 45°	D	45° to 60°	Ŭ
Re-inflation behaviour	Spontaneous re-inflation	А	Spontaneous re-inflation	А
Total change of course	Less than 360°	А	Less than 360°	А
Collapse on the opposite side occurs	Yes, no turn reversal	С	No (or only a small number of collapsed cells with a spontaneous reinflation)	A
Twist occurs	No	А	No	А
Twist occurs Cascade occurs	No No	A A	No No	A A
Cascade occurs	No		No	
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric	No Yes		No	
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse	No Yes A	A	No Yes	A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course	No Yes A Yes	A	No Yes	A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s	No Yes A Yes Yes More than 50 % of the	A A A	No Yes Yes More than 50 % of the symmetric	A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin	No Yes A Yes Yes More than 50 % of the symmetric control travel	A A A	No Yes Yes More than 50 % of the symmetric	A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A	A A A	No Yes Yes More than 50 % of the symmetric control travel	A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs	No Yes A Yes Yes More than 50 % of the symmetric control travel A No	A A A	No Yes Yes More than 50 % of the symmetric control travel	A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A	A A A	No Yes Yes More than 50 % of the symmetric control travel No	A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No	A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90°	A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No	A A A A	No Yes Yes More than 50 % of the symmetric control travel No	A A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release Cascade occurs 19. B-line stall	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No	A A A A A	No Yes Yes More than 50 % of the symmetric control travel No No Stops spinning in less than 90° No	A A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release Cascade occurs	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No	A A A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90°	A A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release Cascade occurs 19. B-line stall Change of course before release Behaviour before release	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span	A A A A A A A A A	No YesYesMore than 50 % of the symmetric control travelNoNoStops spinning in less than 90° NoChanging course less than 45° Remains stable with straight span	A A A A A A A A A A
Cascade occurs Folding lines used T5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin Amount of control range between turn and stall or spin f6. Trim speed spin tendency Spin occurs T1. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release Cascade occurs 19. B-line stall Change of course before release Behaviour before release Recovery	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	A A A A A A A A A
Cascade occurs Folding lines used 15. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin 16. Trim speed spin tendency Spin occurs 17. Low speed spin tendency Spin occurs 18. Recovery from a developed spin Spin rotation angle after release Cascade occurs 19. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	A A A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	A A A A A A A A A A A A A A A
Cascade occurs Folding lines used Folding lines used T5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin f6. Trim speed spin tendency Spin occurs T7. Low speed spin tendency Spin occurs T8. Recovery from a developed spin Spin rotation angle after release Cascade occurs T9. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30°	A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s	A A A A A A A A A
Cascade occurs Folding lines used Folding lines used T5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin Form speed spin tendency Spin occurs T7. Low speed spin tendency Spin occurs T8. Recovery from a developed spin Spin rotation angle after release Cascade occurs T9. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No B	A A A A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	A A A A A A A A A A A A A A A A A A A
Cascade occurs Folding lines used Folding lines used T5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin T6. Trim speed spin tendency Spin occurs T7. Low speed spin tendency Spin occurs T8. Recovery from a developed spin Spin rotation angle after release Cascade occurs T9. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs T0. Big ears Entry procedure	No Yes A Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No B Standard technique	A A A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	A A A A A A A A A A A A A
Cascade occurs Folding lines used Folding lines used I5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin I6. Trim speed spin tendency Spin occurs I7. Low speed spin tendency Spin occurs I8. Recovery from a developed spin Spin rotation angle after release Cascade occurs I9. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs I0. Big ears Entry procedure Behaviour during big ears	No Yes A Yes Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No B Standard technique Stable flight	A A A A A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	A A A A A A A A A A A A A
Cascade occurs Folding lines used Folding lines used T5. Directional control with a maintained asymmetric collapse Able to keep course 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin T6. Trim speed spin tendency Spin occurs T7. Low speed spin tendency Spin occurs T8. Recovery from a developed spin Spin rotation angle after release Cascade occurs T9. B-line stall Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs T0. Big ears Entry procedure	No Yes A Yes More than 50 % of the symmetric control travel A No A No A Stops spinning in less than 90° No A Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No B Standard technique	A A A A A A A A A A A A	No Yes Yes More than 50 % of the symmetric control travel No No Stops spinning in less than 90° No Changing course less than 45° Remains stable with straight span Spontaneous in less than 3 s Dive forward 0° to 30° No	A A A A A A A A A A A A A

21. Big ears in accelerated flight	С			
Entry procedure	Standard technique	А	Standard technique	А
Behaviour during big ears	Stable flight	А	Unstable flight	С
Recovery	Spontaneous in 3 s to 5 s	А	Spontaneous in 3 s to 5 s	А
Dive forward angle on exit	Dive forward 0° to 30°	А	Dive forward 0° to 30°	А
Behaviour immediately after releasing the accelerator while maintaining big ears	Unstable flight	С	Stable flight	А
22. Alternative means of directional control	Α			
180° turn achievable in 20 s	Yes	Α	Yes	А
Stall or spin occurs	No	Α	No	Α
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
24. Comments of test pilot				

24. Comments of test pilot Comments