Manufacturer	Nova	Type testing No.	EAPR-GS-7167/09
Address	Innsbruck - Austria	Date of testing	05.01.2009 / 29.01.2009
Model	Factor 19	Location	Roquebrunn



European Academy of Parachute Rigging e.V - Luitpoldstr. 30 - D87700 Memmingen - Germany Under approval of EPTA European Paraglider Testlaboratory Alicane

	Minimum take off weight	Maximum take off weight		
Testpilot	Markus Mittelberger	Johannes Ttschofen		
Harness	Altix xs	Academy		
Pilot's take off weight	67 kg	95 kg		

Classification	O
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st-criteria		Minimum take off weight	Evaluation	Maximum take off weight	Evaluation
1. Inflation / take-off - 4.4.1					
Rising behavior		Smooth, easy and constant rising	А	Smooth, easy and constant rising	А
Special take off technique required		No	Α	No	А
2. Landing - 4.4.2					
Special landing technique required		No	А	No	А
3. Speeds in straight flight - 4.4.3					
Trim speed more than 30km/h		Yes	Α	Yes	А
Speed range using the controls larger than 10km/h		Yes	А	Yes	Α
Minimum speed		Less than 25 km/h	Α	Less than 25 km/h	А
4. Control movement - 4.4.4					
Max. weight in flight up to 80kg		Increasing 40cm - 55cm	С		-
Max. weight in flight 80 to 100kg			-	Approx. > 60cm	В
Max. weight in flight greater than 100kg			-		-
5. Pitch stability exiting accelerated flight - 4.4	.5	•			
Dive forward angle on exit	forward angle on exit		А	Dive forward less than 30°	A
Collapse occurs	lapse occurs		Α	No	Α
6. Pitch stability operating controls during acc	elerated f	light - 4.4.6			
Collapse occurs		No	Α	No	А
7. Roll stability and damping - 4.4.7					
Oscillations		Reducing	Α	Reducing	Α
8. Stability in gentle spirals - 4.4.8					
Tendency to return to straight flight		Spontaneous exit	Α	Spontaneous exit	А
9. Behaviour in a steeply banked turn - 4.4.9					
Sink rate after two turns		More than 14m/s	В	More than 14m/s	В
10. Symmetric front collapse - 4.4.10					
Entry	-	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	trim speed	Spontaneous in less than 3 sec	А	Spontaneous in 3 to 5 sec	В
Dive forward angle on exit	<u> </u>	30° - 60° Keeping course	В	0° - 30° Keeping course	Α
Cascade occurs	_	No	А	No	Α
Entry	р	Rocking back less than 45°	Α	Rocking back less than 45°	Α
Recovery	rate	Spontaneous in less than 3 sec	A	Spontaneous in 3 to 5 sec	В
Dive forward angle on exit	accelerated	30° - 60° Keeping course	В	30° - 60° Keeping course	В
Cascade occurs	ñ	No	Α	No	Α

11. Exiting deep stall (parachutal stall) - 4.4.11 Deep stall achieved Yes				Yes					
Recovery				Δ.				^	
<u> </u>		Spontaneous in less than 3 sec		Α	Spontaneous in less than 3 sec			Α	
Dive forward angle on exit Change of course		0° - 30°		A	0° - 30°	a less than 45°		A	
Cascade occurs		Changing course less than 45° No			A	Changing course less than 45° No			A A
12. High angle of attack recovery - 4.4.12									
Recovery		Spontaneous in	less than 3 sec		Α	Spontaneous in	less than 3 sec		А
Cascade occurs		Spontaneous in less than 3 sec No			No				
13. Recovery from a developed full stall - 4.4.1	3	NO			Α	140			Α
Dive forward angle on exit	<u> </u>	30° - 60°		В	30° - 60°			В	
Collapse	66		No collapse			No collapse			A
Cascade occurs (other than collapse) Rocking backward		No		A	No Greater than 45°			A	
Line tension		Less than 45° Most lines tight				Most lines tight			C A
14. Asymmetric collapse (trim speed) - 4.4.14					А				
Change of course until re-inflation		< 90°	Dive or roll angle	15° - 45°	Α	< 90°	Dive or roll angle	45° - 60°	С
Change of course until re-limation	trim speed, max 50% collapse	- 30	Dive or roll dilgie	15 - 45	^	\ 30	Sive of foil drigic	45 - 00	
Re-inflation behavior	trim speed, x 50% colla	Spontaneous re-	inflation		Α	Spontaneous re-	inflation		Α
Total change of course	m sk .00	Less than 360°		Α	Less than 360°		А		
Collapse on the opposite side occurs Twist occurs	trii ax 5	No No			A	No No			A
Cascade occurs	٤	No			A	No			A A
Change of course until re-inflation		90° - 180°	Dive or roll angle	45° - 60°	С	90° - 180°	Dive or roll angle	45° - 60°	С
S. M. 190 of course until 16-limitation	trim speed, max 75% collapse	30 100	25 or row angle			30 100	or row arrigin	-00	
Re-inflation behavior	colls	Spontaneous re-	-inflation		Α	Spontaneous re-	inflation		Α
Total change of course	m sp .5%	Less than 360°			Α	Less than 360°			А
Collapse on the opposite side occurs	trii ax 7	No			A	No			A
Twist occurs Cascade occurs	. E	No No			A	No No			A A
Cabbado Cocaro		1.0	1	1		1	1		
Change of course until re-inflation	se	< 90°	Dive or roll angle	15° - 45°	Α	< 90°	Dive or roll angle	45° - 60°	С
Re-inflation behavior	accelerated, max 50% collapse	Spontaneous re-	inflation		Α	Spontaneous re-	inflation		Α
Total change of course	eler %0	Less than 360°			Α	Less than 360°			A
Collapse on the opposite side occurs	acc ax 5	No			Α	No			Α
Twist occurs Cascade occurs	Ĕ	No No			A	No No			A A
			I	450 000			T	000 000	
Change of course until re-inflation	d,	90° - 180°	Dive or roll angle	45° - 60°	С	90° - 180°	Dive or roll angle	60° - 90°	С
Re-inflation behavior	accelerated, max 75% collapse	Spontaneous re-inflation			Α	Spontaneous re-inflation			Α
Total change of course	xele 75%	Less than 360°				Less than 360°			A
Collapse on the opposite side occurs Twist occurs	ac nax e	No No			A	No No			A A
Cascade occurs		No			A	No			A
15. Directional control with a maintained asymmetric collapse - 4.4.15									
Able to keep course straight		Yes			Α	Yes			Α
180° turn away from the collapsed side possible in 10 sec		Yes		Α	Yes		Α		
Amount of control range between turn and stall or spin		More than 50% of the symmetric control travel				25% to 50% of the symmetric control travel			Α
Amount of control range between turn and stall or	spin	More than 50% of	of the symmetric o	control travel	Α	25% to 50% of the	ne symmetric cont	rol travel	С
Amount of control range between turn and stall or 16. Trim speed spin tendency - 4.4.16	spin	More than 50% of	of the symmetric o	control travel	А	25% to 50% of the	ne symmetric cont	rol travel	
-	spin	More than 50% o	of the symmetric o	control travel	A	25% to 50% of the No	ne symmetric cont	rol travel	
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17	spin	No	of the symmetric o	control travel		No	ne symmetric cont	rol travel	С
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs	spin		of the symmetric o	control travel			ne symmetric conf	rol travel	С
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17	spin	No	of the symmetric o	control travel	A	No	ne symmetric cont	rol travel	C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs	spin	No		control travel	A	No		rol travel	C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18	spin	No No		control travel	A	No No		rol travel	C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19	spin	No No Stops spinning in	n 90° to 180°	control travel	A A C	No Stops spinning it	n 90° to 180°	rol travel	C A A C
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release	spin	No Stops spinning in No Changing course	n 90° to 180°		A C A	No Stops spinning in No Changing course	n 90° to 180°		C A C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19	spin	No Stops spinning in No Changing course	n 90° to 180°		A C A	No Stops spinning in No Changing course	n 90° to 180°		C A C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release	spin	No Stops spinning in No Changing course	n 90° to 180° el less than 45° with straight span		A C A	No Stops spinning in No Changing course	n 90° to 180° el less than 45° without straight sp		C A C A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30°	n 90° to 180° el less than 45° with straight span		A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30°	n 90° to 180° el less than 45° without straight sp		C A A C C A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs	spin	No Stops spinning in No Changing course Remains stable Spontaneous in	n 90° to 180° el less than 45° with straight span		A C A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in	n 90° to 180° el less than 45° without straight sp		C A A C A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No	n 90° to 180° e less than 45° with straight span less than 3 sec		A C A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No	n 90° to 180° e less than 45° without straight sp		C A A C A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic	n 90° to 180° e less than 45° with straight span less than 3 sec		A C A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic	n 90° to 180° e less than 45° without straight sp		C A A C A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears	spin	No Stops spinning in No Changing course Remains stable ** Spontaneous in 0° - 30° No Standard technic Stable flight	n 90° to 180° eless than 45° with straight span less than 3 sec		A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight	n 90° to 180° e less than 45° without straight sp less than 3 sec		C A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in	n 90° to 180° eless than 45° with straight span less than 3 sec		A A A A B	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in	n 90° to 180° e less than 45° without straight sp less than 3 sec		C A A A A A B
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	spin	No Stops spinning in No Changing course Remains stable ** Spontaneous in 0° - 30° No Standard technic Stable flight	n 90° to 180° eless than 45° with straight span less than 3 sec		A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight	n 90° to 180° e less than 45° without straight sp less than 3 sec		C A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30°	n 90° to 180° eless than 45° with straight span less than 3 sec que		A A A A B A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30°	n 90° to 180° e less than 45° without straight sp less than 3 sec		C A A A A A B A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big Ears in accelerated flight - 4.4.21 Entry procedure	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30° Standard technic Standard technic	n 90° to 180° eless than 45° with straight span less than 3 sec que		A A A A A A A A A A A A A A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30°	n 90° to 180° e less than 45° without straight sp less than 3 sec		C A A A A A A A A A A A A A A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big Ears in accelerated flight - 4.4.21 Entry procedure Behaviour during big ears	spin	No Stops spinning in No Changing course Remains stable ** Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30° Standard technic Stable flight Spontaneous in 0° - 30°	e less than 45° with straight span less than 3 sec que		A A A A A A A A A A A A A A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30° Standard technic Stable flight	n 90° to 180° e less than 45° without straight sp less than 3 sec que	an	C A A A A A A A A A A A A A A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Cascade occurs 21. Big Ears in accelerated flight - 4.4.21 Entry procedure	spin	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30° Standard technic Standard technic	e less than 45° with straight span less than 3 sec que		A A A A A A A A A A A A A A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30° Standard technic Stable flight	n 90° to 180° e less than 45° without straight sp less than 3 sec	an	C A A A A A A A A A A A A A A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big Ears in accelerated flight - 4.4.21 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit		No Stops spinning in No Changing course Remains stable ** Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30° Standard technic Stable flight Spontaneous in 0° - 30°	e less than 45° with straight span less than 3 sec que		A A A A A A A A A A A A A A A A A A A	No Stops spinning in No Changing course Remains stable: Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30° Standard technic Stable flight Recovery throug	n 90° to 180° e less than 45° without straight sp less than 3 sec que	an	C A A A A A A A A A A A A A A A A A A A
16. Trim speed spin tendency - 4.4.16 Spin occurs 17. Low speed spin tendency - 4.4.17 Spin occurs 18. Recovery from a developed spin - 4.4.18 Spin rotation angle after release Cascade occurs 19. B-line-stall - 4.4.19 Change of course before release Behaviour before release Recovery Dive forward angle on exit Cascade occurs 20. Big ears - 4.4.20 Entry procedure Behaviour during big ears Recovery Dive forward angle on exit 21. Big Ears in accelerated flight - 4.4.21 Entry procedure Behaviour during big ears Recovery		No Stops spinning in No Changing course Remains stable ** Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° - 30° Standard technic Stable flight Spontaneous in 0° - 30°	e less than 45° with straight span less than 3 sec que		A A A A A A A A A A A A A A A A A A A	No Stops spinning in No Changing course Remains stable Spontaneous in 0° - 30° No Standard technic Stable flight Spontaneous in 0° bis 30° Standard technic Stable flight Recovery throug 3 sec	n 90° to 180° e less than 45° without straight sp less than 3 sec que	an	C A A C A A A A B A A B B

22. Behaviour exiting a steep spiral - 4.4.22					
Tendency to return to straight flight	Spontaneous exit		Α	Spontaneous exit	Α
Turn angle to recover normal flight	No		С	Less than 720°, spontaneous recovery	А
23. Alternative means of directional control - 4.4	.23				
180° turn achievable in 20 sec	Yes		Α	Yes	Α
Stall or spin occurs	No		Α	No	Α
24. Any other flight procedure and/or configuration	on described in the user's manual - 4.4.	24			
Procedure works as descibed			NA		NA
Procedure suitable for novice pilots			NA		NA
Cascade occurs			NA		NA
25. Remarks of testpilot:					
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