



Manufacturer		Type testing No.	EAPR-GS-7461/11
		Date of testing	22.11.2011
Model	Marvel 29	Location	Schruns



EAPR e.V - Marktstr. 11 - D-87730 Bad Grönenbach - Germany

	Minimum take off weight		Maximum take off weight	
Testpilot	Tschofen Johannes		Anselm Rau	Anselm Rau
Harness	Academy Test Equipment		EAPR Testequipment	
Pilot's take off weight	105 kg		130 kg	

Classification	C
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Test-criteria	Minimum take off weight	Evaluation	Maximum take off weight	Evaluation	
1. Inflation / take-off - 4.1.1					
Rising behavior	Smooth, easy and constant rising	A	Smooth, easy and constant rising	A	
Special take off technique required	No	A	No	A	
2. Landing - 4.1.2					
Special landing technique required	No	A	No	A	
3. Speeds in straight flight - 4.1.3					
Trim speed more than 30km/h	Yes	A	Yes	A	
Speed range using the controls larger than 10km/h	Yes	A	Yes	A	
Minimum speed	Less than 25 km/h	A	25 km/h to 30 km/h	B	
4. Control movement - 4.1.4					
Max. weight in flight up to 80kg		-		-	
Max. weight in flight 80 to 100kg		-		-	
Max. weight in flight greater than 100kg	Increasing 50cm - 65cm	C	Increasing 50cm - 65cm	C	
5. Pitch stability exiting accelerated flight - 4.1.5					
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 - 4.1.6					
Collapse occurs	No	A	No	A	
7. Roll stability and damping - 4.1.7					
Oscillations	Reducing	A	Reducing	A	
8. Stability in gentle spirals - 4.1.8					
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A	
9. Behaviour in a steeply banked turn - 4.1.9					
Sink rate after two turns	More than 14m/s	B	More than 14m/s	B	
10. Symmetric front collapse - 4.1.10					
Entry	trim speed	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery		Spontaneous in 3 to 5 sec	B	Spontaneous in 3 to 5 sec	B
Dive forward angle on exit		0° - 30° Entering a turn of 90° to 180°	C	30° - 60° Entering a turn of less than 90°	B
Cascade occurs	No	A	No	A	
Entry	accelerated	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery		Spontaneous in less than 3 sec	A	Spontaneous in 3 to 5 sec	B
Dive forward angle on exit		30° - 60° Entering a turn of less than 90°	B	30° - 60° Entering a turn of 90° to 180°	C
Cascade occurs		No	A	No	A

11. Exiting deep stall (parachutal stall) - 4.1.11									
Deep stall achieved	Yes				Yes				
Recovery	Spontaneous in less than 3 sec			A	Spontaneous in less than 3 sec			A	
Dive forward angle on exit	0° - 30°			A	30° - 60°			B	
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 - 4.1.12									
Recovery	Spontaneous in less than 3 sec			A	Spontaneous in less than 3 sec			A	
Cascade occurs	No			A	No			A	
13. Recovery from a developed full stall - 4.1.13									
Dive forward angle on exit	30° - 60°			B	30° - 60°			B	
Collapse	No collapse			A	No collapse			A	
Cascade occurs (other than collapse)	No			A	No			A	
Rocking backward	Less than 45°			A	Less than 45°			A	
Line tension	Most lines tight			A	Most lines tight			A	
14. Asymmetric collapse (trim speed) - 4.1.14									
Change of course until re-inflation	trim speed, max 50% collapse	< 90°	Dive or roll angle	0° - 15°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior		Inflates in less than 3 sec from start of pilot action			C	Inflates in less than 3 sec from start of pilot action			C
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	
Change of course until re-inflation	trim speed, max 75% collapse	90° - 180°	Dive or roll angle	45° - 60°	C	90° - 180°	Dive or roll angle	45° - 60°	C
Re-inflation behavior		Inflates in less than 3 sec from start of pilot action			C	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	
Change of course until re-inflation	accelerated, max 50% collapse	< 90°	Dive or roll angle	15° - 45°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior		Inflates in less than 3 sec from start of pilot action			C	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	
Change of course until re-inflation	accelerated, max 75% collapse	180° - 360°	Dive or roll angle	45° - 60°	C	180° - 360°	Dive or roll angle	45° - 60°	C
Re-inflation behavior		Inflates in less than 3 sec from start of pilot action			C	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 - 4.1.15									
Able to keep course straight	Yes			A	Yes			A	
180° turn away from the collapsed side possible in 10 sec	Yes			A	Yes			A	
Amount of control range between turn and stall or spin	25% to 50% of the symmetric control travel			C	More than 50% of the symmetric control travel			A	
16. Trim speed spin tendency - 4.1.16									
Spin occurs	No			A	No			A	
17. Low speed spin tendency - 4.1.17									
Spin occurs	No			A	No			A	
18. Recovery from a developed spin - 4.1.18									
Spin rotation angle after release	Stops spinning in 90° to 180°			C	Stops spinning in 90° to 180°			C	
Cascade occurs	No			A	No			A	
19. B-line-stall - 4.1.19									
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 without straight span			C	
Recovery	Spontaneous in less than 3 sec			A	Spontaneous in less than 3 sec			A	
Dive forward angle on exit	0° - 30°			A	30° - 60°			A	
Cascade occurs	No			A	No			A	
20. Big ears - 4.1.20									
Entry procedure	Special device required			A	Special device required			A	
Behaviour during big ears	Stable flight			A	Stable flight			A	
Recovery	Recovery through pilot action in less than a further 3 sec			B	Spontaneous in less than 3 sec			A	
Dive forward angle on exit	0° - 30°			A	0° bis 30°			A	
21. Big Ears in accelerated flight - 4.1.21									
Entry procedure	Special device required			A	Special device required			A	
Behaviour during big ears	Stable flight			A	Stable flight			A	
Recovery	Recovery through pilot action in less than a further 3 sec			B	Spontaneous in less than 3 sec			A	
Dive forward angle on exit	0° - 30°			A	0° bis 30°			A	
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight			A	Stable flight			A	

22. Behaviour exiting a steep spiral - 4.1.22				
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
23. Alternative means of directional control - 4.1.23				
180° turn achievable in 20 sec	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 - 4.1.24				
Procedure works as described		NA		NA
Procedure suitable for novice pilots		NA		NA
Cascade occurs		NA		NA
25. Remarks of testpilot:				
			B-Stall wird instabil, wenn die B-Gurte bis zum Anschlag gezogen werden	
			Neigung zu kleinen Verhängern beim Fullstall, die sich aber problemlos lösen lassen	
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