




FTR - Flight Test Report

Dieser Prüfbericht darf ohne schriftliche Zustimmung der EAPR nicht, auch nicht auszugsweise, vervielfältigt werden.

Manufacturer	 Swing Flugsportgeräte GmbH An der Leiten 4 D-82290 Landsberied	Type testing No.	EAPR-GS-0649/17
		serial number	proto
Model	Apus RS Hike 20	Location	Lenggries
Comment			Achensee



Rev. 2.3 - 26.11.2014
 EAPR GmbH - Marktstr. 11
 D-87730 Bad Grönenbach - Germany

Date of testing	22.06.2017	Minimum take off weight	65 kg	Maximum take off weight	80 kg
Testpilot	Bauer Sepp			Mike Küng	
Harness	EAPR- Lightequipment			EAPR Testequipment	
Pilot's take off weight		65 kg		80 kg	

Classification	A
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Test-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, no pilot correction required	A	Smooth, easy and constant rising, no pilot correction required	A
Special take off technique required	No	A	No	A
2. Landing - 4.4.2				
Special landing technique required	No	A	No	A
3. Speeds in straight flight - 4.4.3				
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	Less than 25 km/h	A
4. Control movement - 4.4.4				
Max. weight in flight up to 80kg		-		-
Max. weight in flight 80 to 100kg	Increasing > 60cm	A		-
Max. weight in flight greater than 100kg		-	Increasing >65 cm	A
5. Pitch stability exiting accelerated flight - 4.4.5				
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 - 4.4.6				
Collapse occurs	No	A	No	A
7. Roll stability and damping - 4.4.7				
Oscillations	Reducing	A	Reducing	A
8. Stability in gentle spirals - 4.4.8				
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
9. Behaviour exiting a fully developed spiral dive - 4.4.9				
Initial response of glider (first 180°)	Immediate reduction of rate in turn	A	Immediate reduction of rate in turn	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
10. Symmetric front collapse - 4.4.10				
Folding lines used	No		No	
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Keeping course	A	0° - 30° Entering a turn of less than 90°	A
Cascade occurs	No	A	No	A
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Keeping course	A	0° - 30° Entering a turn of less than 90°	A
Cascade occurs	No	A	No	A
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Entering a turn of less than 90°	A	0° - 30° Entering a turn of less than 90°	A
Cascade occurs	No	A	No	A
11. Exiting deep stall (parachutal stall) - 4.4.11				
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	0° - 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 - 4.4.12									
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 - 4.4.13									
Dive forward angle on exit	0° - 30°			A	0° - 30°			A	
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) - 4.4.14									
Folding lines used	No				No				
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		Spontaneous re-inflation			A	Spontaneous re-inflation			A
Total change of course	trim speed, max 75% collapse	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		< 90°	Dive or roll angle	15° - 45°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior	Spontaneous re-inflation			A	Spontaneous re-inflation			A	
Total change of course	accelerated, max 50% collapse	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		< 90°	Dive or roll angle	15° - 45°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior	Spontaneous re-inflation			A	Spontaneous re-inflation			A	
Total change of course	accelerated, max 75% collapse	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		< 90°	Dive or roll angle	15° - 45°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior	Spontaneous re-inflation			A	Spontaneous re-inflation			A	
Total change of course	accelerated, max 50% collapse	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		< 90°	Dive or roll angle	15° - 45°	A	< 90°	Dive or roll angle	15° - 45°	A
Re-inflation behavior	Spontaneous re-inflation			A	Spontaneous re-inflation			A	
Total change of course	accelerated, max 75% collapse	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 - 4.4.15									
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	More than 50% of the symmetric control travel			A	More than 50% of the symmetric control travel			A	
16. Trim speed spin tendency - 4.4.16									
Spin occurs	No			A	No			A	
17. Low speed spin tendency - 4.4.17									
Spin occurs	No			A	No			A	
18. Recovery from a developed spin - 4.4.18									
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 - 4.4.19									
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 with straight span			A	
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 - 4.4.20									
Entry procedure	Standard technique			A	Standard technique			A	
Behaviour during big ears	Stable flight			A	Stable flight			A	
Recovery	Spontaneous in less than 3 sec			A	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 - 4.4.21									
Entry procedure	Standard technique			A	Standard technique			A	
Behaviour during big ears	Stable flight			A	Stable flight			A	
Recovery	Spontaneous in less than 3 sec			A	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	
23. Alternative means of directional control - 4.4.22									
180° turn achievable in 20 sec	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 - 4.4.23									
Procedure works as described				NA				NA	
Procedure suitable for novice pilots				NA				NA	
Cascade occurs				NA				NA	
24. Remarks of testpilot:									


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Dieser Prüfbericht darf ohne schriftliche Zustimmung der EAPR nicht, auch nicht auszugsweise, veröffentlicht werden.

Manufacturer	 Swing Flugsportgeräte GmbH An der Leiten 4 D-82290 Landsberied	Type testing No.	EAPR-GS-0660/17
		serial number	proto
Model	Apus RS Hike 20	Location	Achensee
Comment			Gerlitzten



Rev. 2.3 - 26.11.2014
 EAPR GmbH - Marktstr. 11
 D-87730 Bad Grönenbach - Germany

Date of testing	11.06.2017	Minimum take off weight	80 kg	Maximum take off weight	110 kg
Testpilot		Mike Küng		Pascal Purin	
Harness		EAPR-Testequipment		EAPR Testequipment	
Pilot's take off weight		80 kg		108 kg	

Classification	C
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Test-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, no pilot correction required	A	Smooth, easy and constant rising, no pilot correction required	A
Special take off technique required	No	A	No	A
2. Landing - 4.4.2				
Special landing technique required	No	A	No	A
3. Speeds in straight flight - 4.4.3				
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 - 4.4.4				
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 - 4.4.5				
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 - 4.4.6				
Collapse occurs	No	A	No	A
7. Roll stability and damping - 4.4.7				
Oscillations	Reducing	A	Reducing	A
8. Stability in gentle spirals - 4.4.8				
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
9. Behaviour exiting a fully developed spiral dive - 4.4.9				
Initial response of glider (first 180°)	Immediate reduction of rate in turn	A	No immediate reaction	B
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit	A
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	A	1080° to 1440°, spontaneous recovery	C
10. Symmetric front collapse - 4.4.10				
Folding lines used	No		No	
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Keeping course	A	0° - 30° Entering a turn of less than 90°	A
Cascade occurs	No	A	No	A
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Keeping course	A	0° - 30° Entering a turn of less than 90°	A
Cascade occurs	No	A	No	A
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 sec	A	Spontaneous in less than 3 sec	A
Dive forward angle on exit	0° - 30° Entering a turn of less than 90°	A	30° - 60° Keeping course	B
Cascade occurs	No	A	No	A
11. Exiting deep stall (parachutal stall) - 4.4.11				
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	0° - 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 - 4.4.12									
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 - 4.4.13									
Dive forward angle on exit	0° - 30°			A	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) - 4.4.14									
Folding lines used	No				No				
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		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	
Change of course until re-inflation	trim speed, max 75% collapse	< 90°	Dive or roll angle	15° - 45°	A	90° - 180°	Dive or roll angle	15° - 45°	B
Re-inflation behavior		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	
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		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	
Change of course until re-inflation	accelerated, max 75% collapse	< 90°	Dive or roll angle	15° - 45°	A	90° - 180°	Dive or roll angle	45° - 60°	C
Re-inflation behavior		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 - 4.4.15									
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	More than 50% of the symmetric control travel			A	More than 50% of the symmetric control travel		A		
16. Trim speed spin tendency - 4.4.16									
Spin occurs	No			A	No		A		
17. Low speed spin tendency - 4.4.17									
Spin occurs	No			A	No		A		
18. Recovery from a developed spin - 4.4.18									
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 - 4.4.19									
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 with straight span		A		
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 - 4.4.20									
Entry procedure	Standard technique			A	Standard technique		A		
Behaviour during big ears	Stable flight			A	Stable flight		A		
Recovery	Spontaneous in less than 3 sec			A	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 - 4.4.21									
Entry procedure	Standard technique			A	Standard technique		A		
Behaviour during big ears	Stable flight			A	Stable flight		A		
Recovery	Spontaneous in less than 3 sec			A	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		
23. Alternative means of directional control - 4.4.22									
180° turn achievable in 20 sec	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 - 4.4.23									
Procedure works as described				NA			NA		
Procedure suitable for novice pilots				NA			NA		
Cascade occurs				NA			NA		
24. Remarks of testpilot:									