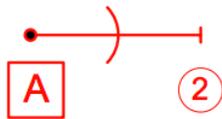
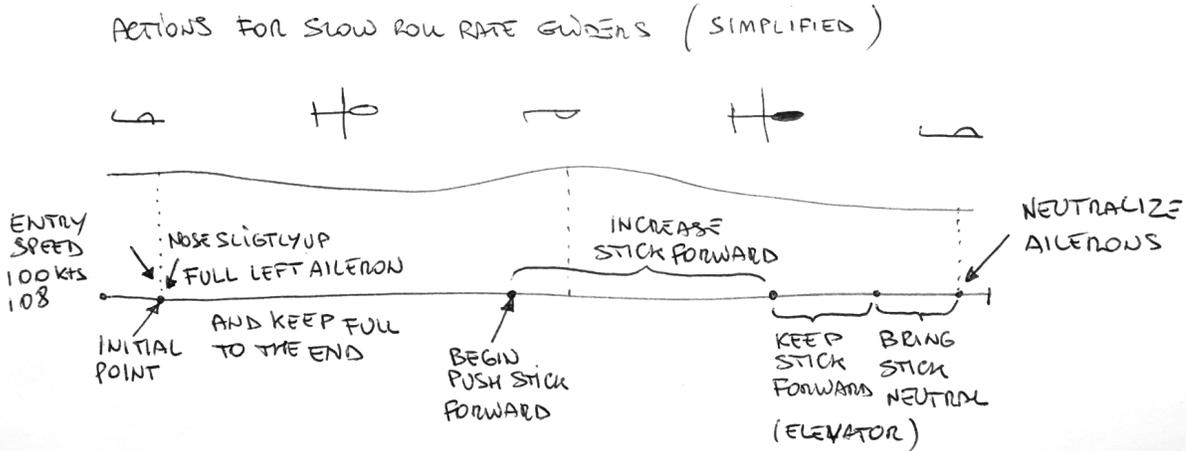


Lesson:	Stage:	Program:	Pilot:	Date:
ROLL	FIGURE TRAINING	BASIC AEROBATIC TRAINING		
Family & number	FAI Sporting Code, Section 6 Part 2 - Glider Aircraft V 2016-2, page 44 and 57			
1.1.1.1 (K2) + 9.1.3.4 (K12)				
	Total K 14		Glider:	
	i.e.: 9 evaluation will give you 126 points in the scores (9 x 14)		ASK21, MDM 1 FOX, Swift S1, SZD 59	
				
Ground instruction		Duration:	45 minutes	
Theory and aerodynamics explanation, flight manual limitations, demonstration with Glider model, Condor simulator demonstration/performance, entry speed (100/108 kts), external references, how to execute the roll to get best scores, how to start the figure and what has to be done to maintain the heading, hands positioning, rudders action, tricks to stay on the line and not lose altitude in the last quarter, repeat movements for muscle memory, ground training mimic, checks: airspace, speed, attitudes, point on the horizon to use as heading reference. Watch video and learn/understand key points remarks for in flight reference.				
<p style="text-align: center;">ACTIONS FOR SLOW ROLL RATE GLIDERS (SIMPLIFIED)</p> 				
In Flight Calls Marks				
"nose up bump" bring nose slightly up when beginning the roll, "bump" bump the nose above the horizon at the roll half, "push push push" increase the stick forward.				
Flight 1 & 2	5000ft			
Familiarization. Roll demonstration for timing and stick movements depth, student passive on controls. 2nd Roll demonstration with vocal remarks of key points and stick/rudders depth action. Student passive on controls/rudders, student follows the controls and keeps sight on external reference. Student try free with only the "push push push" correction by the instructor if needed. Second demonstration with remarks on main key points and timing of stick action. Student try with Instructor semi active on controls to guide stick movements should the previous try be done better. Student try, Instructor call key points. Flight evolves based on student response.				

Flight 3,4,5	5000ft			
Consolidation. Student performs at least 3 rolls on the same side. Eventual corrections starting from biggest key point to correct. Eventual further demonstration. Student performs with corrections. Student begin to introduce the use of the rudder, Switch to other figures.				
Flight 6 and more	5000ft			
Calibration. Student performs 1 roll on the left. Remarks of good executions and eventual improvements starting from significant key point to do better. Student performs additional rolls with corrections wanted. Student begins to perform rolls on other side, also.				
Debriefing				
Positive remarks on figures, key points to perform better and how, student opinions on improvements and/or achievements.				
Completion standards				
Once the Roll is performed smoothly with coordination on both sides: left and right. Situational awareness within standards: everything under control (airspace, speed, orientation, altitude). Awareness of constant speed and heading (how to avoid desaxe - loss of heading - in the last half and how to avoid sudden changes of speed that might bring to exceed VNE and or excessive pull G force as a consequence). Entry speed the same as exit speed, sight on the front outside reference during the execution of the Roll. Developed necessary coordinations of movements on both sides.				
Remarks and notes				
There are some differences in between gliders, depends on model, but flying a slow roll with a swift/fox at low speed applies almost the same aerodynamics of the ASK21 or similar, so training the basics on ASK21 is very important! When you'll have a Himmelman with a roll and a half with the swift or fox your ASK experience comes very handy.				
Warnings & Disclaimer				
Like any other lesson of the course, every flight MUST be done with an experienced Pilot CFIG on the machine in use. In case of the Roll, additional attention must be placed on the second half of the roll. A roll done easily with the FOX or the Swift or the SZD59, if performed without the necessary knowledge and training on a ASK21 or other slow roll rate glider (i.e. 8-10 seconds to complete a roll) can bring to exceeding the VNE in the blink of an eye.				
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