

Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



Manufacturer	<b>Advance Thun AG</b>	Certification number	PG_1691.2020
Address	Uttigenstrasse 87 3600 Thun Switzerland	Flight test	30.10.2020
Glider model	<b>Pi3 23</b>	<b>Classification</b>	<b>B</b>
Serial number	84890	Representative	None
Trimmer	no	Place of test	Villeneuve
Folding lines used	no		

<b>Test pilot</b>	Nicole Fedele	Alain Zoller
<b>Harness</b>	Advance - Success 4 M	Advance - Success 4 L
<b>Harness to risers distance (cm)</b>	44	44
<b>Distance between risers (cm)</b>	44	48
<b>Total weight in flight (kg)</b>	70	110

<b>1. Inflation/Take-off</b>	<b>A</b>		
Rising behaviour	Smooth, easy and constant rising	A	Smooth, easy and constant rising A
Special take off technique required	No	A	No A
<b>2. Landing</b>	<b>A</b>		
Special landing technique required	No	A	No A
<b>3. Speed in straight flight</b>	<b>B</b>		
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	Less than 25 km/h	A	25 km/h to 30 km/h B
<b>4. Control movement</b>	<b>A</b>		
<b>Max. weight in flight up to 80 kg</b>			
Symmetric control pressure / travel	Increasing / greater than 55 cm	A	not available 0
<b>Max. weight in flight 80 kg to 100 kg</b>			
Symmetric control pressure / travel	not available	0	not available 0
<b>Max. weight in flight greater than 100 kg</b>			
Symmetric control pressure / travel	not available	0	Increasing / greater than 65 cm A
<b>5. Pitch stability exiting accelerated flight</b>	<b>A</b>		
Dive forward angle on exit	Dive forward less than 30°	A	Dive forward less than 30° A
Collapse occurs	No	A	No A
<b>6. Pitch stability operating controls during accelerated flight</b>	<b>A</b>		
Collapse occurs	No	A	No A
<b>7. Roll stability and damping</b>	<b>A</b>		
Oscillations	Reducing	A	Reducing A
<b>8. Stability in gentle spirals</b>	<b>A</b>		
Tendency to return to straight flight	Spontaneous exit	A	Spontaneous exit A
<b>9. Behaviour exiting a fully developed spiral dive</b>	<b>A</b>		
Initial response of glider (first 180°)	Immediate reduction of rate of turn	A	Immediate reduction of rate of turn A
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
<b>10. Symmetric front collapse</b>	<b>A</b>		
<b>Approximately 30 % chord</b>			
Entry	Rocking back less than 45°	A	Rocking back less than 45° A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s A
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	A	No A

Folding lines used	No		No	
<b>At least 50% chord</b>				
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
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	A	No	A
Folding lines used	No		No	
<b>With accelerator</b>				
Entry	Rocking back less than 45°	A	Rocking back less than 45°	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
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	A	No	A
Folding lines used	No		No	
<b>11. Exiting deep stall (parachutal stall)</b>	<b>A</b>			
Deep stall achieved	Yes	A	Yes	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	A
Change of course	Changing course less than 45°	A	Changing course less than 45°	A
Cascade occurs	No	A	No	A
<b>12. High angle of attack recovery</b>	<b>A</b>			
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Cascade occurs	No	A	No	A
<b>13. Recovery from a developed full stall</b>	<b>B</b>			
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 30° to 60°	B
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	A	Most lines tight	A
<b>14. Asymmetric collapse</b>	<b>B</b>			
<b>Small asymmetric collapse</b>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 0° to 15°	A	Less than 90° / Dive or roll angle 0° to 15°	A
Re-inflation behaviour	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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No		No	
<b>Large asymmetric collapse</b>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	A	Less than 90° / Dive or roll angle 15° to 45°	A
Re-inflation behaviour	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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A
Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No		No	
<b>Small asymmetric collapse with fully activated accelerator</b>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	A	Less than 90° / Dive or roll angle 0° to 15°	A
Re-inflation behaviour	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 (or only a small number of collapsed cells with a spontaneous re-inflation)	A	No (or only a small number of collapsed cells with a spontaneous re-inflation)	A

Twist occurs	No	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No		No	
<b>Large asymmetric collapse with fully activated accelerator</b>				
Change of course until re-inflation / Maximum dive forward or roll angle	Less than 90° / Dive or roll angle 15° to 45°	A	90° to 180° / Dive or roll angle 15° to 45°	B
Re-inflation behaviour	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 (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	A	No	A
Cascade occurs	No	A	No	A
Folding lines used	No		No	
<b>15. Directional control with a maintained asymmetric collapse</b>				
Able to keep course	Yes	A	Yes	A
180° turn away from the collapsed side possible in 10 s	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
<b>16. Trim speed spin tendency</b>				
Spin occurs	No	A	No	A
<b>17. Low speed spin tendency</b>				
Spin occurs	No	A	No	A
<b>18. Recovery from a developed spin</b>				
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
<b>19. B-line stall</b>				
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 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	A
Cascade occurs	No	A	No	A
<b>20. Big ears</b>				
Entry procedure	Dedicated controls	A	Dedicated controls	A
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	A
<b>21. Big ears in accelerated flight</b>				
Entry procedure	Dedicated controls	A	Dedicated controls	A
Behaviour during big ears	Stable flight	A	Stable flight	A
Recovery	Spontaneous in less than 3 s	A	Spontaneous in less than 3 s	A
Dive forward angle on exit	Dive forward 0° to 30°	A	Dive forward 0° to 30°	A
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	A	Stable flight	A
<b>22. Alternative means of directional control</b>				
180° turn achievable in 20 s	Yes	A	Yes	A
Stall or spin occurs	No	A	No	A
<b>23. Any other flight procedure and/or configuration described in the user's manual</b>				
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
<b>24. Comments of test pilot</b>				