



DHV TESTREPORT LTF

SWING SERAC RS ML

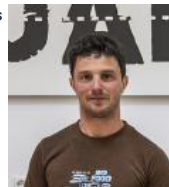
Type designation SWING Serac RS ML
Type test reference no DHV GS-01-2709-22
Holder of certification [Swing Flugsportgeräte GmbH](#)
Manufacturer [Swing Flugsportgeräte GmbH](#)
Classification B
Winch towing Yes
Number of seats min / max 1 / 1
Accelerator Yes
Trimmers No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (85KG)

BEHAVIOUR AT MAX WEIGHT IN FLIGHT (110KG)

Test pilots



Josef Bauer

Sebastian Mackrodt

No release

No release

Inflation/take-off

Rising behaviour	Smooth, easy and constant rising	Smooth, easy and constant rising
Special take off technique required	No	No

Landing

Special landing technique required	No	No
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Speeds in straight flight

Trim speed more than 30 km/h	Yes	Yes
Speed range using the controls larger than 10 km/h	Yes	Yes
Minimum speed	Less than 25 km/h	Less than 25 km/h

Control movement

Symmetric control pressure	Increasing	Increasing
Symmetric control travel	Greater than 60 cm	Greater than 65 cm

Pitch stability exiting accelerated flight

Dive forward angle on exit	Dive forward less than 30°	Dive forward less than 30°
Collapse occurs	No	No

Pitch stability operating controls during accelerated flight

Collapse occurs	No	No
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Roll stability and damping

Oscillations	Reducing	Reducing
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Stability in gentle spirals

Tendency to return to straight flight	Spontaneous exit	Spontaneous exit
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Behaviour exiting a fully developed spiral dive

Initial response of glider (first 180°)	Immediate reduction of rate of turn	en : keine unmittelbare Reaktion
Tendency to return to straight flight	Spontaneous exit (g force decreasing, rate of turn decreasing)	Spontaneous exit (g force decreasing, rate of turn decreasing)
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	720° to 1 080°, spontaneous recovery

Symmetric front collapse

Entry	Rocking back less than 45°	Rocking back less than 45°
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°

Change of course	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	no	no

Unaccelerated collapse (at least 50 % chord) :A

Entry	Rocking back less than 45°	Rocking back less than 45°
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Change of course	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	no	no

Accelerated collapse (at least 50 % chord) :A

Entry	Rocking back less than 45°	Rocking back less than 45°
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Change of course	Keeping course	Entering a turn of less than 90°
Cascade occurs	No	No
Folding lines used	no	no

Exiting deep stall (parachutal stall) :A

Deep stall achieved	Yes	Yes
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 30° to 60°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	No	No

High angle of attack recovery :A

Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No

Recovery from a developed full stall :A

Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Collapse	No collapse	No collapse
Cascade occurs (other than collapses)	No	No
Rocking back	Less than 45°	Less than 45°
Line tension	Most lines tight	Most lines tight

Small asymmetric collapse :A

Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 0° to 15°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no

Large asymmetric collapse :A

Change of course until re-inflation	90° to 180°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 0° to 15°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no

Small asymmetric collapse accelerated :A

Change of course until re-inflation	Less than 90°	Less than 90°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no

Large asymmetric collapse accelerated :B

Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
Re-inflation behaviour	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No (or only a small number of collapsed cells with a spontaneous re inflation)	No (or only a small number of collapsed cells with a spontaneous re inflation)
Twist occurs	No	No
Cascade occurs	No	No
Folding lines used	no	no

Directional control with a maintained asymmetric collapse :A

Able to keep course	Yes	Yes
180° turn away from the collapsed side possible in 10 s	Yes	Yes
Amount of control range between turn and stall or spin	More than 50 % of the symmetric control travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	No	No
Low speed spin tendency	A	A
Spin occurs	No	No
Recovery from a developed spin	A	A
Spin rotation angle after release	Stops spinning in less than 90°	Stops spinning in less than 90°
Cascade occurs	No	No
B-line stall	A	A
Change of course before release	Changing course less than 45°	Changing course less than 45°
Behaviour before release	Remains stable with straight span	Remains stable with straight span
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Cascade occurs	No	No
Big ears	A	A
Entry procedure	Standard technique	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Big ears in accelerated flight	A	A
Entry procedure	Standard technique	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Stable flight
Alternative means of directional control	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	No	No
Any other flight procedure and/or configuration described in the user's manual		
No other flight procedure or configuration described in the user's manual		