



DHV-tested Equipment

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DHV TESTREPORT LTF

SWING SPHERA RS S

Type designation SWING Sphera RS S
Type test reference no DHV GS-01-2681-22
Holder of certification [Swing Flugsportgeräte GmbH](#)
Manufacturer [Swing Flugsportgeräte GmbH](#)
Classification D
Winch towing Yes
Number of seats min / max 1 / 1
Accelerator Yes
Trimmers No

BEHAVIOUR AT MIN WEIGHT IN FLIGHT (75KG)

Test pilots



Josef Bauer

No release



BEHAVIOUR AT MAX WEIGHT IN FLIGHT (90KG)



Harald Buntz

No release

Inflation/take-off

C

Rising behaviour Overshoots, shall be slowed down to avoid a front collapse

Special take off technique required No

Overshoots, shall be slowed down to avoid a front collapse

No

Landing

A

Special landing technique required No

A

No

Speeds in straight flight

A

Trim speed more than 30 km/h Yes

Speed range using the controls larger than 10 km/h Yes

Minimum speed Less than 25 km/h

A

Yes

Yes

Less than 25 km/h

Control movement

C

Symmetric control pressure Increasing

Symmetric control travel 40 cm to 55 cm

C

Increasing

45 cm to 60 cm

Pitch stability exiting accelerated flight

A

Dive forward angle on exit Dive forward less than 30°

Collapse occurs No

A

Dive forward less than 30°

No

Pitch stability operating controls during accelerated flight

A

Collapse occurs No

A

No

Roll stability and damping

A

Oscillations Reducing

A

Reducing

Stability in gentle spirals

A

Tendency to return to straight flight Spontaneous exit

A

Spontaneous exit

Behaviour exiting a fully developed spiral dive

A

Initial response of glider (first 180°) Immediate reduction of rate of turn

Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

Turn angle to recover normal flight Less than 720°, spontaneous recovery

A

Immediate reduction of rate of turn

Spontaneous exit (g force decreasing, rate of turn decreasing)

Less than 720°, spontaneous recovery

Symmetric front collapse

D

Entry Rocking back less than 45°

Recovery Spontaneous in less than 3 s

Dive forward angle on exit Dive forward 0° to 30°

Change of course Keeping course

Cascade occurs No

Folding lines used yes

D

Rocking back less than 45°

Spontaneous in less than 3 s

Dive forward 0° to 30°

Keeping course

No

yes

Unaccelerated collapse (at least 50 % chord)	D	D
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 30° to 60°		Dive forward 30° to 60°
Change of course Entering a turn of less than 90°		Entering a turn of less than 90°
Cascade occurs No		No
Folding lines used yes		yes
Accelerated collapse (at least 50 % chord)	D	D
Entry Rocking back less than 45°		Rocking back less than 45°
Recovery Recovery through pilot action in less than a further 3 s		Recovery through pilot action in less than a further 3 s
Dive forward angle on exit Dive forward 30° to 60°		Dive forward 30° to 60°
Change of course Entering a turn of less than 90°		Entering a turn of less than 90°
Cascade occurs No		No
Folding lines used yes		yes
Exiting deep stall (parachutal stall)	B	B
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 30° to 60°		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	C	C
Recovery Spontaneous in 3 s to 5 s		Spontaneous in 3 s to 5 s
Cascade occurs No		No
Recovery from a developed full stall	B	B
Dive forward angle on exit Dive forward 30° to 60°		Dive forward 30° to 60°
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	D	D
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 0° to 15°
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 yes		yes
Large asymmetric collapse	D	D
Change of course until re-inflation 90° to 180°		90° to 180°
Maximum dive forward or roll angle Dive or roll angle 0° to 15°		Dive or roll angle 0° to 15°
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 yes		yes
Small asymmetric collapse accelerated	D	D
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 yes		yes
Large asymmetric collapse accelerated	D	D
Change of course until re-inflation 90° to 180°		90° to 180°
Maximum dive forward or roll angle Dive or roll angle 45° to 60°		Dive or roll angle 45° to 60°
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 yes		yes
Directional control with a maintained asymmetric collapse	C	C
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 25 % to 50 % of the symmetric control travel		25 % to 50 % of the symmetric control

	spin	travel
<u>Trim speed spin tendency</u>	A	A
Spin occurs	No	No
<u>Low speed spin tendency</u>	A	A
Spin occurs	No	No
<u>Recovery from a developed spin</u>	B	B
Spin rotation angle after release	Stops spinning in 90° to 180°	Stops spinning in 90° to 180°
Cascade occurs	No	No
<u>B-line stall</u>		
Not carried out because the manoeuvre is excluded in the user's manual		
<u>Big ears</u>	A	A
Entry procedure	Standard technique	Standard technique
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°
<u>Big ears in accelerated flight</u>	A	A
Entry procedure	Standard technique	Standard technique
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
<u>Alternative means of directional control</u>	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	No	No
<u>Any other flight procedure and/or configuration described in the user's manual</u>		
No other flight procedure or configuration described in the user's manual		