



DHV TESTREPORT EN 926-2:2013+A1:2021

DAVINCI MAMBO S

Type designation Davinci Mambo S
Type test reference no DHV GS-01-2948-24
Holder of certification Davinci Products INC
Manufacturer Davinci Products INC
Classification C
Winch towing Yes
Number of seats min / max 1 / 1
Accelerator Yes
Trimmers No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (70KG)

BEHAVIOUR AT MAX WEIGHT IN FLIGHT (95KG)

Test pilots



Josef Bauer

No release



Harald Buntz

No release

Inflation/take-off

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

Overshoots, shall be slowed down to avoid a front collapse

Special take off technique required No

No

Landing

Special landing technique required No

No

Speeds in straight flight

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

Yes
 Yes

Minimum speed Less than 25 km/h

25 km/h to 30 km/h

Control movement

Symmetric control pressure Increasing
Symmetric control travel Greater than 55 cm

Increasing
 45 cm to 60 cm

Pitch stability exiting accelerated flight

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

Dive forward less than 30°
 No

Pitch stability operating controls during accelerated flight

Collapse occurs No

No

Roll stability and damping

Oscillations Reducing

Reducing

Stability in gentle spirals

Tendency to return to straight flight Spontaneous exit

Spontaneous exit

Behaviour exiting a fully developed spiral dive

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)

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

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

<u>Symmetric front collapse</u>	C	C
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 yes		yes
<u>Unaccelerated collapse (at least 50 % chord)</u>	C	C
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 Entering a turn of less than 90°		Entering a turn of less than 90°
Cascade occurs No		No
Folding lines used yes		yes
<u>Accelerated collapse (at least 50 % chord)</u>	C	C
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 90° to 180°		Entering a turn of 90° to 180°
Cascade occurs No		No
Folding lines used yes		yes
<u>Exiting deep stall (parachutal stall)</u>	B	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 30° to 60°		Dive forward 0° to 30°
Change of course Changing course less than 45°		Changing course less than 45°
Cascade occurs No		No
<u>High angle of attack recovery</u>	A	A
Recovery Spontaneous in less than 3 s		Spontaneous in less than 3 s
Cascade occurs No		No
<u>Recovery from a developed full stall</u>	B	A
Dive forward angle on exit Dive forward 30° to 60°		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
<u>Small asymmetric collapse</u>	C	C
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
<u>Large asymmetric collapse</u>	C	C
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	yes	yes

<u>Small asymmetric collapse accelerated</u>	C	C
Change of course until re-inflation	Less than 90°	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	yes	yes

<u>Large asymmetric collapse accelerated</u>	C	C
Change of course until re-inflation	Less than 90°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 15° to 45°	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

<u>Directional control with a maintained asymmetric collapse</u>	A	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

<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	A
Spin rotation angle after release	Stops spinning in 90° to 180°	Stops spinning in less than 90°
Cascade occurs	No	No

B-line stall

 Not carried out because the manoeuvre is excluded in the user's manual

<u>Big ears</u>	B	B
Entry procedure	Standard technique	Standard technique
Behaviour during big ears	Stable flight	Stable flight
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 0° to 30°	Dive forward 0° to 30°

<u>Big ears in accelerated flight</u>	B	B
Entry procedure	Standard technique	Standard technique
Behaviour during big ears	Stable flight	Stable flight
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 0° to 30°
Behaviour immediately after releasing the accelerator while maintaining big ears Stable flight

Dive forward 0° to 30°
Stable flight

Alternative means of directional control

A

A

180° turn achievable in 20 s Yes
Stall or spin occurs No

Yes
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