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DHV TESTREPORT LTF 2009

SKYWALK TONIC 14

Type designation	Skywalk Tonic 14
Type test reference no	DHV GS-01-2033-13
Holder of certification	Skywalk GmbH & Co. KG
Manufacturer	Skywalk GmbH & Co. KG
Classification	C
Winch towing	No
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No



	BEHAVIOUR AT MIN WEIGHT IN FLIGHT (55KG)	BEHAVIOUR AT MAX WEIGHT IN FLIGHT (91KG)
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Test pilots



Gudrun Öchsl



Harald Buntz

Inflation/take-off	A	A
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Rising behaviour	Smooth, easy and constant rising	Smooth, easy and constant rising
Special take off technique required	No	No
Landing	A	A
Special landing technique required	No	No
Speeds in straight flight	A	B
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	25 km/h to 30 km/h
Control movement	B	C
Symmetric control pressure	Approximately constant	Increasing
Symmetric control travel	Greater than 55 cm	45 cm to 60 cm
Pitch stability exiting accelerated flight	A	A
Dive forward angle on exit	Dive forward less than 30°	Dive forward 30° to 60°
Collapse occurs	No	No
Pitch stability operating controls during accelerated flight	A	A
Collapse occurs	No	No
Roll stability and damping	A	A
Oscillations	Reducing	Reducing
Stability in gentle spirals	A	A
Tendency to return to straight flight	Spontaneous exit	Spontaneous exit
Behaviour in a steeply banked turn 	B	B
Sink rate after two turns	More than 14 m/s	More than 14 m/s
Symmetric front collapse	B	B
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
Symmetric front collapse in accelerated flight B B		
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
Exiting deep stall (parachutal stall) A 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 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 A		
Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No
Recovery from a developed full stall C C		
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 60° to 90°
Collapse	Symmetric 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
Asymmetric collapse 45-50% A 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 60° to 90°
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	No

Twist occurs	No	No
Cascade occurs	No	No
Asymmetric collapse 70-75%		
B		C
Change of course until re-inflation	90° to 180°	180° to 360°
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	No
Twist occurs	No	No
Cascade occurs	No	No
Asymmetric collapse 45-50% in accelerated flight		
A		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 60° to 90°
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	No
Twist occurs	No	No
Cascade occurs	No	No
Asymmetric collapse 70-75% in accelerated flight		
B		C
Change of course until re-inflation	90° to 180°	180° to 360°
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	No
Twist occurs	No	No
Cascade occurs	No	No
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 spin 25 % to 50 % of the symmetric control travel

25 % to 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	C
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 without straight span
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°
Cascade occurs	No	No
Big ears	A	A
Entry procedure	Dedicated controls	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	Dedicated controls	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in less than 3 s	Spontaneous in 3 s to 5 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
Behaviour exiting a steep spiral	A	A
Tendency to return to straight flight	Spontaneous exit	Spontaneous exit

Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
Sink rate when evaluating spiral stability [m/s]	14	14
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		
Supplementary remarks		
	Kleine Fläche, hohe Aufsetzgeschwindigkeit und Dynamik	Very direct handling, short brake travel, small area, high dynamics.