DHV TESTREPORT LTF 2009

SKYWALK TONIC 16	
Type designation	Skywalk Tonic 16
Type test reference no	DHV GS-01-2007-12
Holder of certification	Skywalk GmbH & Co. KG
Manufacturer	Skywalk GmbH & Co. KG
Classification	C
Winch towing	Yes
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No

	BEHAVIOUR AT MIN WEIGHT IN FLIGHT (56KG)	BEHAVIOUR AT MAX WEIGHT IN FLIGHT (105KG)
Test pilots	 **Gudrun Öchsl**	 **Harald Buntz**
Inflation/take-off	**A**	**C**

Rising behaviour	Smooth, easy and constant rising	Smooth, easy and constant rising
Special take off technique required	No	Yes
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	**A**	**C**
Symmetric control pressure	Increasing	Increasing
Symmetric control travel	Greater than 55 cm	50 cm to 65 cm
Pitch stability exiting accelerated flight	**A**	**A**
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	**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	**A**	**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 0° to 30°	Dive forward 30° to 60°
Change of course	Keeping course	Keeping course
Cascade occurs	No	No

Symmetric front collapse in accelerated flight	**A**	**C**
Entry	Rocking back less than 45°	Rocking back greater 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 30° to 60°
Change of course	Keeping course	Entering a turn of less than 90°
Cascade occurs	No	No

Exiting deep stall (parachutal stall)	**A**	**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 0° to 30°
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	**A**	**C**
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 60° to 90°
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

Asymmetric collapse 45-50%	**A**	**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	No

Twist occurs	No	No
Cascade occurs	No	No

Asymmetric collapse 70-75%	B	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 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	B
Change of course until re-inflation	Less than 90°	90° to 180°
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	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°	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	No
Twist occurs	No	No
Cascade occurs	No	No

Directional control with a maintained asymmetric collapse	A	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	More than 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

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

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 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

Behaviour exiting a steep spiral	**A**	**C**
Tendency to return to straight flight	Spontaneous exit	Spontaneous exit
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	720° to 1 080°, 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		
		Sehr direktes Handling, kurze Steuerwege, kleine Fläche, hohe Dynamik.