DHV TESTREPORT LTF 2009

GIN GTO 2 S

Type designation	GIN GTO 2 S
Type test reference no	DHV GS-01-2123-15
Holder of certification	GIN Gliders Inc.
Manufacturer	GIN Gliders Inc.
Classification	D
Winch towing	Yes
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No

	BEHAVIOUR AT MIN WEIGHT IN FLIGHT (80KG)	BEHAVIOUR AT MAX WEIGHT IN FLIGHT (95KG)
Test pilots	 **Beni Stocker**	 **Harald Buntz**
Inflation/take-off	**A**	**A**
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**	**A**
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	**C**	**A**
Symmetric control pressure	Increasing	Increasing
Symmetric control travel	45 cm to 60 cm	Greater than 60 cm
Pitch stability exiting accelerated flight	**A**	**A**
Dive forward angle on exit	Dive forward 30° to 60°	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 ⚠	**A**	**B**
Sink rate after two turns	12 m/s to 14 m/s	More than 14 m/s
Symmetric front collapse	**B**	**C**
Entry	Rocking back less than 45°	Rocking back greater than 45°
Recovery	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 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	D	C
Entry	Rocking back less than 45°	Rocking back greater than 45°
Recovery	Recovery through pilot action in less than a further 3 s	Spontaneous in 3 s to 5 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 less than 90°
Cascade occurs	No	No

Exiting deep stall (parachutal stall)	A	B
Deep stall achieved	No	Yes
Recovery		Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 30° to 60°
Change of course		Changing course less than 45°
Cascade occurs		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	B
Dive forward angle on exit	Dive forward 60° to 90°	Dive forward 30° to 60°
Collapse	No collapse	No collapse
Cascade occurs (other than collapses)	No	No
Rocking back	Less than 45°	Greater than 45°
Line tension	Most lines tight	Most lines tight

Asymmetric collapse 45-50%	B	A
Change of course until re-inflation	90° to 180°	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	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	B	C
Change of course until re-inflation	90° to 180°	Less than 90°
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 70-75% in accelerated flight	C	C
Change of course until re-inflation	180° to 360°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 45° to 60°	Dive or roll angle 60° to 90°
Re-inflation behaviour	Spontaneous re-inflation	Inflates in less than 3 s from start of pilot action
Total change of course	Less than 360°	Less than 360°
Collapse on the opposite side occurs	No	Yes, no turn reversal
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	C

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

B-line stall	**D**	**C**
Change of course before release	Changing course more than 45°	Changing course more than 45°
Behaviour before release	Unstable	Remains stable without straight span
Recovery	Recovery through pilot action in less than a further 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	**B**	**B**
Entry procedure	Standard technique	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 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	Standard technique
Behaviour during big ears	Stable flight	Stable flight
Recovery	Spontaneous in 3 s to 5 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

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