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## DHV TESTREPORT LTF 2009

## NOVA ION 3XXS LIGHT

**Type designation** NOVA ION 3XXS light  
**Type test reference no** DHV GS-01-2104-14  
**Holder of certification** [NOVA Vertriebsgesellschaft m.b.H.](#)  
**Manufacturer** [NOVA Vertriebsgesellschaft m.b.H.](#)  
**Classification** B  
**Winch towing** Yes  
**Number of seats min / max** 1 / 1  
**Accelerator** Yes  
**Trimmers** No

## BEHAVIOUR AT MIN WEIGHT IN FLIGHT (57KG)

Test pilots



Gudrun Öchsl

Expert Harald Buntz

## BEHAVIOUR AT MAX WEIGHT IN FLIGHT (80KG)



Beni Stocker

<b>Inflation/take-off</b>	A	A
<b>Rising behaviour</b> Smooth, easy and constant rising		Smooth, easy and constant rising
<b>Special take off technique required</b> No		No
<b>Landing</b>	A	A
<b>Special landing technique required</b> No		No
<b>Speeds in straight flight</b>	A	A
<b>Trim speed more than 30 km/h</b> Yes		Yes
<b>Speed range using the controls larger than 10 km/h</b> Yes		Yes
<b>Minimum speed</b> Less than 25 km/h		Less than 25 km/h
<b>Control movement</b>	A	A
<b>Symmetric control pressure</b> Increasing		Increasing
<b>Symmetric control travel</b> Greater than 55 cm		Greater than 60 cm
<b>Pitch stability exiting accelerated flight</b>	A	A
<b>Dive forward angle on exit</b> Dive forward less than 30°		Dive forward less than 30°
<b>Collapse occurs</b> No		No
<b>Pitch stability operating controls during accelerated flight</b>	A	A
<b>Collapse occurs</b> No		No
<b>Roll stability and damping</b>	A	A
<b>Oscillations</b> Reducing		Reducing
<b>Stability in gentle spirals</b>	A	A
<b>Tendency to return to straight flight</b> Spontaneous exit		Spontaneous exit
<b>Behaviour in a steeply banked turn</b> ⚠	B	B
<b>Sink rate after two turns</b> More than 14 m/s		More than 14 m/s
<b>Symmetric front collapse</b>	A	A
<b>Entry</b> Rocking back less than 45°		Rocking back less than 45°
<b>Recovery</b> Spontaneous in less than 3 s		Spontaneous in less than 3 s
<b>Dive forward angle on exit</b> Dive forward 0° to 30°		Dive forward 0° to 30°
<b>Change of course</b> Entering a turn of less than 90°		Entering a turn of less than 90°
<b>Cascade occurs</b> No		No
<b>Symmetric front collapse in accelerated flight</b>	A	A
<b>Entry</b> Rocking back less than 45°		Rocking back less than 45°

<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Entering a turn of less than 90°	Entering a turn of less than 90°
<b>Cascade occurs</b>	No	No

**Exiting deep stall (parachutal stall)**

A

A

**Deep stall achieved** Yes

Yes

<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Change of course</b>	Changing course less than 45°	Changing course less than 45°
<b>Cascade occurs</b>	No	No

**High angle of attack recovery**

A

A

<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Cascade occurs</b>	No	No

**Recovery from a developed full stall**

A

A

<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Collapse</b>	No collapse	No collapse
<b>Cascade occurs (other than collapses)</b>	No	No
<b>Rocking back</b>	Less than 45°	Less than 45°
<b>Line tension</b>	Most lines tight	Most lines tight

**Asymmetric collapse 45-50%**

A

A

<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	No	No
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No

**Asymmetric collapse 70-75%**

A

B

<b>Change of course until re-inflation</b>	Less than 90°	90° to 180°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	No	No
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No

**Asymmetric collapse 45-50% in accelerated flight**

A

A

<b>Change of course until re-inflation</b>	Less than 90°	Less than 90°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	No	No
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No

**Asymmetric collapse 70-75% in accelerated flight**

B

B

<b>Change of course until re-inflation</b>	90° to 180°	90° to 180°
<b>Maximum dive forward or roll angle</b>	Dive or roll angle 15° to 45°	Dive or roll angle 15° to 45°
<b>Re-inflation behaviour</b>	Spontaneous re-inflation	Spontaneous re-inflation
<b>Total change of course</b>	Less than 360°	Less than 360°
<b>Collapse on the opposite side occurs</b>	No	No
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No

**Directional control with a maintained asymmetric collapse**

A

A

<b>Able to keep course</b>	Yes	Yes
<b>180° turn away from the collapsed side possible in 10 s</b>	Yes	Yes
<b>Amount of control range between turn and stall or spin</b>	More than 50 % of the symmetric control travel	More than 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

<b>Spin rotation angle after release</b>	Stops spinning in less than 90°	Stops spinning in less than 90°
<b>Cascade occurs</b>	No	No

**B-line stall**

A

A

<b>Change of course before release</b>	Changing course less than 45°	Changing course less than 45°
<b>Behaviour before release</b>	Remains stable with straight span	Remains stable with straight span

<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 30° to 60°	Dive forward 0° to 30°
<b>Cascade occurs</b>	No	No

**Big ears**

A

A

<b>Entry procedure</b>	Dedicated controls	Dedicated controls
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°

**Big ears in accelerated flight**

A

A

<b>Entry procedure</b>	Dedicated controls	Dedicated controls
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°
<b>Behaviour immediately after releasing the accelerator while maintaining big ears</b>	Stable flight	Stable flight

**Behaviour exiting a steep spiral**

A

A

<b>Tendency to return to straight flight</b>	Spontaneous exit	Spontaneous exit
<b>Turn angle to recover normal flight</b>	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
<b>Sink rate when evaluating spiral stability [m/s]</b>	14	14

**Alternative means of directional control**

A

A

<b>180° turn achievable in 20 s</b>	Yes	Yes
<b>Stall or spin occurs</b>	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