

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

UP TRANGO X M

Type designation	UP Trango X M
Type test reference no	DHV GS-01-2764-23
Holder of certification	UP International GmbH
Manufacturer	UP International GmbH
Classification	C
Winch towing	Yes
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (85KG)

BEHAVIOUR AT MAX WEIGHT IN FLIGHT (110KG)

Test pilots



Harald Buntz



Mario Eder

Inflation/take-off

No release

No release

B

B

Rising behaviour Easy rising, some pilot correction is required

Easy rising, some pilot correction is required

Special take off technique required No

No

Landing

A

A

Special landing technique required No

No

Speeds in straight flight

B

B

Trim speed more than 30 km/h Yes

Yes

Speed range using the controls larger than 10 km/h Yes

Yes

Minimum speed 25 km/h to 30 km/h

25 km/h to 30 km/h

Control movement

C

C

Symmetric control pressure Increasing

Increasing

Symmetric control travel 45 cm to 60 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 exiting a fully developed spiral dive

B

B

Initial response of glider (first 180°) Immediate reduction of rate of turn

Immediate reduction of rate of turn

Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

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

Turn angle to recover normal flight 720° to 1 080°, spontaneous recovery

720° to 1 080°, spontaneous recovery

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	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	no	no

Unaccelerated collapse (at least 50 % chord) **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	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	no	no

Accelerated collapse (at least 50 % chord) **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	Keeping course	Keeping course
Cascade occurs	No	No
Folding lines used	no	no

Exiting deep stall (parachutal stall) **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**

Recovery	Spontaneous in less than 3 s	Spontaneous in less than 3 s
Cascade occurs	No	No

Recovery from a developed full stall **B**

Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 30° to 60°
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

Small asymmetric collapse **A**

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	no	no

Large asymmetric collapse **C**

Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 45° to 60°	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	no	no

Small asymmetric collapse accelerated **A**

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	no	no
Large asymmetric collapse accelerated	C	C
Change of course until re-inflation	90° to 180°	90° to 180°
Maximum dive forward or roll angle	Dive or roll angle 45° to 60°	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	no	no
Directional control with a maintained asymmetric collapse	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
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	C	C
Change of course before release	Changing course less than 45°	Changing course less than 45°
Behaviour before release	Remains stable without 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 0° to 30°	Dive forward 0° to 30°
Cascade occurs	No	No
Big ears	B	B
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°
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
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		



DHV TESTREPORT LTF

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Manufacturer [UP International GmbH](#)
Classification C
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Number of seats min / max 1 / 1
Accelerator Yes
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Rising behaviour Easy rising, some pilot correction is required

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Special take off technique required No

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Landing

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Special landing technique required No

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Speeds in straight flight

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Trim speed more than 30 km/h Yes

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Speed range using the controls larger than 10 km/h Yes

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Minimum speed 25 km/h to 30 km/h

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Control movement

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Symmetric control pressure Increasing

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Collapse occurs No

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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 exiting a fully developed spiral dive

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Initial response of glider (first 180°) Immediate reduction of rate of turn

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Tendency to return to straight flight Spontaneous exit (g force decreasing, rate of turn decreasing)

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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 Keeping course

Keeping course

Cascade occurs No

No

Folding lines used no

no

Unaccelerated collapse (at least 50 % chord)	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 Keeping course		Keeping course
Cascade occurs No		No
Folding lines used no		no
Accelerated collapse (at least 50 % chord)	B	B
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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 Keeping course		Keeping course
Cascade occurs No		No
Folding lines used 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	B	B
Dive forward angle on exit Dive forward 30° to 60°		Dive forward 30° to 60°
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
Small asymmetric collapse	A	A
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 no		no
Large asymmetric collapse	C	C
Change of course until re-inflation 90° to 180°		90° to 180°
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Twist occurs No		No
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Folding lines used no		no
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Twist occurs No		No
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Folding lines used no		no
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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 no		no
Directional control with a maintained asymmetric collapse	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
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	C	C
Change of course before release	Changing course less than 45°	Changing course less than 45°
Behaviour before release	Remains stable without 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 0° to 30°	Dive forward 0° to 30°
Cascade occurs	No	No
Big ears	B	B
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
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Big ears in accelerated flight	A	A
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Recovery	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
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Behaviour immediately after releasing the accelerator while maintaining big ears	Stable flight	Stable flight
Alternative means of directional control	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs	No	No
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