ECHNICAL DATA DHV TESTREPORT LTF DHV TESTREPORT EN	DATASHEET PARTS LIST OPERATING INSTRUCT	
IV TESTREPORT EN 926-2:2013+A1:2	021	
UP TRANGO X L		
Type designation	-	
Type test reference no		
Holder of certification	UP International GmbH	
Classification		
Winch towing		
Number of seats min / max		
Accelerator		And in the second s
Trimmers	No	
	BEHAVIOUR AT MIN WEIGHT IN	BEHAVIOUR AT MAX WEIGHT
	FLIGHT (100KG)	IN FLIGHT (125KG)
Test pilots		
	Harald Buntz	Mario Eder
	No release	No release
Inflation/take-off	В	В
Rising behaviour Special take off technique required	Easy rising, some pilot correction is required	Easy rising, some pilot correction is required No
Landing	Α	Α
Special landing technique required	No	No
Speeds in straight flight	A	В
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	Α	c
Symmetric control pressure	Increasing	Increasing
Symmetric control travel	Greater than 60 cm	50 cm to 65 cm
Pitch stability exiting accelerated flight	Α	Α
Dive forward angle on exit	Dive forward less than 30°	Dive forward less than 30°
Collapse occurs		No
	:	:
Pitch stability operating controls during accelerated flight	Α	Α
Collapse occurs	No	No
Roll stability and damping	A	A
·		÷
Oscillations	Reducing	Reducing
<u>Stability in gentle spirals</u>	A	Α
Tendency to return to straight flight	Spontaneous exit	Spontaneous exit
Behaviour exiting a fully developed spiral dive	В	В
Initial response of glider (first 180°)	en : keine unmittelbare Reaktion	en : keine unmittelbare Reaktion
Tendency to return to straight flight	Spontaneous exit (g force decreasing, rate of turn decreasing) Less than 720°, spontaneous recovery	
	· · · · · · · · · · · · · · · · · · ·	
Symmetric front collapse	Α	Α
-	Rocking back less than 45° Spontaneous in less than 3 s Dive forward 0° to 30°	Rocking back less than 45° Spontaneous in less than 3 s Dive forward 0° to 30°

Change of course		Keeping course
Cascade occurs		No
Folding lines used	110	no
<u>Unaccelerated collapse (at least 50 % chord)</u>	Α	Α
Entry	r Rocking back less than 45°	Rocking back less than 45°
	Spontaneous in less than 3 s	Spontaneous in less than 3 s
۔ Dive forward angle on exit		Dive forward 0° to 30°
Change of course	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs	No	No
Folding lines used	no	no
	1	1.
Accelerated collapse (at least 50 % chord)	B	<u>¦A</u>
Entry	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit		Dive forward 0° to 30°
Change of course Cascade occurs	Entering a turn of less than 90°	Entering a turn of less than 90° No
Folding lines used		no
i oraniy mes used		
Exiting deep stall (parachutal stall)	c	c
Deep stall achieved	Yes	Yes
-	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
Dive forward angle on exit		Dive forward 0° to 30°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	No	No
And the second sec	1_	1_
High angle of attack recovery	¦C	C
-	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
Cascade occurs	No	No
Recovery from a developed full stall	в	в
L	·	<u>.</u>
Dive forward angle on exit		Dive forward 30° to 60°
Conapse Cascade occurs (other than collapses)	No collapse	No collapse No
		Less than 45°
ROCKING DACK		
Rocking back Line tension	Most lines tight	Most lines tight
_		
_		
Line tension	Most lines tight	Most lines tight
Line tension	Most lines tight A Less than 90°	Most lines tight
Line tension Small asymmetric collapse Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour	Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation	Most lines tight A Less than 90° Dive or roll angle 15° to 45° Spontaneous re-inflation
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Folding lines used no

Large asymmetric collapse accelerated	c	В
··		- <u>i</u>
Change of course until re-inflation Maximum dive forward or roll angle		90° to 180° Dive or roll angle 15° to 45°
_	Inflates in less than 3 s from start of pilot action	Spontaneous re-inflation
Total change of course		Less than 360°
_	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	s No	No
Cascade occurs	s No	No
Folding lines used	l no	no
Directional control with a maintained asymmetric collapse	A	Α
Able to keep course	Yes	Yes
180° turn away from the collapsed side possible in 10 s		Yes
Amount of control range between turn and stall on spin	More than 50 % of the symmetric control travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	Α
Spin occurs	s No	No
Low speed spin tendency	A	A
Spin occurs	s No	No
Recovery from a developed spin	в	В
Spin rotation angle after release	Stops spinning in 90° to 180°	Stops spinning in 90° to 180°
Cascade occurs		No
B-line stall	c	c
Change of course before release	Changing course more than 45°	Changing course more than 45°
	Remains stable without straight span	Remains stable without straight span
-	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit Cascade occurs		Dive forward 0° to 30° No
Big_ears	В	В
Entry procedure	Dedicated controls	Standard technique
Behaviour during big ears		Stable flight
	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	Dedicated controls	Standard technique
Behaviour during big ears	Stable flight	Stable flight
-	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
Dive forward angle on exit		Dive forward 0° to 30°
Behaviour immediately after releasing the accelerator while maintaining big ears		Stable flight
Alternative means of directional control	A	A
180° turn achievable in 20 s	Yes	Yes
Stall or spin occurs		No
Any other flight procedure and/or configuratio	n described in the user's manual	
No other flight procedure or configuration described in the		

no

No other flight procedure or configuration described in the user's manual



Unaccelerated collapse (at least 50 % chord)	A	A
	Rocking back less than 45°	Rocking back less than 45°
	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°
-	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs		No
Folding lines used	no	no
Accelerated collapse (at least 50 % chord)	в	A
Entry	Rocking back less than 45°	Rocking back less than 45°
-	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°
_	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs		No
Folding lines used	no	no
Exiting deep stall (parachutal stall)	c	c
Deep stall achieved	<u>.</u>	Yes
•	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
Dive forward angle on exit		Dive forward 0° to 30°
Change of course	Changing course less than 45°	Changing course less than 45°
Cascade occurs	No	No
	1	1_
High angle of attack recovery	c	c
Recovery	Spontaneous in 3 s to 5 s	Spontaneous in 3 s to 5 s
Cascade occurs	No	No
Recovery from a developed full stall	B	В
·		<u>.</u>
Dive forward angle on exit		Dive forward 30° to 60°
Collapse Cascade occurs (other than collapses)	No collapse	No collapse No
Rocking back		Less than 45°
	Most lines tight	Most lines tight
Small asymmetric collapse	Α	Α
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°
	Spontaneous re-inflation	Spontaneous re-inflation
Total change of course		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
l arge asymmetric collanse	B	B
Large asymmetric collapse	B	B
Change of course until re-inflation	90° to 180°	90° to 180°
Change of course until re-inflation Maximum dive forward or roll angle	90° to 180° Dive or roll angle 15° to 45°	90° to 180° Dive or roll angle 15° to 45°
Change of course until re-inflation Maximum dive forward or roll angle	90° to 180° Dive or roll angle 15° to 45° Spontaneous re-inflation	90° to 180°
Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course	90° to 180° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells	90° to 180° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed
Change of course until re-inflation Maximum dive forward or roll angle Re-inflation behaviour Total change of course Collapse on the opposite side occurs	90° to 180° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation)	90° to 180° Dive or roll angle 15° to 45° Spontaneous re-inflation Less than 360° No (or only a small number of collapsed cells with a spontaneous re inflation)
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Amount of control range between turn and stall or spir	r More than 50 % of the symmetric control n travel	More than 50 % of the symmetric control travel
Trim speed spin tendency	A	A
Spin occurs	s No	No
Low speed spin tendency	A	Α
Spin occurs	s No	No
Recovery from a developed spin	В	В
Spin rotation angle after release	Stops spinning in 90° to 180°	Stops spinning in 90° to 180°
Cascade occurs	s No	No
B-line stall	c	c
Change of course before release	Changing course more than 45°	Changing course more than 45°
Behaviour before release	Remains stable without straight span	Remains stable without straight span
-	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exi		Dive forward 0° to 30°
Cascade occurs	s No	No
<u>Big ears</u>	В	В
	B Dedicated controls	B Standard technique
	Dedicated controls	
Entry procedure Behaviour during big ears Recovery	 Dedicated controls Stable flight Y Spontaneous in 3 s to 5 s 	Standard technique Stable flight Spontaneous in 3 s to 5 s
Entry procedure Behaviour during big ears	 Dedicated controls Stable flight Y Spontaneous in 3 s to 5 s 	Standard technique Stable flight
Entry procedure Behaviour during big ears Recovery	 Dedicated controls Stable flight Y Spontaneous in 3 s to 5 s 	Standard technique Stable flight Spontaneous in 3 s to 5 s
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight	Dedicated controls Stable flight Spontaneous in 3 s to 5 s t Dive forward 0° to 30°	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30°
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight	Dedicated controls Stable flight Spontaneous in 3 s to 5 s t Dive forward 0° to 30° A Dedicated controls	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30°
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery	Dedicated controls Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Dedicated controls Stable flight Spontaneous in 3 s to 5 s	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery Dive forward angle on exi	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s Dive forward 0° to 30° Dedicated controls Stable flight Spontaneous in 3 s to 5 s t Dive forward 0° to 30°	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30°
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° A Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° Stable flight	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Behaviour immediately after releasing the	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° A Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° Stable flight	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30°
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Behaviour immediately after releasing the accelerator while maintaining big ears	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° A Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° Stable flight A	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° Stable flight
Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery Dive forward angle on exi Behaviour immediately after releasing the accelerator while maintaining big ears	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s t Dive forward 0° to 30° A Dedicated controls Stable flight / Spontaneous in 3 s to 5 s Dive forward 0° to 30° Stable flight A System 1	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° Stable flight
Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Big ears in accelerated flight Entry procedure Behaviour during big ears Recovery Dive forward angle on exit Behaviour immediately after releasing the accelerator while maintaining big ears Alternative means of directional control 180° turn achievable in 20 s	Dedicated controls Stable flight / Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Dedicated controls Stable flight / Spontaneous in 3 s to 5 s Dive forward 0° to 30° Stable flight A A Yes No	Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° A Standard technique Stable flight Spontaneous in 3 s to 5 s Dive forward 0° to 30° Stable flight A Yes