

MAC PARA ELAN 3 24		
<b>Type designation</b>	Mac Para Elan 3 24	
<b>Type test reference no</b>	DHV GS-01-2649-21	
<b>Holder of certification</b>	MAC Para Technology	
<b>Manufacturer</b>	MAC Para Technology	
<b>Classification</b>	C	
<b>Winch towing</b>	Yes	
<b>Number of seats min / max</b>	1 / 1	
<b>Accelerator</b>	Yes	
<b>Trimmers</b>	No	
		
	<b>BEHAVIOUR AT MIN WEIGHT IN FLIGHT (75KG)</b>	<b>BEHAVIOUR AT MAX WEIGHT IN FLIGHT (95KG)</b>
<b>Test pilots</b>	 <b>Josef Bauer</b>	 <b>Harald Buntz</b>
	No release	No release
<b>Inflation/take-off</b>	<b>B</b>	<b>B</b>
<b>Rising behaviour</b>	en : einfaches Aufziehen, etwas Korrektur des Piloten erforderlich	en : einfaches Aufziehen, etwas Korrektur des Piloten erforderlich
<b>Special take off technique required</b>	No	No
<b>Landing</b>	<b>A</b>	<b>A</b>
<b>Special landing technique required</b>	No	No
<b>Speeds in straight flight</b>	<b>A</b>	<b>A</b>
<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>	<b>C</b>	<b>A</b>
<b>Symmetric control pressure</b>	Increasing	Increasing
<b>Symmetric control travel</b>	40 cm to 55 cm	Greater than 60 cm
<b>Pitch stability exiting accelerated flight</b>	<b>A</b>	<b>A</b>
<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>	<b>A</b>	<b>A</b>
<b>Collapse occurs</b>	No	No
<b>Roll stability and damping</b>	<b>A</b>	<b>A</b>
<b>Oscillations</b>	Reducing	Reducing
<b>Stability in gentle spirals</b>	<b>A</b>	<b>A</b>
<b>Tendency to return to straight flight</b>	Spontaneous exit	Spontaneous exit
<b>en : Verhalten beim Verlassen einer vollständigen Steilspirale</b>	<b>B</b>	<b>B</b>
<b>en : Erstes Ansprechen des Gleitschirms (die ersten 180°)</b>	en : keine unmittelbare Reaktion	en : keine unmittelbare Reaktion
<b>Tendency to return to straight flight</b>	en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)	en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)
<b>Turn angle to recover normal flight</b>	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
<b>Symmetric front collapse</b>	<b>A</b>	<b>A</b>
<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>	Keeping course	Keeping course
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no
<b>en : Symmetrischer Frontklapper mindestens 50% Flügeltiefe</b>		
<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>	Keeping course	Keeping course
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no
<b>en : Symmetrischer Frontklapper im beschleunigten Flug mindestens 50% Flügeltiefe</b>		
<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 30° to 60°	Dive forward 30° to 60°
<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>en : Faltleinen wurden benutzt</b>	no	no
<b>Exiting deep stall (parachutal stall)</b>		
<b>Deep stall achieved</b>	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 30° to 60°	Dive forward 30° to 60°
<b>Change of course</b>	Changing course less than 45°	Changing course less than 45°
<b>Cascade occurs</b>	No	No
<b>High angle of attack recovery</b>		
<b>Recovery</b>	Spontaneous in less than 3 s	Spontaneous in less than 3 s
<b>Cascade occurs</b>	No	No
<b>Recovery from a developed full stall</b>		
<b>Dive forward angle on exit</b>	Dive forward 30° to 60°	Dive forward 30° to 60°
<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
<b>en : Kleiner einseitiger Klapper</b>		
<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>	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no
<b>en : Großer einseitiger Klapper</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>	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no
<b>en : Kleiner einseitiger Klapper im beschleunigten Flug</b>		
<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>	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no

<b>en : Großer einseitiger Klapper im beschleunigten Flug</b>	<b>B</b>	<b>B</b>
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<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>	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
<b>Twist occurs</b>	No	No
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no

<b>Directional control with a maintained asymmetric collapse</b>	<b>A</b>	<b>A</b>
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<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

<b>Trim speed spin tendency</b>	<b>A</b>	<b>A</b>
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<b>Spin occurs</b>	No	No
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<b>Low speed spin tendency</b>	<b>A</b>	<b>A</b>
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<b>Spin occurs</b>	No	No
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<b>Recovery from a developed spin</b>	<b>B</b>	<b>B</b>
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<b>Spin rotation angle after release</b>	Stops spinning in 90° to 180°	Stops spinning in 90° to 180°
<b>Cascade occurs</b>	No	No

<b>B-line stall</b>	<b>A</b>	<b>A</b>
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<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 0° to 30°	Dive forward 0° to 30°
<b>Cascade occurs</b>	No	No

<b>Big ears</b>	<b>B</b>	<b>B</b>
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<b>Entry procedure</b>	Standard technique	Standard technique
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Recovery through pilot action in less than a further 3 s	Recovery through pilot action in less than a further 3 s
<b>Dive forward angle on exit</b>	Dive forward 0° to 30°	Dive forward 0° to 30°

<b>Big ears in accelerated flight</b>	<b>B</b>	<b>B</b>
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<b>Entry procedure</b>	Standard technique	Standard technique
<b>Behaviour during big ears</b>	Stable flight	Stable flight
<b>Recovery</b>	Recovery through pilot action in less than a further 3 s	Recovery through pilot action in less than a further 3 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

<b>Alternative means of directional control</b>	<b>A</b>	<b>A</b>
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<b>180° turn achievable in 20 s</b>	Yes	Yes
<b>Stall or spin occurs</b>	No	No

<b>Any other flight procedure and/or configuration described in the user's manual</b>		
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No other flight procedure or configuration described in the user's manual