

MAC PARA ICON 29

Type designation	MAC Para Icon 29
Type test reference no	DHV GS-01-2241-16
Holder of certification	MAC Para Technology
Manufacturer	MAC Para Technology
Classification	D
Winch towing	Yes
Number of seats min / max	1 / 1
Accelerator	Yes
Trimmers	No



BEHAVIOUR AT MIN WEIGHT IN FLIGHT (100KG)

BEHAVIOUR AT MAX WEIGHT IN FLIGHT (125KG)

Test pilots



Harald Buntz



Sebastian Mackrodt

Inflation/take-off	C	C
Rising behaviour	Overshoots, shall be slowed down to avoid a front collapse	Overshoots, shall be slowed down to avoid a front collapse
Special take off technique required	No	No
Landing	A	A
Special landing technique required	No	No
Speeds in straight flight	B	A
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	Less than 25 km/h
Control movement	C	A
Symmetric control pressure	Increasing	Increasing
Symmetric control travel	45 cm to 60 cm	Greater than 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
en : Verhalten beim Verlassen einer vollständigen Steilspirale		
A		A
en : Erstes Ansprechen des Gleitschirms (die ersten 180°)	en : unmittelbare Verringerung der Drehgeschwindigkeit	en : unmittelbare Verringerung der Drehgeschwindigkeit
Tendency to return to straight flight	en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)	en : selbstständiges Ausleiten (G-Kraft abnehmend, Drehgeschwindigkeit abnehmend)
Turn angle to recover normal flight	Less than 720°, spontaneous recovery	Less than 720°, spontaneous recovery
Symmetric front collapse		
B		A
Entry	Rocking back less than 45°	Rocking back less than 45°
Recovery	Spontaneous in 3 s to 5 s	Spontaneous in less than 3 s
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 0° to 30°
Change of course	Entering a turn of less than 90°	Keeping course
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no
en : Symmetrischer Frontklapper mindestens 50% Flügeltiefe		
D		B
Entry	Rocking back less than 45°	Rocking back less 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 0° to 30°
Change of course	Entering a turn of less than 90°	Entering a turn of less than 90°
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no
en : Symmetrischer Frontklapper im beschleunigten Flug		
D		D
Entry	Rocking back less than 45°	Rocking back greater than 45°
Recovery	Recovery through pilot action in less than a further 3 s	Recovery through pilot action in less than a further 3 s
Dive forward angle on exit	Dive forward 30° to 60°	Dive forward 0° to 30°
Change of course	Entering a turn of 90° to 180°	Entering a turn of less than 90°
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no
Exiting deep stall (parachutal stall)		
A		C
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 45° or more
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		
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
en : Kleiner einseitiger Klapper		
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 15° to 45°
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	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)
Twist occurs	No	No
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no
en : Großer einseitiger Klapper		
C		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	Inflates in less than 3 s from start of pilot action	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	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)
Twist occurs	No	No
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no

en : Kleiner einseitiger Klapper im beschleunigten Flug	C	C
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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 15° to 45°
Re-inflation behaviour	Inflates in less than 3 s from start of pilot action	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	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)
Twist occurs	No	No
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no

en : Großer einseitiger Klapper im beschleunigten Flug	C	C
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Change of course until re-inflation	90° to 180°	180° to 360°
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	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	Yes, no turn reversal	en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)
Twist occurs	No	No
Cascade occurs	No	No
en : Faltleinen wurden benutzt	no	no

Directional control with a maintained asymmetric collapse	A	A
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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
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Spin occurs	No	No
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Low speed spin tendency	A	A
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Spin occurs	No	No
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Recovery from a developed spin	A	A
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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
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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 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°
Cascade occurs	No	No

Big ears	B	B
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Entry procedure	Dedicated controls	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Recovery through pilot action in less than a further 3 s	Recovery through pilot action in less than a further 3 s
Dive forward angle on exit	Dive forward 0° to 30°	Dive forward 0° to 30°

Big ears in accelerated flight	B	B
Entry procedure	Dedicated controls	Dedicated controls
Behaviour during big ears	Stable flight	Stable flight
Recovery	Recovery through pilot action in less than a further 3 s	Recovery through pilot action in less than a further 3 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		