

## DHV TESTREPORT EN926-2:2014

## MAC PARA ILLUSION 30

<b>Type designation</b>	MAC Para Illusion 30
<b>Type test reference no</b>	DHV GS-01-2301-17
<b>Holder of certification</b>	MAC Para Technology Ges.m.b.H.
<b>Manufacturer</b>	MAC Para Technology Ges.m.b.H.
<b>Classification</b>	B
<b>Winch towing</b>	Yes
<b>Number of seats min / max</b>	1 / 1
<b>Accelerator</b>	Yes
<b>Trimmers</b>	No



## BEHAVIOUR AT MIN WEIGHT IN FLIGHT (105KG)

## BEHAVIOUR AT MAX WEIGHT IN FLIGHT (130KG)

## Test pilots



Harald Buntz



Sebastian Mackrodt

Inflation/take-off

A

A

**Rising behaviour** Smooth, easy and constant rising  
**Special take off technique required** No

Smooth, easy and constant rising  
 No

Landing

A

A

**Special landing technique required** No

No

Speeds in straight flight

A

A

**Trim speed more than 30 km/h** Yes  
**Speed range using the controls larger than 10 km/h** Yes

Yes  
 Yes

**Minimum speed** Less than 25 km/h

Less than 25 km/h

Control movement

A

A

**Symmetric control pressure** Increasing  
**Symmetric control travel** Greater than 65 cm

Increasing  
 Greater than 65 cm

Pitch stability exiting accelerated flight

A

A

**Dive forward angle on exit** Dive forward less than 30°  
**Collapse occurs** No

Dive forward less than 30°  
 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

<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>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	Entering a turn of less than 90°
<b>Cascade occurs</b>	No	No
<b>en : Faltleinen wurden benutzt</b>	no	no

<b>en : Symmetrischer Frontklapper im beschleunigten Flug</b>	<b>B</b>	<b>B</b>
<b>Entry</b>	Rocking back less than 45°	Rocking back less than 45°
<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 30° to 60°	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>en : Faltleinen wurden benutzt</b>	no	no

<b>Exiting deep stall (parachutal stall)</b>	<b>B</b>	<b>A</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 0° to 30°
<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>A</b>	<b>A</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>B</b>	<b>A</b>
<b>Dive forward angle on exit</b>	Dive forward 30° to 60°	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

<b>en : Kleiner einseitiger Klapper</b>	<b>A</b>	<b>A</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 0° to 15°
<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>B</b>	<b>A</b>
<b>Change of course until re-inflation</b>	90° to 180°	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

en : Faltleinen wurden benutzt no

no

en : Kleiner einseitiger Klapper im beschleunigten Flug

**B**

**A**

**Change of course until re-inflation** 90° to 180°  
**Maximum dive forward or roll angle** Dive or roll angle 15° to 45°  
**Re-inflation behaviour** Spontaneous re-inflation  
**Total change of course** Less than 360°  
**Collapse on the opposite side occurs** en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)  
**Twist occurs** No  
**Cascade occurs** No  
en : Faltleinen wurden benutzt no

Less than 90°  
Dive or roll angle 15° to 45°  
Spontaneous re-inflation  
Less than 360°  
en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)  
No  
No  
no

en : Großer einseitiger Klapper im beschleunigten Flug

**B**

**B**

**Change of course until re-inflation** 90° to 180°  
**Maximum dive forward or roll angle** Dive or roll angle 15° to 45°  
**Re-inflation behaviour** Spontaneous re-inflation  
**Total change of course** Less than 360°  
**Collapse on the opposite side occurs** en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)  
**Twist occurs** No  
**Cascade occurs** No  
en : Faltleinen wurden benutzt no

90° to 180°  
Dive or roll angle 15° to 45°  
Spontaneous re-inflation  
Less than 360°  
en : Nein (oder nur eine kleine Anzahl von eingeklappten Zellen mit selbstständiger Wiederöffnung)  
No  
No  
no

Directional control with a maintained asymmetric collapse

**A**

**A**

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

Yes  
Yes  
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°  
**Cascade occurs** No

Stops spinning in less than 90°  
No

B-line stall

**A**

**A**

**Change of course before release** Changing course less than 45°  
**Behaviour before release** Remains stable with straight span  
**Recovery** Spontaneous in less than 3 s  
**Dive forward angle on exit** Dive forward 0° to 30°  
**Cascade occurs** No

Changing course less than 45°  
Remains stable with straight span  
Spontaneous in less than 3 s  
Dive forward 0° to 30°  
No

Big ears

**B**

**A**

**Entry procedure** Dedicated controls  
**Behaviour during big ears** Stable flight  
**Recovery** Spontaneous in 3 s to 5 s  
**Dive forward angle on exit** Dive forward 0° to 30°

Dedicated controls  
Stable flight  
Spontaneous in less than 3 s  
Dive forward 0° to 30°

Big ears in accelerated flight

**A**

**A**

**Entry procedure** Dedicated controls  
**Behaviour during big ears** Stable flight  
**Recovery** Spontaneous in less than 3 s  
**Dive forward angle on exit** Dive forward 0° to 30°  
**Behaviour immediately after releasing the accelerator while maintaining big ears** Stable flight

Dedicated controls  
Stable flight  
Spontaneous in less than 3 s  
Dive forward 0° to 30°  
Stable flight

Alternative means of directional control

**A**

**A**

**180° turn achievable in 20 s** Yes  
**Stall or spin occurs** No

Yes  
No

Any other flight procedure and/or configuration described in the user's manual

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