



Deutscher Hängegleiterverband e.V. im DAeC
Akkreditierte Musterprüfstelle für Hängegleiter und Gleitsegel
nach DIN EN ISO/IEC 17020:2012-07

GS TESTFLUG LTF 2009 MAC PARA CHARGER 28

Test No 027121-GSTF09-751-Sesi
Test date 08.04.2015
Location Gardasee / Mt Baldo
Type Mac Para Charger 28
Test type GS Testflug LTF 2009
Test order Auftrag GS Musterprüfung Mac Para Charger 28 (MAC Para Technology Ltd)
Customer MAC Para Technology
Test standard LTF NFL II-91/09 und NFL 2-60-14
Test standard 2 EN 926-2:2014
Expert Mackrodt
Result positive
Billing to: 100%

Technical peculiarities

Datum / Unterschrift (Sebastian Mackrodt)

RESULTS

PG test flight (general)

Take off weight [kg] 110
Weight limit for certification [kg] 110
Number of pilots 1
test pilot Sebastian Mackrodt
Harness type Acro T
Harness category GH
Minimum speed [km/h] 23
Trim speed [km/h] 34
Accelerated speed [km/h] 30
Accelerator used? Yes
Trimms -

en : Klassifizierung

en : Klassifizierung B

EN : ERGEBNISDETAILS NACH LTF 2009

1 Inflation/take-off

A

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

2 Landing

A

Special landing technique required No

3 Speeds in straight flight

A

Trim speed more than 30 km/h Yes
Speed range using the controls larger than 10 km/h Yes
Minimum speed Less than 25 km/h

4 Control movement

A

Symmetric control pressure Increasing
Symmetric control travel Greater than 65 cm

5 Pitch stability exiting accelerated flight

A

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

6 Pitch stability operating controls during accelerated flight

A

Collapse occurs No

7 Roll stability and damping

A

Oscillations Reducing

8 Stability in gentle spirals

A

Tendency to return to straight flight Spontaneous exit

9 Behaviour in a steeply banked turn	B
Sink rate after two turns More than 14 m/s	
10.1 Symmetric front collapse	A
Entry Rocking back less than 45°	
Recovery 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°	
Cascade occurs No	
10.2 Symmetric front collapse in accelerated flight	A
Entry Rocking back less than 45°	
Recovery 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°	
Cascade occurs No	
11 Exiting deep stall (parachutal stall)	A
Deep stall achieved Yes	
Recovery Spontaneous in less than 3 s	
Dive forward angle on exit Dive forward 0° to 30°	
Change of course Changing course less than 45°	
Cascade occurs No	
12 High angle of attack recovery	A
Recovery Spontaneous in less than 3 s	
Cascade occurs No	
13 Recovery from a developed full stall	A
Dive forward angle on exit Dive forward 0° to 30°	
Collapse No collapse	
Cascade occurs (other than collapses) No	
Rocking back Less than 45°	
Line tension Most lines tight	
14.1 Asymmetric collapse 45-50%	A
Change of course until re-inflation Less than 90°	
Maximum dive forward or roll angle Dive or roll angle 0° to 15°	
Re-inflation behaviour Spontaneous re-inflation	
Total change of course Less than 360°	
Collapse on the opposite side occurs No	
Twist occurs No	
Cascade occurs No	
14.2 Asymmetric collapse 70-75%	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 No	
Twist occurs No	
Cascade occurs No	
14.3 Asymmetric collapse 45-50% in accelerated flight	A
Change of course until re-inflation Less than 90°	
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 No	
Twist occurs No	
Cascade occurs No	
14.4 Asymmetric collapse 70-75% in accelerated flight	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 No	
Twist occurs No	
Cascade occurs No	

15 Directional control with a maintained asymmetric collapse	A
Able to keep course Yes 180° turn away from the collapsed side possible in 10 s Amount of control range between turn and stall or spin More than 50 % of the symmetric control travel	
16 Trim speed spin tendency	A
Spin occurs No	
17 Low speed spin tendency	A
Spin occurs No	
18 Recovery from a developed spin	A
Spin rotation angle after release Stops spinning in less than 90° Cascade occurs No	
19 B-line stall	B
Change of course before release Changing course less than 45° Behaviour before release Remains stable with straight span Recovery Spontaneous in 3 s to 5 s Dive forward angle on exit Dive forward 0° to 30° Cascade occurs No	
20 Big ears	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°	
21 Big ears in accelerated flight	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	
22 Behaviour exiting a steep spiral	A
Tendency to return to straight flight Spontaneous exit Turn angle to recover normal flight Less than 720°, spontaneous recovery Sink rate when evaluating spiral stability 14 [m/s]	
23 Alternative means of directional control	A
180° turn achievable in 20 s Yes Stall or spin occurs No	
24 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	



GS VERMESSUNG MAC PARA CHARGER 28

Test No 027188-GSDetVerm-969-reiner
Test date 15.05.2015
Location Grafenaschau
Type Mac Para Charger 28
Test type GS Vermessung
Order Auftrag GS Musterprüfung Mac Para Charger 28 (MAC Para Technology Ltd)
Customer MAC Para Technology
Test standard LTF NFL II-91/09
Expert Brunn
Result positive
Billing to: 100%
Technical peculiarities

Datum / Unterschrift (Brunn)

Others

Equipment weight [kg] 5
Accelerator? Yes
Trimmers? No

Risers (lengths in mm)

	A	A2	B	C	D	E
not accelerated	500	500	500	500	500	0
accelerated	380	380	4000	500	0	0

Peculiarities risers

Suspension lines

Suspension data

	A	B	C	D	E	BR
1	6682	6585	6664	6844	6974	7657
2	6657	6563	6641	6816	6948	7379
3	6712	6615	6692	6846	6044	7282
4	6671	6577	6642	6779		7175
5	6752	6661	6716	6844		6999
6	6706	6623	6667	6769		6984
7	6587	6509	6555	6631		6901
8	6503	6430	6464	6520		6821
9	6434	6369	6390	6429		6755
10	6143	6092	6116	6198		6748
11	6008	5992	5967	6022		
12	5927	5933				
13						

Suspension system peculiarities

Conformity with test requirements

Geometry inspection results In conformity with test requirements
Material processing inspection results In conformity with test requirements