



## Inspection record for motorized paragliders Wing unit initial inspection

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|                     |                            |                         |                         |  |                 |                      |  |
|---------------------|----------------------------|-------------------------|-------------------------|--|-----------------|----------------------|--|
| <b>applicant</b>    | <b>Mac Para</b>            |                         |                         |  |                 |                      |  |
| <b>wing unit</b>    | <b>Chronos 25</b>          | <b>MTOW</b>             | 108-135                 | <b>type test number</b>                      | EAPR-TW-7531/13 | <b>serial number</b> |  |
| <b>manufacturer</b> | <b>Mac Para</b>            | <b>trimmer</b>          | ja                      | <b>accelerator</b>                           | ja              |                      |  |
| <b>motor</b>        | <b>Fresh Breeze Thorix</b> | <b>type test number</b> | 786-10                  | <b>serial number</b>                         |                 | 1429                 |  |
| <b>propeller</b>    | <b>H30F-Rm09-2</b>         | <b>pitch</b>            | 9° laut Hersteller      |  |                 |                      |  |
| <b>harness</b>      | <b>Wingman Sportix</b>     | <b>suspension</b>       | tief, vertikal variabel | <b>maximum allowable total flying weight</b> | 100kg im GZ     |                      |  |
| <b>test pilot</b>   | <b>Anselm Rauh</b>         | <b>test location</b>    | Brannenburg             | <b>date</b>                                  | 16.10.2012      |                      |  |

|  |                            |
|--|----------------------------|
| <b>1. test of launch</b>   |                            |
| special launch technique required  | NO                         |
| altitude gain after 300 meters > 15 meters   | YES                        |
| <b>2. test of landing</b>  |                            |
| special landing technique required   | NO                         |
| soft landing on pilots feet possible / soft landing on wheels possible (for paratrike)                             | Yes, by continuous braking |
| <b>3. test of trim speed in straight flight</b>  |                            |
| altitude gain after 300 meters > 15 meters   | > 30 km/h                  |
| <b>4. behavior of the glider by using the breaks with open trimmers or /and foot acceleration without throttle</b> |                            |
| execution  | allowed                    |
| distortion of the canopy when braking in accelerated flight  | NO                         |

|   |  |   |
|---|--|---|
| <b>5. test of pitch stability and pitch damping and parachutal stall tendency when alternating between thrust and no thrust</b> |  |   |
| glider turns from the flight axis in a fast alternating between full throttle and no throttle                                   |  | NO  |
| canopy collapses  |  | NO  |
| parachutal stall or stall is happening  |  | NO  |
| pitch damping   |  | pitch oscillations decreasing significantly   |
| <b>6. examination of the curve behavior with throttle</b>   |  |   |
| horizontal figure "8" in less than 30 sec.  |  | YES   |
| flat spin tendency  |  | NO  |
| instable flying, with the danger of twisting the lines by changing the direction of turning                                     |  | NO  |
| <b>7. test of roll stability</b>  |  |   |
| behavior in roll movements and roll damping   |  | rolling decreases significantly   |
| <b>8. test of roll stability in straight flight</b>   |  |   |
| rolling in straight flight  |  | rolling <10°  |
| <b>9. examination of spin tendency by lightly using the braks on both sides</b>   |  |   |
| turning against the torque of the motor at 25% brake possible   |  | yes, 180° in 10sec possible   |
| <b>10. test of stall at maximum motor thrust</b>  |  |   |
| brake travel in cm, braking force   |  | >40cm, constant or increasing   |
| tendency to enter parachutal stall  |  | NO  |
| movement around yaw axis  |  | <10°  |
| <b>11. test of recovery to normal flight from high angles of attack</b>   |  |   |
| followed by cascade   |  | NO  |
| termination   |  | yes, termination when thrust of motor is released<br>Parachutal possible, exit via opening trimmers |
| <b>12. test of assymetric collapse with trimmers closed and no use of speed system</b>  |  |   |
| execution   | without folding lines  | possible  |
| behavior of the paraglider after assymetric collapse not accelerated, trimmers closed   | paraglider needs pilot input to prevent twist, unloading of lines. Extreme turning or surging forward, | cascade happens   |

|   |   |          |
|---|---|----------|
| <b>13. test of assymetric collapse with trimmers fully open and full use of speed system</b>                                    |   |          |
| execution   | without folding lines   | possible |
| behavior of the paraglider  | canopy reopens without pilot input turning strongly (<360° until reopening), surging forward less than 90°                              |          |
| Wide range of different reactions on collapses  |   |          |
| <b>14. test of symmetric collapse with trimmers closed</b>  |   |          |
| execution   | without folding lines   | possible |
| behavior of the paraglider after symmetric collapse (min. 40%) trimmers closed  | canopy reopens without pilot input turning moderately (<60° until reopening), surging forward less than 60°, parachutal phase <3sec     |          |
| Sehr großes Spektrum der Reaktionen auf Klapper   |   |          |
| <b>15. test of symmetric collapse with trimmers open and eventual full use of speed system</b>                                  |   |          |
| execution   | without folding lines   | possible |
| behavior of the paraglider after symmetric collapse (min. 40%) trimmers closed  | paraglider can be stabilized by pilot within 3sec   |          |
| 0   |   |          |
| <b>16 test of behavior of the paraglider in spiral dive</b>   |   |          |
| behavior of the paraglider when entering the manoeuvre  | paraglider increases bank angle and sink rate continuously with increasing pull on the brake line                                       |          |
| tendency to finish the turn and to return to level flight when exiting the manoeuvre  | less than 720°, return to normal flight without pilot input   |          |
| behavior of the paraglider when exiting the manoeuvre   | paraglider returns to normal flight moderately after releasing the brakes. The resulting pendulum movements do not require pilot input. |          |
| <b>remarks</b>  |   |          |
| Seitliche Einklapper und frontale Einklapper wurden nicht in der Kombination von offenem Trimmer plus Fußbeschleuniger geprüft! |   |          |
| Symmetric and asymmetric collapses have not been tested in combination of open trimmers plus speedbar!                          |   |          |
|   |   |          |
|   |   |          |