


# FTR - Flight Test Report

Dieser Prüfbericht darf ohne schriftliche Zustimmung der EAPR nicht, auch nicht auszugsweise, vervielfältigt werden.

|              |   |                  |                      |
|--------------|---|------------------|----------------------|
| Manufacturer | <b>independence</b><br>gliders for real pilots<br>www.independence-gliders.de<br>Fly Market GmbH & Co. KG<br>Am Schönebach 3<br>D-87637 Eisenberg | Type testing No. | EAPR-GS-0147/14      |
| Model        | Cruiser 3 S   | serial number    | 2k13-cr-sample-135-s |
|              |   | Location         | Brauneck             |
|              |   |                  | Brauneck             |



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|                         |                     |  |                                  |
|-------------------------|---------------------|--|----------------------------------|
| Date of testing         | 25.02.2014          | Minimum take off weight<br>60 kg   | Maximum take off weight<br>85 kg |
| Testpilot               | Sepp Bauer          |  | Mike Küng                        |
| Harness                 | EAPR- Testequipment |  | EAPR-Testequipment               |
| Pilot's take off weight | 60 kg               |  | 85 kg                            |

|                |   |
|----------------|---|
| Classification | A |
|----------------|---|

| Test-criteria  | Minimum take off weight          | Evaluation | Maximum take off weight          | Evaluation |
|--|----------------------------------|------------|----------------------------------|------------|
| <b>1. Inflation / take-off - 4.1.1</b>   |                                  |            |                                  |            |
| Rising behavior  | Smooth, easy and constant rising | A          | Smooth, easy and constant rising | A          |
| Special take off technique required  | No                               | A          | No                               | A          |
| <b>2. Landing - 4.1.2</b>  |                                  |            |                                  |            |
| Special landing technique required   | No                               | A          | No                               | A          |
| <b>3. Speeds in straight flight - 4.1.3</b>                                    |                                  |            |                                  |            |
| Trim speed more than 30km/h  | Yes                              | A          | Yes                              | A          |
| Speed range using the controls larger than 10km/h                              | Yes                              | A          | Yes                              | A          |
| Minimum speed  | Less than 25 km/h                | A          | Less than 25 km/h                | A          |
| <b>4. Control movement - 4.1.4</b>   |                                  |            |                                  |            |
| Max. weight in flight up to 80kg   |                                  | -          |                                  | -          |
| Max. weight in flight 80 to 100kg  | Increasing > 60cm                | A          | Increasing > 60cm                | A          |
| Max. weight in flight greater than 100kg                                       |                                  | -          |                                  | -          |
| <b>5. Pitch stability exiting accelerated flight - 4.1.5</b>                   |                                  |            |                                  |            |
| Dive forward angle on exit   | Dive forward less than 30°       | A          | Dive forward less than 30°       | A          |
| Collapse occurs  | No                               | A          | No                               | A          |
| <b>6. Pitch stability operating controls during accelerated flight - 4.1.6</b> |                                  |            |                                  |            |
| Collapse occurs  | No                               | A          | No                               | A          |
| <b>7. Roll stability and damping - 4.1.7</b>                                   |                                  |            |                                  |            |
| Oscillations   | Reducing                         | A          | Reducing                         | A          |
| <b>8. Stability in gentle spirals - 4.1.8</b>                                  |                                  |            |                                  |            |
| Tendency to return to straight flight  | Spontaneous exit                 | A          | Spontaneous exit                 | A          |
| <b>9. Behaviour in a steeply banked turn - 4.1.9</b>                           |                                  |            |                                  |            |
| Sink rate after two turns  | 12m/s to 14m/s                   | A          | 12m/s to 14m/s                   | A          |
| <b>10. Symmetric front collapse - 4.1.10</b>                                   |                                  |            |                                  |            |
| Entry  | Rocking back less than 45°       | A          | Rocking back less than 45°       | A          |
| Recovery   | Spontaneous in less than 3 sec   | A          | Spontaneous in less than 3 sec   | A          |
| Dive forward angle on exit   | 0° - 30° Keeping course          | A          | 0° - 30° Keeping course          | A          |
| Cascade occurs   | No                               | A          | No                               | A          |
| Entry  | Rocking back less than 45°       | A          | Rocking back less than 45°       | A          |
| Recovery   | Spontaneous in less than 3 sec   | A          | Spontaneous in less than 3 sec   | A          |
| Dive forward angle on exit   | 0° - 30° Keeping course          | A          | 0° - 30° Keeping course          | A          |
| Cascade occurs   | No                               | A          | No                               | A          |
| <b>11. Exiting deep stall (parachutal stall) - 4.1.11</b>                      |                                  |            |                                  |            |

|  |  |   |                          |                    |           |   |                          |                    |          |   |
|--|--|---|--------------------------|--------------------|-----------|---|--------------------------|--------------------|----------|---|
| Deep stall achieved  |  | Yes   |                          | Yes                |           |   |                          |                    |          |   |
| Recovery   |  | Spontaneous in less than 3 sec                |                          | A                  |           | Spontaneous in less than 3 sec                |                          | A                  |          |   |
| Dive forward angle on exit   |  | 0° - 30°                                      |                          | A                  |           | 0° - 30°                                      |                          | A                  |          |   |
| Change of course   |  | Changing course less than 45°                 |                          | A                  |           | Changing course less than 45°                 |                          | A                  |          |   |
| Cascade occurs   |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 12. High angle of attack recovery - 4.1.12                                       |  |   |                          |                    |           |   |                          |                    |          |   |
| Recovery   |  | Spontaneous in less than 3 sec                |                          | A                  |           | Spontaneous in less than 3 sec                |                          | A                  |          |   |
| Cascade occurs   |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 13. Recovery from a developed full stall - 4.1.13                                |  |   |                          |                    |           |   |                          |                    |          |   |
| Dive forward angle on exit   |  | 0° - 30°                                      |                          | A                  |           | 0° - 30°                                      |                          | A                  |          |   |
| Collapse   |  | No collapse                                   |                          | A                  |           | No collapse                                   |                          | A                  |          |   |
| Cascade occurs (other than collapse)   |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| Rocking backward   |  | Less than 45°                                 |                          | A                  |           | Less than 45°                                 |                          | A                  |          |   |
| Line tension   |  | Most lines tight                              |                          | A                  |           | Most lines tight                              |                          | A                  |          |   |
| 14. Asymmetric collapse (trim speed) - 4.1.14                                    |  |   |                          |                    |           |   |                          |                    |          |   |
| Change of course until re-inflation  |  | trim speed,<br>max 50% collapse               | < 90°                    | Dive or roll angle | 0° - 15°  | A   | < 90°                    | Dive or roll angle | 0° - 15° | A |
| Re-inflation behavior  |  |   | Spontaneous re-inflation |                    |           | A   | Spontaneous re-inflation |                    |          | A |
| Total change of course   |  |   | Less than 360°           |                    |           | A   | Less than 360°           |                    |          | A |
| Collapse on the opposite side occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Twist occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Cascade occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Change of course until re-inflation  |  | trim speed,<br>max 75% collapse               | < 90°                    | Dive or roll angle | 15° - 45° | A   | 90° - 180°               | Dive or roll angle | 0° - 15° | A |
| Re-inflation behavior  |  |   | Spontaneous re-inflation |                    |           | A   | Spontaneous re-inflation |                    |          | A |
| Total change of course   |  |   | Less than 360°           |                    |           | A   | Less than 360°           |                    |          | A |
| Collapse on the opposite side occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Twist occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Cascade occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Change of course until re-inflation  |  | accelerated,<br>max 50% collapse              | < 90°                    | Dive or roll angle | 15° - 45° | A   | 90° - 180°               | Dive or roll angle | 0° - 15° | A |
| Re-inflation behavior  |  |   | Spontaneous re-inflation |                    |           | A   | Spontaneous re-inflation |                    |          | A |
| Total change of course   |  |   | Less than 360°           |                    |           | A   | Less than 360°           |                    |          | A |
| Collapse on the opposite side occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Twist occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Cascade occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Change of course until re-inflation  |  | accelerated,<br>max 75% collapse              | < 90°                    | Dive or roll angle | 15° - 45° | A   | 90° - 180°               | Dive or roll angle | 0° - 15° | A |
| Re-inflation behavior  |  |   | Spontaneous re-inflation |                    |           | A   | Spontaneous re-inflation |                    |          | A |
| Total change of course   |  |   | Less than 360°           |                    |           | A   | Less than 360°           |                    |          | A |
| Collapse on the opposite side occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Twist occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| Cascade occurs   |  |   | No                       |                    |           | A   | No                       |                    |          | A |
| 15. Directional control with a maintained asymmetric collapse - 4.1.15           |  |   |                          |                    |           |   |                          |                    |          |   |
| Able to keep course straight   |  | Yes   |                          | A                  |           | Yes   |                          | A                  |          |   |
| 180° turn away from the collapsed side possible in 10 sec                        |  | Yes   |                          | A                  |           | Yes   |                          | A                  |          |   |
| Amount of control range between turn and stall or spin                           |  | More than 50% of the symmetric control travel |                          | A                  |           | More than 50% of the symmetric control travel |                          | A                  |          |   |
| 16. Trim speed spin tendency - 4.1.16  |  |   |                          |                    |           |   |                          |                    |          |   |
| Spin occurs  |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 17. Low speed spin tendency - 4.1.17   |  |   |                          |                    |           |   |                          |                    |          |   |
| Spin occurs  |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 18. Recovery from a developed spin - 4.1.18                                      |  |   |                          |                    |           |   |                          |                    |          |   |
| Spin rotation angle after release  |  | Stops spinning in less than 90°               |                          | A                  |           | Stops spinning in less than 90°               |                          | A                  |          |   |
| Cascade occurs   |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 19. B-line-stall - 4.1.19  |  |   |                          |                    |           |   |                          |                    |          |   |
| Change of course before release  |  | Changing course less than 45°                 |                          | A                  |           | Changing course less than 45°                 |                          | A                  |          |   |
| Behaviour before release   |  | Remains stable with straight span             |                          | A                  |           | Remains stable with straight span             |                          | A                  |          |   |
| Recovery   |  | Spontaneous in less than 3 sec                |                          | A                  |           | Spontaneous in less than 3 sec                |                          | A                  |          |   |
| Dive forward angle on exit   |  | 0° - 30°                                      |                          | A                  |           | 0° - 30°                                      |                          | A                  |          |   |
| Cascade occurs   |  | No  |                          | A                  |           | No  |                          | A                  |          |   |
| 20. Big ears - 4.1.20  |  |   |                          |                    |           |   |                          |                    |          |   |
| Entry procedure  |  | Standard technique                            |                          | A                  |           | Special device required                       |                          | A                  |          |   |
| Behaviour during big ears  |  | Stable flight                                 |                          | A                  |           | Stable flight                                 |                          | A                  |          |   |
| Recovery   |  | Spontaneous in less than 3 sec                |                          | A                  |           | Spontaneous in less than 3 sec                |                          | A                  |          |   |
| Dive forward angle on exit   |  | 0° - 30°                                      |                          | A                  |           | 0° bis 30°                                    |                          | A                  |          |   |
| 21. Big Ears in accelerated flight - 4.1.21                                      |  |   |                          |                    |           |   |                          |                    |          |   |
| Entry procedure  |  | Standard technique                            |                          | A                  |           | Special device required                       |                          | A                  |          |   |
| Behaviour during big ears  |  | Stable flight                                 |                          | A                  |           | Stable flight                                 |                          | A                  |          |   |
| Recovery   |  | Spontaneous in less than 3 sec                |                          | A                  |           | Spontaneous in 3 to 5 sec                     |                          | A                  |          |   |
| Dive forward angle on exit   |  | 0° - 30°                                      |                          | A                  |           | 0° bis 30°                                    |                          | A                  |          |   |
| Behaviour immediately after releasing the accelerator while maintaining big ears |  | Stable flight                                 |                          | A                  |           | Stable flight                                 |                          | A                  |          |   |
| 22. Behaviour exiting a steep spiral - 4.1.22                                    |  |   |                          |                    |           |   |                          |                    |          |   |

|  |                                      |  |                                      |    |
|--|--------------------------------------|--|--------------------------------------|----|
| Tendency to return to straight flight  | Spontaneous exit                     | A  | Spontaneous exit                     | A  |
| Turn angle to recover normal flight  | Less than 720°, spontaneous recovery | A  | Less than 720°, spontaneous recovery | A  |
| <b>23. Alternative means of directional control - 4.1.23</b>                                       |                                      |  |                                      |    |
| 180° turn achievable in 20 sec   | Yes                                  | A  | Yes                                  | A  |
| Stall or spin occurs   | No                                   | A  | No                                   | A  |
| <b>24. Any other flight procedure and/or configuration described in the user's manual - 4.1.24</b> |                                      |  |                                      |    |
| Procedure works as described   |                                      | NA   |                                      | NA |
| Procedure suitable for novice pilots   |                                      | NA   |                                      | NA |
| Cascade occurs   |                                      | NA   |                                      | NA |
| <b>25. Remarks of testpilot:</b>   |                                      |  |                                      |    |
|  |                                      |  |                                      |    |
|  |                                      |  |                                      |    |
|  |                                      |  |                                      |    |
|  |                                      |  |                                      |    |
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