

# FTR - Flight Test Report

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

|                     |   |                         |                 |
|---------------------|---|-------------------------|-----------------|
| <b>Manufacturer</b> | <br>UP International<br>Kreuzeckbahnstraße 7<br>D-82462 Garmisch-Partenkirchen | <b>Type testing No.</b> | EAPR-GS-0586/17 |
|                     |   | <b>serial number</b>    | XXXX            |
| <b>Model</b>        | Trango X Race SM  | <b>Location</b>         | Achensee        |
| <b>Comment</b>      |   |                         |                 |



|                                |   |                                |       |                                |        |
|--------------------------------|---|--------------------------------|-------|--------------------------------|--------|
| <b>Date of testing</b>         | 30.09.2016  | <b>Minimum take off weight</b> | 78 kg | <b>Maximum take off weight</b> | 100 kg |
| <b>Testpilot</b>               | According to the flighttests from the 30th September 2016, the following results have been confirmed. |                                |       |                                |        |
| <b>Harness</b>                 |   |                                |       |                                |        |
| <b>Pilot's take off weight</b> |   |                                |       |                                |        |

|                       |   |
|-----------------------|---|
| <b>Classification</b> | C |
|-----------------------|---|



| Test-criteria  | Minimum take off weight                        | Evaluation                 | Maximum take off weight                        | Evaluation                    |   |   |
|--|--|----------------------------|--|-------------------------------|---|---|
| <b>1. Inflation / take-off - 4.4.1</b>   |  |                            |  |                               |   |   |
| Rising behavior  | Easy rising, some pilot correction is required | B                          | Easy rising, some pilot correction is required | B                             |   |   |
| Special take off technique required  | No   | A                          | No   | A                             |   |   |
| <b>2. Landing - 4.4.2</b>  |  |                            |  |                               |   |   |
| Special landing technique required   | No   | A                          | No   | A                             |   |   |
| <b>3. Speeds in straight flight - 4.4.3</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  | 25 km/h to 30 km/h                             | B                          | 25 km/h to 30 km/h                             | B                             |   |   |
| <b>4. Control movement - 4.4.4</b>   |  |                            |  |                               |   |   |
| Max. weight in flight up to 80kg   |  | -                          |  | -                             |   |   |
| Max. weight in flight 80 to 100kg  | Increasing 45cm - 60cm                         | C                          | Increasing 45cm - 60cm                         | C                             |   |   |
| Max. weight in flight greater than 100kg                                       |  | -                          |  | -                             |   |   |
| <b>5. Pitch stability exiting accelerated flight - 4.4.5</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 - 4.4.6</b> |  |                            |  |                               |   |   |
| Collapse occurs  | No   | A                          | No   | A                             |   |   |
| <b>7. Roll stability and damping - 4.4.7</b>                                   |  |                            |  |                               |   |   |
| Oscillations   | Reducing                                       | A                          | Reducing                                       | A                             |   |   |
| <b>8. Stability in gentle spirals - 4.4.8</b>                                  |  |                            |  |                               |   |   |
| Tendency to return to straight flight  | Spontaneous exit                               | A                          | Spontaneous exit                               | A                             |   |   |
| <b>9. Behaviour exiting a fully developed spiral dive - 4.4.9</b>              |  |                            |  |                               |   |   |
| Initial response of glider (first 180°)  | No immediate reaction                          | B                          | No immediate reaction                          | B                             |   |   |
| Tendency to return to straight flight  | Spontaneous exit                               | A                          | Spontaneous exit                               | A                             |   |   |
| Turn angle to recover normal flight  | 720° to 1080°, spontaneous recovery            | B                          | 720° to 1080°, spontaneous recovery            | B                             |   |   |
| <b>10. Symmetric front collapse - 4.4.10</b>                                   |  |                            |  |                               |   |   |
| Folding lines used   | No   |                            | No   |                               |   |   |
| Entry  | trim speed < 30%                               | Rocking back less than 45° | A  | Rocking back less than 45°    | A   |   |
|  |  | Recovery                   | Spontaneous in 3 to 5 sec                      | B                             | Spontaneous in 3 to 5 sec                   | B |
|  |  | Dive forward angle on exit | 0° - 30°   Entering a turn of less than 90°    | A                             | 30° - 60°   Keeping course                  | B |
|  |  | Cascade occurs             | No   | A                             | No  | A |
| Entry  | trim speed > 30%                               | Rocking back less than 45° | A  | Rocking back less than 45°    | A   |   |
|  |  | Recovery                   | Spontaneous in 3 to 5 sec                      | B                             | Spontaneous in 3 to 5 sec                   | B |
|  |  | Dive forward angle on exit | 30° - 60°   Entering a turn of less than 90°   | B                             | 0° - 30°   Keeping course                   | A |
|  |  | Cascade occurs             | No   | A                             | No  | A |
| Entry  | accelerated > 50%                              | Rocking back less than 45° | A  | Rocking back greater than 45° | C   |   |
|  |  | Recovery                   | Spontaneous in 3 to 5 sec                      | B                             | Spontaneous in 3 to 5 sec                   | B |
|  |  | Dive forward angle on exit | 30° - 60°   Entering a turn of 90° to 180°     | C                             | 0° - 30°   Entering a turn of less than 90° | A |
|  |  | Cascade occurs             | No   | A                             | No  | A |
| <b>11. Exiting deep stall (parachutal stall) - 4.4.11</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   | 30° - 60°                                      | B                          | 30° - 60°                                      | B                             |   |   |
| 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 - 4.4.12  |  |  |                    |           |    |  |                          |           |   |    |   |
|---|--|--|--------------------|-----------|----|--|--------------------------|-----------|---|----|---|
| 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 - 4.4.13   |  |  |                    |           |    |  |                          |           |   |    |   |
| Dive forward angle on exit  | 30° - 60°                                  |  |                    |           | B  | 30° - 60°  |                          |           |   | B  |   |
| 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) - 4.4.14   |  |  |                    |           |    |  |                          |           |   |    |   |
| Folding lines used  | No   |  |                    |           |    | No   |                          |           |   |    |   |
| Change of course until re-inflation   | trim speed,<br>max 50% collapse            | < 90°  | Dive or roll angle | 15° - 45° | A  | < 90°  | Dive or roll angle       | 15° - 45° | 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° - 180°   | Dive or roll angle | 15° - 45° | B  | < 90°  | Dive or roll angle       | 45° - 60° | C |    |   |
| Re-inflation behavior   |  | Inflates in less than 3 sec from start of pilot action |                    |           |    | C  | 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° - 180°   | Dive or roll angle | 15° - 45° | B  | < 90°  | Dive or roll angle       | 15° - 45° | 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° - 180°   | Dive or roll angle | 45° - 60° | C  | < 90°  | Dive or roll angle       | 45° - 60° | C |    |   |
| Re-inflation behavior   |  | Inflates in less than 3 sec from start of pilot action |                    |           |    | C  | 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 - 4.4.15                      |  |  |                    |           |    |  |                          |           |   |    |   |
| 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                                      | 25% to 50% of the symmetric control travel |  |                    |           | C  | 25% to 50% of the symmetric control travel                 |                          |           |   | C  |   |
| 16. Trim speed spin tendency - 4.4.16   |  |  |                    |           |    |  |                          |           |   |    |   |
| Spin occurs   | No   |  |                    |           | A  | No   |                          |           |   | A  |   |
| 17. Low speed spin tendency - 4.4.17  |  |  |                    |           |    |  |                          |           |   |    |   |
| Spin occurs   | No   |  |                    |           | A  | No   |                          |           |   | A  |   |
| 18. Recovery from a developed spin - 4.4.18   |  |  |                    |           |    |  |                          |           |   |    |   |
| Spin rotation angle after release   | Stops spinning in less than 90°            |  |                    |           | A  | Stops spinning in 90° to 180°                              |                          |           |   | C  |   |
| Cascade occurs  | No   |  |                    |           | A  | No   |                          |           |   | A  |   |
| 19. B-line-stall - 4.4.19   |  |  |                    |           |    |  |                          |           |   |    |   |
| Change of course before release   | Changing course less than 45°              |  |                    |           | A  | Changing course less than 45°                              |                          |           |   | A  |   |
| Behaviour before release  | Remains stable without straight span       |  |                    |           | C  | Remains stable without straight span                       |                          |           |   | C  |   |
| Recovery  | Spontaneous in less than 3 sec             |  |                    |           | A  | Spontaneous in 3 to 5 sec                                  |                          |           |   | B  |   |
| Dive forward angle on exit  | 30° - 60°                                  |  |                    |           | A  | 0° - 30°   |                          |           |   | A  |   |
| Cascade occurs  | No   |  |                    |           | A  | No   |                          |           |   | A  |   |
| 20. Big ears - 4.4.20   |  |  |                    |           |    |  |                          |           |   |    |   |
| Entry procedure   | Standard technique                         |  |                    |           | A  | Special device required                                    |                          |           |   | A  |   |
| Behaviour during big ears   | Stable flight                              |  |                    |           | A  | Stable flight  |                          |           |   | A  |   |
| Recovery  | Spontaneous in 3 to 5 sec                  |  |                    |           | B  | Recovery through pilot action in less than a further 3 sec |                          |           |   | B  |   |
| Dive forward angle on exit  | 0° - 30°                                   |  |                    |           | A  | 0° bis 30°   |                          |           |   | A  |   |
| 21. Big Ears in accelerated flight - 4.4.21   |  |  |                    |           |    |  |                          |           |   |    |   |
| Entry procedure   | Standard technique                         |  |                    |           | A  | Standard technique   |                          |           |   | A  |   |
| Behaviour during big ears   | Stable flight                              |  |                    |           | A  | Stable flight  |                          |           |   | A  |   |
| Recovery  | Spontaneous in 3 to 5 sec                  |  |                    |           | A  | Recovery through pilot action in less than a further 3 sec |                          |           |   | B  |   |
| 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  |   |
| 23. Alternative means of directional control - 4.4.22                                       |  |  |                    |           |    |  |                          |           |   |    |   |
| 180° turn achievable in 20 sec  | Yes  |  |                    |           | A  | Yes  |                          |           |   | A  |   |
| Stall or spin occurs  | No   |  |                    |           | A  | No   |                          |           |   | A  |   |
| 23. Any other flight procedure and/or configuration described in the user's manual - 4.4.23 |  |  |                    |           |    |  |                          |           |   |    |   |
| Procedure works as described  |  |  |                    |           | NA |  |                          |           |   | NA |   |
| Procedure suitable for novice pilots  |  |  |                    |           | NA |  |                          |           |   | NA |   |
| Cascade occurs  |  |  |                    |           | NA |  |                          |           |   | NA |   |
| 24. Remarks of testpilot:   |  |  |                    |           |    |  |                          |           |   |    |   |
|   |  |  |                    |           |    |  |                          |           |   |    |   |