



## **Altitude Limited Electric Soaring Rules:**

**Objective** - To provide a Man-On-Man (MOM), electric launched, thermal duration soaring event with a consistent launch altitude for all competitors.

- Any electric powered sailplane meeting the definition of an electric powered glider is permitted to fly in this event,
- Launches will be accomplished by the competitor's on-board electric power system and will begin within a starting launch window,
- The launching motor run will be limited by a 30 second timer or 200 meter launch altitude, whichever comes first. (A list of acceptable altimeter/timer switches is attached).
- The launch must be followed by pure gliding flight with no further motor assistance.
- Landing points will be added to the normalized flight score to determine the overall score

## **Thermal Duration Task**

- The task consists of a target time announced by the Contest Director (CD). 10 minutes is recommended. The CD may choose to change the target time based on local conditions,
- The flight is initiated with a 10 second launch buzzer. All pilots must launch their planes within the 10 second launch buzzer. A plane launched before or after the launch buzzer will receive 0 points for the round,
- Time will start when the model aircraft has left the hands of the competitor or helper. The model aircraft must leave the hands of the competitor or helper under the pull of the electric drive motor. The CD may allow a power-off launch for reasons of safety.
- No wing tip launches are allowed (discus, side-arm, etc.).
- At the end of the motor run (30 seconds or 200 meters whichever comes first), no other activation of the motor is permitted for the remainder of the flight,
- Time will end when the model touches the ground or any ground-based object,
- The flight will be scored at 1 point/second for each second up to and including the target time,
- For each second beyond the target time the score will be decreased by 1 point/second

## **Landing**

- The landing circle will consist of a 10 meter tape marked in 1 meter increments.
- The score will be graduated by 5 points per meter. Landing within 1 meter of the spot earns a score of 50 points. Landing beyond 10 meters from the spot earns a score of 0 points.
- Landing points will be measured from the center of the landing circle to the nose of the aircraft,
- No landing points will be given if the plane sustains significant damage during the landing and, in the opinion of the contest director or his designate, is not safely flyable.
- No landing points will be given if the model aircraft touches either the pilot or his helper during the landing.

## **Scoring**

- Time will be recorded by the timekeeper/helper and will be truncated for scoring purposes,
- Points are earned at the rate of +1 point/sec up to and including the target time and are reduced by -1 point/second beyond the target time (e.g. 600 possible points for a 10 minute target).
- The flight scores will be normalized by taking the ratio of the contestants score to that of the highest score for that flight group and multiplying by 1000.
- The contestant's final score will be the sum of the pilot's normalized flight score and the landing score.



## General Requirements

- Field boundaries will be established by the CD consistent with local terrain and good safety practices. An aircraft landing beyond the field boundaries will receive 0 points for the round. Any part of the aircraft touching the field boundaries will be considered in-bounds except that parts shed from the aircraft and landing within the field boundaries will not qualify as in-bounds.
- The competitor may use up to three model aircraft in the contest. The competitor may combine the parts of the model aircraft during the contest, provided the resulting model aircraft conforms to the rules and the parts have been checked before the start of the contest.
- Each pilot is allowed one timer/helper who may communicate with the pilot during the round. The timer/helper's responsibilities are to assure the safety of the flight and to record the time of flight and the landing bonus. The timer/helper may assist the pilot with launching, plane retrieval and advice (including time progression) that the pilot may request during the event.
- Any device for the transmission of information from the model aircraft to the pilot or timer/helper which would assist the pilot in finding, locating or centering on thermal or slope lift is prohibited.
- Any use of telecommunication devices in the field to communicate with competitors, their helpers or team managers while performing the competition task is prohibited.
- Definition of Electric Powered Model Glider:
  1. A model aircraft in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except control surfaces, which performs maneuvers controlled by the pilot on the ground, using radio control.
  2. Model aircraft with variable geometry or area must comply with the specification when the surfaces are in maximum and minimum extended mode.
  3. Maximum surface area - 150dm<sup>2</sup> (2325in<sup>2</sup>)
  4. Maximum flying weight - 5Kg (11.023lbs)
  5. Maximum surface loading - 75g/dm<sup>2</sup> (24.51oz/sqft)
  6. The power source shall consist of any kind of rechargeable batteries (or secondary cells). Mechanical or chemical modification of the individual cells, e.g. to reduce their weight, is not allowed, except that insulation sleeves of individual cells may be changed.
  7. Any type of electric motor, with or without a gearbox, may be used.
  8. Any device, fixed or retractable, intended to arrest the model aircraft on the ground during landing is prohibited.
- All ballast must be carried internally and fastened securely within the airframe.
- Batteries may be charged or changed at any time during the competition.
- Any device, other than the approved timer/altimeter, which is carried in or on the model and which enables total or partial independent control over the model, is prohibited.
- The competitor is entitled to a re-flight (or a new attempt) if he was hindered or aborted by an unexpected event not within his control.
- The CD may enforce a possible violation of the launch height by requiring that a contestant re-launch his plane with a self-contained altimeter to verify compliance with the launch target.

## Approved Timer/Altimeters

- Soaring Circuits CAM: <http://www.soaringcircuits.com/>
- RC Altimeter #2 BASIC: <http://www.rc-electronics.org/>
- F5X Altitude Limiter: <http://kenedycomposites.com/>