Altitude Limited Electric Soaring (ALES)
AMA Competition Rules 2013-2014
Event 631

The purpose of this category is to provide a Man-On-Man (MOM), electric launched, thermal duration soaring event with a consistent launch altitude for all competitors.

1. Any electric powered sailplane meeting the definition of an electric powered glider is permitted to fly in this event,

2. Launches will be accomplished by the competitor's on-board electric power system and will begin within a starting launch window,

3. The launching motor run will be limited by a 30 second timer or a designated launch altitude whichever comes first.

4. The designated launch altitude will be selected by the Contest Director and will be 200 meters (m), 150m or 100m.

5. The launch must be followed by pure gliding flight with no further motor assistance.

(X).1 General Specifications

1 Maximum surface area 2335 sq.in. (150 dm. sq.)

2. Maximum weight 11 pounds (5 kilograms)

3. Maximum surface loading 24.59 oz. per sq.ft. (75 gr/dm sq.)

4. Maximum battery voltage 42 volts

5. Model aircraft with variable geometry or area must comply with these specifications when the surfaces are in maximum and minimum extended mode.

6. Mechanical or chemical modification of the individual cells of a battery (e.g. to reduce their weight) is not allowed, except that insulation sleeves of individual cells may be changed.

7. Any device, fixed or retractable, intended to arrest the model aircraft on the ground, or which does arrest the model aircraft on the ground, during landing is prohibited.

8. No wing tip launches are allowed (discus, side-arm, etc.),

9. All ballast must be carried internally and fastened securely within the airframe.

(X).2 Altitude Limiters

All models must be fitted with an Altitude Limiter Switch (ALS) that will shut off the motor when it reaches the designated altitude above the ground. This device must also shut off the motor 30 seconds after launch if the designated altitude has not yet been reached.

1. The ALS must not be enclosed in any material other than that recommended by the manufacturer. It may not be positioned in any part of the model which could result in distortion of actual air pressure variations (e.g.–near forward facing air scoops or venting ports),

2. Models must include sufficient static venting to ensure that outside pressure is duplicated inside the model at the ALS location. In the event of a launch exceeding 10% of the designated launch altitude due to insufficient venting, the Contest Director may assign a score of zero to the violator for that round.

3. The Electronic Speed Control must always operate via its series connection to the ALS and not with direct connection to the receiver.

4. The connectors linking the ALS to the receiver shall be readily accessible so that a check altimeter with appropriate interconnection can be installed on demand by the Contest Director. Such check altimeter will serve to verify Start Height while retaining the normal operation of the competitor's own installation.

5. 'Zooming' is defined as using kinetic energy (speed) stored in the plane during the launch to exceed the designated launch height by more than 10%. Zooming will be considered in violation of the intent of the altitude limiter rule and the Contest Director may assign a score of zero to the violator for that round.

6. Any attempt to subvert the intent of this Altitude Limiter rule set is grounds for disqualification from the event as unsportsmanlike conduct.

(X).3 Task

1. 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. Target times ranging from 6 minutes up to 12 minutes are allowed for this event.

2. 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,

3. Launch direction will be determined by the CD or his/her designated Launch Supervisor. All pilots will launch in the direction specified.

Pilots may re-direct their flight path during launch provided this is done in a safe manner and does not interfere with the other launching pilots. A collision or other significant disturbance to another launching plane due to a pilot re-directing his flight path will result in 0 points for that pilot for that round,

4. 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. However, the motor must be started within the launch window time,

5. The launching motor run must be a single continuous event. No motor re-starts are allowed at any time during the launch. A motor re-start will receive 0 points for the round,