F1Q Electric Powered Free Flight

Drawn up in FF Technical meeting based on USA proposal

Q.1. **Definition**

Model aircraft which is powered by (an) electric motor(s) and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed in flight, except for changes of camber or incidence.

Q.2. **Characteristics**

Nickel Cadmium (NiCad), Nickel Metal Hydride (NiMH) and Lithium Ion/Polymer (Li) batteries can be used. Batteries should be wrapped in a transparent covering to allow their classification. The battery pack will power the motor(s) as well as the controller(s) if they are used.

Maximum weight of battery pack
(including connectors on the battery):..... 125g for NiCd or NiMH batteries
..... 90g for Li batteries

External Battery packs are required to have a safety tether to the fuselage.

Safety locks must be used to prevent unintentional restarting of motor(s) after motor(s) have been stopped.

Rule B.3.1. of Section 4b does not apply to class (No builder of the model requirement.)

Maximum duration of motor run ..... time to be specified by the organisers up to a maximum duration of 25 seconds from release of the model

Motor runs may be timed statically on the ground by timing the motor cutoff. The motor run will also be timed from the instant of launch until it becomes apparent from the model attitude that the motor has stopped. If the motor run cannot be determined by observation of the model in flight then the static ground run time is taken, if that had been demonstrated.

Q.3. **Number of Flights**

7.

Q.4. **Definition of an Official Flight**

a) The duration achieved on the first attempt unless this attempt is unsuccessful under the definition of Q.5. If the attempt is unsuccessful under the definition of Q.5.c and a second attempt is not made then the duration of this first attempt is recorded as the official flight time.
b) The duration achieved on the second attempt. If the second attempt is also unsuccessful under the definition of Q.5.a or Q.5.b, then a zero time is recorded for the flight.

Q.5. **Definition of an Unsuccessful Attempt**

An attempt is classed as unsuccessful if the model aircraft is launched and at least one of the following events occur. If this happens on the first attempt then the competitor is entitled to a second attempt.

a) the time of the motor run from the release of the model aircraft exceeds the time specified in Q.2 or Q.8.
b) when a part of the model becomes detached during the launch or during the flight.
c) the duration of the flight is less than 20 seconds and the flight was not terminated by dethermalising.

Q.6. **Repeat of an Attempt**

An attempt may be repeated when the model aircraft collides with another model in flight, or a person other than the competitor himself while being launched. Should the model aircraft continue its flight in a normal manner, the competitor may demand that the flight be accepted as an official flight, even if the demand is made at the end of the attempt.

Q.7. **Duration of Flights**

The maximum duration for each flight is specified by the organiser up to a duration of three minutes.

In the event of exceptional meteorological conditions or model aircraft recovery problems the Jury may permit the maximum for a round to be changed. Such a modified maximum must be announced before the start of the round.

Q.8. **Classification**

a) The total time for each competitor for each of the official flights defined in Q.3 is taken for the final classification.

b) In order to decide the individual placings when there is a tie, additional flights shall be made after the last flight of the event has been completed. The motor run allowed for the first of the deciding flights shall be 5 seconds shorter than that used in the runds. The motor run will be reduced further by 5 seconds for each subsequent flight, subject to a minimum run of 5 seconds. The maximum time for the deciding flights will remain at that defined in Q.7.

c) The organiser will establish a 10 minute period during which all fly-off competitors must launch their model. Within these 10 minutes the competitors will have the right to a second attempt in the case of an unsuccessful first attempt for an additional flight according to Q.5. Starting positions will be decided by draw for each fly-off.

d) The Jury may permit the maximum for a round to be changed and/or the motor run to be changed from that given under Q.8.b according to conditions.

e) The motor run and maximum must be announced before the start of the round.

Q.9. **Timing**

a) See Section 4b, para. B.11.

b) The timing of flights is limited to the durations specified in Q.7 and Q.8. The total flight time is taken from the launch of the model aircraft to the end of the flight.

c) The motor run must be timed by two timekeepers with quartz controlled electronic stopwatches with digital readout, recording to at least 1/100 of a second. The motor run is determined as the average of the two registered times, and this average is reduced to the nearest $1/10^{th}$ of a second below.

Q.10. **Number of Helpers**

The competitor is entitled to have one helper at the starting pole position.

Q.11. **Launching**

a) Launching is by hand, the competitor being on the ground (jumping allowed).

b) Each competitor must start and regulate the motor or motors and launch the model himself.

c) The model must be launched within approximately 5 m from the starting pole position.