



Academy of Model Aeronautics

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AMA Competition Regulations Rules Change Proposal Form

Please complete this form and click on the SUBMIT button at the bottom of the page. This will send the proposal to the Competition Department at AMA HQ. A copy will then be sent to the appropriate Contest Board Chairman. The current issue of the Competition Regulations must be referenced.

Proposal Number: RCA22-02

Received Date: 2/28/21

Revised Date:

Version Number:

Proposal Type:

Basic

Applicable Competition Regulations this proposal relates to:

RC Aerobatics

Give Brief Summary of the Proposed Change:

Change the current propulsion source limit to 51 volts for the propulsion circuit, to allow 12s battery usage.

State exact wording proposed for the Competition Regulations. List paragraph number where applicable. Example: Change "quote present rule book wording" to "exact wording required".

Radio Controlled Aerobatics 2020-2021

RADIO CONTROL PATTERN FOR EVENTS 401, 402, 403, 404, 406, 407.

4.1. Propulsion source limitations

Electrically-powered model aircraft are limited to a maximum of 51 volts for the propulsion circuit, measured prior to flight while the competitor is in the ready box. A tolerance of 1% will be allowed for possible inconsistencies in measurement instruments and measurement operator error for battery voltage.

**State logic behind proposed change, including alleged shortcoming of the present rule(s).
STATE INTENT FOR FUTURE REFERENCE:**

The current voltage limit of 45 volts depends upon a very limited range of battery availability,

specifically and practically, those of 5 or 10 cells. Of much greater popularity among AMA pilots are those of 6 cells, which can be paired allow a pilot to enter the sport without the necessity of purchasing all new batteries.

Further, safe operation of 51 volt aircraft has been widely demonstrated in AMA sport flying for many years now.

Further, other forms of Aerobatic Competition (eg.:IMAC) allows this voltage, and higher, for its aircraft.

Further, any adherence or compatibility with FAI Aerobatic competition equipment was abandoned when the 45 volt limit was adopted, in favor of the FAI limit of 42.56 volts.

Further, no obsolescence is necessitated by this change. It provides more options for pilot equipment if they choose

Further, much of the existing power circuit components are compatible with 51 volts

Further, competitive internal combustion engines in this category have no power source limits, creating a power source disadvantage for those who choose electric for unrelated reasons

Further, the effect of increasing voltage will have the effect of decreasing circuit current for the same power delivery. This effect will keep the systems cooler, safer, more efficient, and cause them to last longer

If this proposal is for a new event, include all event test data/information here. Please provide information on what testing of this new event has taken place to include number of participants and number of contests.

Social media polling shows a preference amongst aerobatic competitors to switch to 51 volt circuits, for performance equality, power source availability, and other reasons.

Specifications provided for complimentary equipment (ESC, motors, wires, etc.) have been examined and most equipment being used will accommodate an increase to 51 volts, while taking advantage of a lower required current to power the aircraft. However each pilot will need to determine this for him or her-self, just as they do now when selecting circuit componentry

State effect, if any, on current AMA records:

Note: The Contest Board Chairman may, in coordination with the submitter of the proposal, at any time prior to submitting a proposal to the contest board for Final Vote, edit proposal wording to increase clarity and to avoid ambiguity, provided the proposal intent is not changed.

Submitter Information:

AMA Number: 3010

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