

International Miniature Aerobatic Club

Request for Action

Exhibit A	
RFA # 200908-4 (assigned by Sec)	Postmark Date __8-25-09 (entered by Sec)
RFA Type: <input type="checkbox"/> IMAC Policy <input type="checkbox"/> IMAC By-Law <input checked="" type="checkbox"/> AMA Rule	
(attach additional pages if necessary)	
Brief Summary of RFA:	
<p>Given the innumerable recent discussions, including an RCP to increase Sound score K factors, I feel the time and climate is appropriate for considering equipment requirements / standards with respect to our sound footprint. If IMAC, as has recently been suggested, is sincerely interested in being the international leader in Scale Aerobatics, then we, as an organization must confront the fact that the current constitution of sound management is not effectively curtailing noise. As such, I suggest that we explore imposing equipment restrictions – any internal combustion engine with a displacement of 75cc or larger must utilize a canister muffler / tuned pipe exhaust system and 3 –blade propeller.</p>	
Reason/Logic for Request:	
<p>IMAC's current sound rule (Rule 5 General Aerobatics Rules) consists of a ground db test, and judge assigned sound scores for in-flight assessment. Both are inherently problematic.</p> <ol style="list-style-type: none"> 1) I have not been to a contest in recent years where a ground test was conducted. Contests have become better attended, the test slows the flight-lines, and I believe CDs are reluctant to confront those who may not pass the test. There is, I believe, a general attitude of complacency with respect to sound issues. 2) Ground tests do not accurately reflect in-flight noise. Ground tests prevent propellers from "unloading" as they do in the air, resulting in much lower tips speeds during ground tests. 3) People can (and did) cheat the ground tests by employing throttle mixes on switches, or simply not doing a full run-up. 4) Sound scores are inherently subjective – what's acceptable to one ear is loud to another. As such, far too many judges simply assign a common score across the entire class. 5) Sound scores, due to the inherent ambiguity of judging sound, carry the potential to be in instrument of bias more so than other scores with clearly measurable criteria. <p>For too long we have encouraged pilots to take responsibility for sound with only measured success. Many have taken the appropriate steps, and at considerable financial cost and performance cost. If this approach were universally embraced by all members we wouldn't have a problem. Unfortunately, when given leeway, there will always be a few who choose to stray beyond what is considered to be an acceptable norm. Naturally, that leaves them with a perceptible performance advantage which only encourages other to follow their example in order to not sacrifice performance. Specific requirements regarding props and mufflers would eliminate the human-nature factor that exists in current sound management procedures.</p> <p>Tuned pipes / canister mufflers and 3 blade props are a proven and effective way to reduce and manage sound. Furthermore, management of exhaust and prop noise will foster and enable efforts to recognize and tackle other elements of our equipment that generate noise, such as the intake, spinner, and</p>	

airframe.

Exact Wording (if Rule or By-Law RFA)

Eliminate current Section 5 – Scale Aerobatic Sound Limits from the General Rules.

Replace with: 5 - Aircraft Sound Management Requirements

5.1 – Exhaust Requirements: For noise abatement purposes, any aircraft powered by an internal combustion engine that has a total displacement of 75cc or greater must utilize an effective canister muffler or tuned pipe exhaust system. Aircraft powered by internal combustion engines less than 75cc in total displacement must, at minimum, utilize the engine manufacturer’s in-cowl mufflers or an available equivalent. Any aircraft not meeting these standards will not be permitted to fly.

5.2 – Propeller Requirements: For noise abatement purposes, any aircraft powered by an internal combustion engine that has a total displacement of 75cc or greater must utilize a three (3) blade propeller. Aircraft powered by internal combustion engines less than 75cc in total displacement may use two blade propellers. Any aircraft not meeting these standards will not be permitted to fly.

5.2.1 – Electric Powered Aircraft: At present, electric powered aircraft are not bound by specific propeller requirements. However, as these systems develop and become more cost effective / prevalent, propeller restrictions may be implemented based upon the power output (wattage) of the motor / speed control being used.

5.3 – Excessive Sound Warning: Any pilot who continually demonstrates a lack of flight control such that his / her sound footprint can be deemed excessive may be issued an Excessive Sound Warning by the judges. A pilot who receives two or more such warnings will be required to make equipment changes, and or flying-style changes, as well as receive clearance from the CD prior to completing any additional flights.

5.4 – Non-Compliant Equipment: A CD, at his/her discretion, may permit a non-complying aircraft to compete. However, any such aircraft will be subject to the following a sound penalty assessed to the pilot’s score prior to normalization for each sequence flown:

Basic	20 Points
Sportsman	40 Points
Intermediate	80 Points
Advanced	140 Points
Unlimited	220 Points

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