Model Processing Procedure at all MAASA Team Selection Events

- The tests will be conducted by 2 Committee Management Members, none of which should be a pilot.
- The Model processing will be conducted either the day before or the morning before the start of the Competition, and compulsory to all pilots participating in Team Selection to the World Championships.
- If a model has not been processed during the set time, the model will be disqualified from participation in the competition.
- All testing equipment will be setup out of the elements (any factors that may hamper with the testing equipment, i.e. Wind and rain), except for the noise test, which will be done on the runway, if deemed necessary.
- Any attempt to re-measure, must be done before the start of the competition.
- If no correction can or have been made, the contestant may still participate in the competition, but the results will not count toward Team Selection qualification.
- Random testing will be conducted during the course of the competition, where certain pilots will be selected to bring their aircraft to be re-measured.

TECHNICAL REGULATIONS FOR RADIO CONTROLLED CONTESTS

1. CLASS F3A – RC AEROBATIC AIRCRAFT

1.1. Definition of a Radio Controlled Aerobatic Aircraft

A model aircraft, but not a helicopter, which is aerodynamically manoeuvred in attitude, direction, and altitude by a pilot on the ground using radio control. Variable thrust direction of the propulsion device(s) is not allowed.

General Characteristics of Radio Controlled Aerobatic Model Aircraft shall be verified in processing procedures as per FAI Sporting Code, Section 4, Volume CIAM General Rules, for each participating model aircraft prior to a competition. Not permitted equipment must not be installed.

1.2. General Characteristics of Radio Controlled Aerobatic Models:

Classic Aerobatic Models

1.2.1 Any 60 size R.C. aerobatic design may be used up to before the 2x2 m rules (pre 1996).
1.2.2 Planes should be as faithful and accurate to original plane form as possible. Some minor changes are allowed:

1.2.2.1 Planes with tricycle under carriage (nose-wheel) can be converted to tail dragger.
1.2.2.2 The nose length or shape can be slightly changed to accommodate different power sources, as discussed in points 3-6 below.

1.2.2.3 On Electric-powered planes, the design can be modified to include a battery hatch.
1.2.2.4 Engines can be mounted in any position.

1.2.3 Any 2-stroke up to 75 size is allowed.

1.2.3.1 Tune pipes can be used up to 61/65 sizes motors only
1.2.3.2 75's must use standard silencers.
1.2.3.3 (The use of 75 size engines is to increase the pool of availability to use what pilots already have).

1.2.4 Any 4 stroke engine up to 95 size is allowed. Strictly no superchargers or air-chambers allowed.
1.2.5 Gas/Petrol engines up to 15cc may be used.
1.2.6 Electric motors can be used. Max 1400w, 6 cell Lithium Polymer. (No limit on battery capacity).
No down-line braking is allowed with electric powered models.
Electric planes are disliked by many of the purists but for many it's a necessity where urban noise restrictions are becoming problematic.
1.2.7 Retractable undercarriage is allowed
1.2.8 Absolutely no gyros, variable pitch propellers, pre-programmed snap or slow roll functions may be used.

MAASA Aerobatic Models

Maximum overall span 2000mm
Maximum overall length 2000mm
Maximum total weight, Electric powered models with batteries, Internal
Combustion powered models with completely filled fuel tank 5500g

a) A tolerance of 1% will be allowed for possible inconsistencies in measurement instruments for size, weight, and voltage unless otherwise stated.
b) Propulsion device limitations:
c) Furthermore, recognised 2x2 pattern airplanes will not be allowed to compete in the Sportsman class. The sportsman class is intended for pilots who wish to start competing with their existing Sport Aerobatic airplanes.
d) The weight and size limits for all other classes (above) will apply. Pilots who wish to start competing with 2x2 pattern planes can enter the Advanced class. The decision of the CD and/or jury panel will be final.

1.3 In instances where a CD may decide to allow a pilot to compete in the Sportsman class with a 2x2 pattern airplane, this will be noted in the competition results. Regardless of placing of such pilot in the competition, the results will not be recognised in the National Scoring Register.
1.4 No limits are placed on the size of the glow, gas or electric motor used in any of the above classes.
1.5 A tolerance of 1% to be allowed for all measurements referred to above in all the classes.
1.6 Any suitable propulsion device may be utilised. Propulsion devices that are not permitted are those requiring solid expendable propellants, gaseous fuels (at room temperature and atmospheric pressure), or liquefied gaseous fuels. Electric powered model aircraft are limited to a maximum of 42.56 volts for the propulsion circuit, measured offload, and prior to flight while the competitor is in the ready box.
1.7 The propulsion device(s) must automatically shut-off or fully idle at the moment an R/C signal failure occurs.
1.8 The maximum sound/noise level of the model aircraft and its propulsion device, shall be 94 dB(A) measured at 3m from the centre line of the model aircraft with the model aircraft placed on the ground over concrete, macadam, grass, or bare earth at the flight line. The test shall be carried out with a sound level meter (SLM) complying with IEC 61672 Class 2, or IEC 60651 Type 2.

1.9 The tolerance of the sound/noise level measurement is the specified tolerance of the manufacturer of the measuring instrument.

1.10 With the propulsion device running at full power, the measurement will be taken 90 degrees on the right-hand side, with the nose of the model aircraft pointing into the wind. The SLM microphone shall be placed on a stand 30cm above the ground in line with the propulsion device Other than the helper restraining the model aircraft, and the sound steward, no persons or sound/noise reflecting or sound absorbing objects shall be nearer than 3m to the model aircraft or the microphone. The sound/noise measurement shall be made only if a majority of the judges consider the in-flight sound level of the model aircraft to be too loud. Electric powered model aircraft must have installed the same batteries as during the flight with noise problems. Batteries must be recharged before the noise test. The sound test area must be located in a position that does not create a safety hazard to any person around. Noise measurements shall not be taken with wind readings taken over 30 sec of more than 5m/s. Gusts shall be avoided. Noise measurement equipment shall be made available during model processing should a pilot request a noise measurement to confirm that his models are within the regulations.

1.11 In the event of a model aircraft failing the sound/noise test, indication of the result or the reading shall be given to the competitor, and his team manager, and both the transmitter and the model aircraft shall be impounded by a flight line official immediately following the sound test. The competitor and his equipment shall remain under supervision of the flight line official while the propulsion battery is fully recharged. The model aircraft shall be re-tested under regular operational conditions within 90 minutes by a second noise steward using a second Sound Level Meter, and in the event that the model aircraft fails the re-test, the score for the preceding flight will be zeroed. The competitor may proceed in the competition with his reserve model aircraft. Should this model aircraft be considered to be noisy by the judges, the procedure is the same as explained above.

2. Radio Equipment:

All modern radio equipment's use telemetry and allow electronic feedback. Radio Telemetry data that are communicated to the pilot or the helper will only be permitted in competition for the purpose of model safety according to the stipulations in CIAM General Rules B.1.1.e)
Any telemetry communicated to the pilot or the helper for a competitive advantage is not allowed during competition. Telemetry data should not be used as a basis to request a reflight. Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited.

Radio equipment shall be of the open loop type (i.e. no electronic feedback from the model aircraft to the ground, except for the stipulations in the FAI volume ABR B.11.2). Auto-pilot control utilising inertia, gravity or any type of terrestrial reference is prohibited. Automatic control sequencing (preprogramming) or automatic control timing devices are prohibited.

Example:

Permitted:

a) Control rate devices that are manually switched by the pilot.
b) Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.
c) Manually operated switches or programmable options to couple and mix control functions.
d) Telemetry data which may be communicated to the pilot or the helper:
    - Receiver power supply voltage.
    - Radio link status or fail-safe activation.
    - Speech output for timer and safety warnings.

Not permitted:

a) Snap roll buttons with automatic timing mode.
b) Pre-programming devices to automatically perform a series of commands.
c) Any airborne device or function that has the ability to use sensors to actuate any control surface.
d) Automatic flight path guidance.
e) Auto-pilots (gyro) for automatic levelling or pitch control of the model.
f) Any receiver unit equipped with gyro functionality even if this functionality is disabled.
g) Propeller pitch change with automatic timing mode.
h) Any type of voice recognition system.
i) Any type of speech input.
j) Use of earphones for speech output
k) Conditions, switches, throttle curves, or any other mechanical or electronic device that will prevent or limit sound level of the propulsion device during the sound/noise test.
l) Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.
m) Telemetry data which are not allowed to be communicated to the pilot or the helper:
    - Airspeed, altitude or attitude data.
    - Position data such as GPS.
    - Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.
n) The use of Flight Coach devices are not allowed during competitions.

Model Processing

3.1 Model processing will be done at all Team selection, Provincial and National events. It is the competitor's responsibility to ensure that his model complies with the prescribed regulations. The organizers must make the measuring equipment available to the competitors before the start of the event for them to check that their models comply with the specifications.

3.2 The organiser must appoint official(s), who will randomly check the important characteristics of competing models during National, Provincial and Team selection events. This is applicable to all classes.

3.3 When, after official processing a model is damaged or does not conform to the official requirements, the competitor shall have the right to present a further model / or alter the model to meet the required specifications. In any event, the competitor may have only the eligible number of models (two) entered at the start of the contest and must be ready when called upon for his official flight.

4.4 An F3A competitor may only register two models for processing. Competitors may use another competitor's spare model in an emergency, provided it was processed. This model may not then be used by anyone else in the same competition. There is no limit on the amount of spare propellers, piston motors, electric motors, speed controllers or battery packs.

4.5 The letters and/or numbers identifying the model (ie. A or B) must be at least 10mm high and clearly visible. All model aircraft must be marked as processed before the contest and verified during model processing.

4.6 Each model used by F3A pilots at provincial, national and team selection events must also bear the nationality abbreviation of the competitors country (RSA) and these letters or figures must be at least 25 mm high and appear once on each model (preferably on the upper surface of the wing or fuselage). Traditionally competitors would follow the RSA number with their SAMAA number but this is no longer mandatory.

4.7 The maximum sound level of the model aircraft and its propulsion device, shall be 94 dB(A) measured at 3m from the centre line of the model aircraft with the model aircraft placed on the ground over concrete, macadam, grass, or bare earth at the flight line.

4.8 The tolerance of the sound/noise level measurement is the specified tolerance of the manufacturer of the measuring instrument.

4.9 Models will be processed in accordance with the latest procedure in the FAI Sporting Code.

Model Processing Procedure at all MAASA Team Selection Events

Name of Competition: _____ Date: _____

	Competitor Name	Class	SAMAA #	MAASA #	Model A / B	Weight	Length	Wingspan	Battery Voltage	Gyro Y/N	Flight coach Y/N	Random / Spot Check Y / N	Tested By	Competitor Signature
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														

Verified By: _____

Signature: _____