MAASA SPORTING CODE

Volume Novice - F3A
Radio Control Aerobatics
Effective Date: January 2012

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Abbreviations

Name	Reference
Contest Director	CD
Federation Aéronautique Internationale	FAI
Model Aerobatic Association of South Africa	MAASA
National Aero Club	NAC
Radio Control	R/C
Revolutions per minute	r.p.m
South African Model Aircraft Association	SAMAA

Applicable Documents

- FAI Sporting Code, Section 4, (as amended)
- MAASA Constitution

1 Introduction

1.1 The large majority of model flying today in most countries takes place as recreation rather than within a competition framework and sometimes on publicly accessible sites with little or no formal control. Any accident involving model aircraft may result in property damage, injury and possibly even death. Apart from the direct harm, a less obvious result is the poor image of model flying that comes from the media coverage of such incidents that leads to public antagonism and the loss of flying facilities.

1.2 It is of the utmost importance that all model flyers observe safety rules. Any accident caused by carelessness is a hindrance to the progress of model aviation. Safety rules are not an obstacle to the enjoyment of model flying, they help to prove that model flyers are the responsible citizens they proclaim to be.

1.3 It is not a sign of intelligence to show one's own skill among spectators. The flyer may know what he is doing but has no way of knowing what anyone else will do. So, it is to his personal benefit to make certain that no action on his part will result in an accident. It is therefore very important not to fly any model aircraft in competition or in the presence of spectators until it has been proved airworthy.

1.4 Any member called upon to fly demonstrations at a public event must ensure that the event has been sanctioned by SAMAA and that he holds the required proficiency rating to fly at such events.

1.5 At all MAASA sanctioned events each contestant shall sign as part of the entry form a declaration attesting to the fact the he/she has previously and is now capable of confidently performing the manoeuvres comprising his class. The contestant must similarly also declare that any or all aircraft he/she uses in said competition have been test flown at least to the extent that they have performed the same competitive manoeuvres.

1.6 The contestant must similarly also declare that he is a paid up members of both SAMAA and MAASA and will abide by the rules of these organisations. New members joining MAASA will not be allowed to participate at any league or provincial should their membership fees not be paid prior to their entry form being submitted.

1.7 The purpose of this sporting code is to guide competitors of aerobatic competitions in South Africa a give them a better understanding of what is required during competitions either from a competitor or organisers perspective.

1.9 Pilots in the F3A class, contest directors, jury members and judges are also referred to the following sections of the FAI Sporting Code:

- FAI Statutes,
- FAI Sporting Code, General Section and section 4
- FAI Bylaws

1.10 The use of "shall" and "must" implies that the aspect concerned is mandatory. The use of "should" implies a non-mandatory recommendation; "may" implies what is permitted or what might happen, and "will" indicates what is going to happen. Words of masculine gender should be taken as including the feminine gender unless the context indicates otherwise. Italics are used for explanatory notes.

1.11 The MAASA Management Committee reserves the right to amend this Sport Code, in line with its Constitution, in order to ensure the proper management of all MAASA management activities and competitions. Such amendments will come into effect on a date determined by the Management Committee.

2 Membership fees

2.1 Membership fees are determined at the Annual General Meeting of the organization held during the SA National's each year. Current members have to pay their membership fees by no later 31 January of each year (or the first MAASA league or provincial event depending on which date occurs first) and any member not in good standing at such date will not be allowed to participate in any league, provincial or national competition.

3 Permissible radio equipment

3.1 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 (pre-programming) or automatic control timing devices are prohibited.

3.2 Example: Permitted:

a) Control rate devices that are manually switched by the pilot.
b) Any type of button or lever control that is initiated and terminated by the pilot.
c) Manually operated switches to couple control functions.

3.3 Example: Not permitted:

a) Snap buttons with automatic timing mode.
b) Pre-programming devices to automatically perform a series of commands.
c) Auto-pilots (gyro) for automatic wing levelling.
d) Propeller pitch change with automatic timing mode.
e) Any type of voice recognition system.
f) Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.
g) Conditions, switches, throttle curves, or any other mechanical or electronic device that will prevent or limit the sound level of the propulsion device during the sound/noise test.

4 General characteristics of Radio Controlled Aerobatic Models

4.1 Definition of a Radio Controlled Aerobatic Power Model 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.

4.2 The propulsion device(s) must automatically shut-off, or fully idle at the moment a R/C signal failure should occur.

4.3 **Novice class**

Any suitable propulsion source may be utilised except those requiring solid expendable propellants, gaseous fuels (at room temperature and atmospheric pressure), or liquefied gaseous fuels. Any suitable aircraft may be used and no restriction applies to this class. Pilots competing in this class must be SAMAA members and MAASA membership is not compulsory. This schedule will be flown at club level and this class will not form part of the National Scoring System/Invite to Masters. Respective clubs may level an entry fee during league rounds and pilots competing in this class will be liable for such entry fee.

4.4 **Sportsman to F3A class**

Any suitable propulsion source may be utilised except 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 without load, and prior to flight while the competitor is in the ready box. Individual classes must conform to the following specifications:

- Maximum overall span 2000 mm
- Maximum overall length 2000 mm
- Maximum dry weight (F3A class, including batteries) 5000 grams
- Maximum dry weight (All other classes, including batteries) 5500 grams

4.5 No limits are placed on the size of the glow, gas or electric motor used in any of the above classes. The use of an electric motor will be constrained by the total dry weight limit placed on aircraft in the respective classes.

4.6 A tolerance of 1% to be allowed for all measurements referred to above in all the classes.

5 Contest organisation requirements

5.1 In order to run a successful competition, certain requirements have to be met. Organisers of an aerobatic event must secure a sufficient number of qualified officials, timekeepers and jury members present at all times during the duration of the competition event. Organisers must establish a suitable contest area allowing the full performance of the model aircraft and safe recovery. The organizer must provide a smooth area for models to facilitate take-offs and landings.

5.2 The contest organizers should provide the necessary measuring apparatus adequate to check the characteristics of model aircraft. All timekeeping should be made with quartz-controlled electronic stopwatches with digital readout. The organizer should where possible provide a spectrum analyser or other adequate radio monitoring equipment for the purpose of detecting radio interference and a means of communicating this information to the pilot(s) and/or flight line director. They should give the competitors an opportunity to determine the characteristics of their models using the official measuring equipment before the official start of the contest (normally on free practise day).

5.3 Entry details (entry form) indicating full details of the event and classes should be published at least 30 days prior to the contest (National and Provincial events). A Provincial contests will only be awarded official status if the following minimum requirements are met:

- The date of the contest must not clash with any other similar event and must be published at least 30 days prior to the contest.
- The entry fee must be approved by MAASA and published with the entry form.
- The names of the Judges must be submitted and approved by MAASA.
- The venue of the contest must be of an acceptable standard having regard to runways (smooth conditions), flight lines (position of sun), shelters from adverse weather conditions and sanitation facilities.
- The contest must be run in accordance with the current MAASA sporting code and FAI rules and any protest ruled accordingly.
- Competitors must be paid up members of SAMAA and MAASA.

5.4 The contest organizers must provide at least one practice day prior to the competition, to be announced in the entry form along with a flying schedule for the competition. Organisers need not regulate the practice day and will normally function on a first come first serve basis. Should demo flight be flown for judges on the practise day a second flight line or practise facility must be made available for use of the competitors. The practice day must not be extended so as to delay the start of official competition. A reserve day may be scheduled in the planning of the competition to allow for the completion of official flying in the event of weather or other delays preventing completion as scheduled.

5.5 Organisers must display the results of each round throughout the contest and publish the official results afterwards.

5.6 Each day, before the start of the competition, *at the discretion of the organizers*, all transmitters to be used during that day, must be handed in at transmitter control before the start of flying for the day. Transmitters must be impounded and kept under the supervision of a special official. This official will issue the transmitter to the competitor only when he is called to the ready box. Should there be a frequency clash, the effected competitor will be given 5 minutes to prepare and check his equipment before his official time for the round will start.

5.7 Using a frequency differing from that assigned by the organizer in the starting list, except if the contest director allows the change in advance, is considered unauthorized transmission and must be monitored by the transmitter control officer.

5.8 For non 2.4Ghz transmitters, the transmitter frequency must be displayed on the outside of the transmitter or plug-in module or frequency switch. Unless otherwise stated in the rules for a particular class the competitor is allowed only one frequency for the contest. In the case of proven interference the contest director may allot another single frequency.

5.9 As soon as the flight has ended, the competitor must immediately return his transmitter to the transmitter impound official. Any unauthorized transmissions during the period of the contest could result in automatic disqualification of the offender from the entire contest and render him liable to further penalties.

5.10 At the discretion of the organizers, transmitters on 2.4Ghz spread spectrum may be exempt from the impound requirements.

5.11 Any aerobatic contest must take place between the hours of sunrise and sunset. The contest programme including round durations, and starting and finishing times of the contest must be clearly indicated in the regulations.

5.12 The contest must be interrupted, or the start delayed by the organizers, due to any of the following conditions, subject to any FAI rule changes on the matter:

a) The wind is continuously stronger than 12 m/s measured at two metres above the ground at the starting line (flight line) for at least one minute (43,2 km/h or 23 knots).
b) The visibility prohibits proper observation or control of the models due to atmospheric conditions (low cloud base, mist, thunder and lightning) and it would be dangerous to continue the competition.
c) It is necessary to reposition the flight line (this may only take place between rounds).
d) The prevailing conditions are such that they may lead to unacceptable sporting results, and
e) The sun is moving or has moved into the manoeuvring area.

5.13 The CD may also suspend flying when in his/her opinion, flying has become unsafe due to wind, field conditions or other circumstances. Similarly a contestant may ask the CD for a flight delay or re-flight due to unsafe conditions referred to above, and if the majority of the judges/jury members agree, the delay may be granted. A flight delay or re-flight shall not be granted for equipment malfunctions.

5.14 In the event of an interruption during a round, the remainder of the round may be completed as soon as conditions allow, with adequate notice given to all competitors. If not possible to complete the interrupted round on the same day, the round must be completed the next day in its entirety, should the program allow for that. Otherwise the round will be cancelled in order to ensure a fair sporting result.

5.15 In the case of a mid-air collision between two contestants, the contestants must immediately recover their aircraft and they may resume their flights with the same aircraft if the aircraft are judged to be airworthy by the CD, or with a backup or repaired aircraft. They will begin the manoeuvre that was in progress or with the next scheduled manoeuvre if the collision occurred between manoeuvres.

5.16 Should a competition not be able to be started or completed as a result of any of the above cases described, and as a result has to be cancelled, the organisers are not obliged to return the entry fee nor repeat the contest. The results will be based on the scores of the finished rounds.

6 Model Processing

6.1 At events where models are tested, the processing of models and the facilities to perform the processing must be available to all competitors during the official practise day or on the morning preceding the official start of the competition. A competitor must be given reasonable opportunity to rectify any non-compliance and be reassessed before the official start of the competition.

6.2 The organiser must appoint officials, who will process at random the important model characteristics of at least 20% of competing models during National and Team selection events. This is applicable to all classes.

6.3 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.

6.4 A F3A competitor may only register two models for processing. Competitors may use another competitor's model in an emergency, provided it was processed. There is no limit on the amount of spare propellers, piston motors, electric motors, speed controllers or battery packs.

6.5 Each aircraft of F3A pilots (***if more than one aircraft was formally processed for a competition***) used in a team selection event must carry a model identification code ("A" or "B" letters and/or numbers) and this must be recorded on the model. The identification code is to appear on each part of the model aircraft (wing(s), tail, front and rear fuselage if detachable) so that the individual parts of a competitor's different models may be separately identified. This rule is subject to revision and the discretion of the CD.

6.6 The letters and/or numbers 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.

6.7 Each model used by F3A pilots at provincial, national and team selection events must also bear the nationality abbreviation of the competitors country (RSA), the National registration number of the competitor 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).

6.8 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.

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

6.10 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 Class 1 SLM (Sound Level Meter) 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 immediately prior to each flight. The sound test area must be located in a position that does not create a safety hazard to officials and other competitors.

6.11 According to paragraph 4.4, the voltage of the propulsion battery of electric powered models, is checked by an official in the preparation area before the starting time is started.

6.12 For electric powered models, the electric power circuit(s) must not be physically connected, before the starting time is started and must be physically disconnected right after landing.

6.13 The flight time will be interrupted while the sound/noise test at the flying site is being made. The competitor shall not be delayed more than 30 seconds for this sound test.

6.14 In the event of a model aircraft failing the sound/noise test, no indication of the result or the reading shall be given to the competitor, or his team, or the judges, and both the transmitter and the model aircraft shall be impounded by the flight line official immediately following the flight. No modification or adjustment to the model aircraft shall be permitted (other than refuelling or battery recharging). The competitor and his equipment shall remain under supervision of the flight line director while the propulsion battery must be fully recharged. The model aircraft shall be re-tested 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 shall be zero. The score for the flight may be tabulated but not made public until the result of the re-test is communicated to the tabulators.

6.15 The flight time of eight (8) minutes will be interrupted while the sound/noise test at the flying site is being made. The competitor shall not be delayed more than 30 seconds for the sound/noise test.

7 Start of an official round and allowed assistance

7.1 The competitors must be called by the flight line director at least five minutes before they are required to occupy the starting area (ready box). If his frequency is clear the competitor will be given his transmitter when he occupies the starting area so that he can perform a radio check. If there is a frequency conflict he must be allowed a maximum of one (1) minute for a radio check before the start of the two (2) minute starting time. The timekeeper (flight line director, judge or CD) will notify the competitor when the one (1) minute is finished and immediately start timing the starting time.

7.2 Each pilot is permitted one helper during the flight. A helper may be a caller, another competitor or any supporter. Two helpers may be present and assist during the starting of the motor(s). One person, either a helper or the caller, may place the model aircraft for take-off and retrieve the model aircraft following the landing. In exceptional circumstances, another helper may join the competitor and caller/helper during the flight, but only to hold a sun-shield as protection from direct sunlight. These protection devices must not interfere with the judges' vision of the manoeuvres. Except for communication between the caller and the competitor, no other performance-enhancing communication with helpers is permitted during the flight.

7.3 Pilots with physical impairments requiring an additional helper, caller or other assistance, must request permission with full details, with their entry form, from the organisers of a competition. The contest organisers may permit such assistance provided that:

- The pilot does not gain an unfair advantage over other competitors.
- This assistance does not cause undue delays, disruptions or interfere with the running of the contest.
- The pilot is responsible for arranging such assistance.
- For hearing impaired competitors the additional caller must not interfere with the judges' vision of the manoeuvres and the additional caller may only call out the manoeuvre to assist the pilot's main caller. Under no circumstances will the additional caller be allowed to call any manoeuvre corrections during the flight.

7.4 There is an attempt to start an official round in all classes when the competitor is given permission to start. If the model aircraft fails to start its *take-off run* (deliberate forward movement) within the 2 minutes allowed, the competitor *must be* instructed by the flight line director to immediately make room for the next competitor. If the motor/propulsion device fails after the take-off has begun, the attempt will be deemed complete and *no restart* will be allowed. The competitor must be instructed to immediately make room for the next competitor.

7.5 An attempt can be repeated at the contest director's discretion only when for any unforeseen reason outside the control of the competitor the model aircraft fails to start (e.g. there is radio interference). Similarly, in a flight that is interrupted by any circumstance beyond the control of the competitor, the competitor is entitled to a re-fly starting with the manoeuvre preceding the interruption but only the manoeuvre affected and the un-scored manoeuvres that follow will be judged.

7.6 There is an official flight when an attempt is made whatever the result. This re flight should take place within 30 minutes, in front of the same set of judges, or be the first flight after the judges' break, or, if it involves a protest, as soon as the jury has deliberated and communicated the outcome of the protest to the contest director. The result of the re flight will be final.

8 Scoring of an official flight

8.1 Each manoeuvre may be awarded marks, in whole number increments, between 10 and 0 by each of the judges during the flight. During tabulation, these marks are multiplied by a coefficient (K-factor), which depends on the difficulty of the manoeuvre. Any manoeuvre not completed, or flown out of sequence with the stated schedule shall be scored zero (0). Zero scores need not be unanimous, except in cases where an entirely wrong manoeuvre was performed.

8.2 Judges must confer after the flight in these cases, bringing it to the attention of the flight line director/contest director on site. Except for the Novice and Sportsman classes take-off and landing procedures are not judged and are not scored. Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason outside the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may set the "Not Observed" (N.O.) mark. In this case, the judges` mark(s) for that particular manoeuvre will be the average of the numerical marks given by the other judges, rounded up to the nearest whole number. If no such average is achievable, the competitor has the right for a re-flight as per 7.5

8.3 If a model aircraft is in the opinion of the judges unsafe or being flown in an unsafe or inappropriate manner, they may bring this to the attention of the flight line director, who may instruct the pilot to land.

8.4 At the conclusion of all F3A flights, each judge must independently consider if the in-flight noise/nuisance level of the model aircraft is too noisy/loud. If a majority of the judges consider the in-flight sound level of the model aircraft too noisy/loud, the flight score will be penalized by 10 points for each judge on that panel during the flight.

8.5 If, during a F3A flight, the sound level of the model aircraft increases perceptibly as a result of an equipment malfunction, or of a condition initiated by the competitor, the flight line director may request a sound re-test. If an equipment malfunction during the flight (like mechanical failure of the exhaust/muffler system) causes excessive noise, the flight line director may request the competitor to land his model aircraft, and scoring will cease from the point of malfunction. The individual manoeuvre scores given by each judge for each competitor must be made public at the end of each round of competition.

8.6 Take-off and landing shall be scored between 10 and 0 for the Novice and Sportsman Classes. For all other classes' takeoff and landing will ***not be judged or scored.*** Flying time in all classes will be eight (8) minutes starting from when the line director indicates to the pilot to start and ends when the last manoeuvre is completed.

8.7 Engines/motors may not be started, or the electric power source connected, until the competitor has been instructed by a flight line official to do so. Deliberate starts at the flight line during official flying to check the

engine/motor, will be subject to disqualification from that round. Immediately after landing engines must be stopped and electric power sources disconnected. No public address or commentary should be made during flights.

9 The Manoeuvring area (box)

9.1 It is imperative that all flying sites are registered with SAMAA, be situated sufficiently far from power lines and any other obstructions. The starting and flying area must be carefully chosen in such a way that adequate safety to persons and property is guaranteed. The points to be considered in this context are:

- wind strength and direction;
- relative position of buildings;
- runways;
- vehicle parking and spectators areas; and
- the area where the models are assumed to land after a normal flight, according to the wind.

9.2 Flying sites in the vicinity of an airport or airfield, especially along the landing path, can be chosen as contest venues only with the permission of the airport operator and in full compliance with its safety rules and requirements.

9.3 A demarcated box will be clearly marked with contrasting colour vertical poles, approximately 100 mm in diameter and a minimum height of 4 meters, placed on centre and 60 degrees each side of centre on a line 150 m in front of the pilots. Flags and/or streamers of contrasting colour should be mounted on the poles to improve visibility.

9.4 White or contrasting lines, originating at the pilot's position and extending outward at least 15m (preferably 50m) will also be used to mark the centre and extreme limits (60 degrees left and right of centre) of the manoeuvring zone. Audible and visual signals to indicate violations of the manoeuvring zone are not to be employed. The judges shall be seated not more than 10 meters behind (minimum of 7 meters) the pilot's position (the apex of the 60 degree lines) and within an area described by the extension of the 60 degree lines to the rear of the pilot. The judges must be seated abreast, usually separated by 2m with scribes or score secretaries separating them.

9.5 The manoeuvring zone is practically like a virtual screen, vertically spread in front of and at a distance of approximately 150m from the pilot. It is laterally limited by two virtual vertical planes above the extension of two lines on the ground each at an angle of 60 degrees left and right from the intersection of a centre with the security line. The centre line is positioned on the ground perpendicular to the security line on the ground being parallel to the flight line. The upper limit of the manoeuvring zone is defined by the virtual plane stretching up 60 degrees from the ground at the intersection of all ground lines. The pilot is normally placed at the intersection of all ground lines.

Centre manoeuvres should be performed in the centre of the manoeuvring zone, while turn around manoeuvres should not extend past the lateral limits. Vertical height should not exceed the upper limit. Also, manoeuvres should be performed at a distance of flight approximately 150m in front of the pilot`s position. Infractions of this rule will be cause for downgrading by

each judge individually and in proportion to the degree of infraction. Exceptions to this rule are for the horizontal circle manoeuvres, which, of necessity, may deviate from the 150m distance of flight.

9.6 The scores given by each judge for each competitor shall be made public at the end of each round of competition.

9.7 The landing zone ***must*** be a smooth surface with minimum criteria of 5 meters wide by 80 meters long and must have a smooth run-off area of at least two meters on each side, and ten meters at both ends of the runway.

9.8 The word "smooth surface" in respect off runways and run off areas means that the surface must be in such a condition that the aircraft may not be damaged or be deviated from its track during take off or landing due to the surface. On a tar or ground surface there may be not be any break up of the surface resulting in any potholes or any indentations that may cause a wheel spats or landing gear from getting imbedded or damaged. A tar or ground runway must be free of any lose stones or particles that could cause injury or damage to the plane if blown up by the propeller.

9.9 A grass runway must be of the same grass type with no exposed roots (tuffs) that could cause a landing gear or wheel spat from being imbedded or cause the aircraft to be damaged or be deviated from its track during take off or landing due to the surface. Grass must at all times be cut short.

9.10 The organisers of a competition must ensure that competitors can deliver his/her best performance without manageable influences/obstacles.

10 The draw for flight order

10.1 The draw will be done for each flight line, except when possible, frequency will not follow frequency, or pilots and their callers follow one another. Also pilots and callers on separate flight lines will be separated by at least two competitors. Organisers should were possible have competitors indicate on their entry forms who their respective callers are going to be.

10.2 The flight order for the first round will be established by a random draw. For flights two, three and four the flight order will start 1/4, 1/2 and 3/4 down the flight order respectively with decimal fractions rounded up. The same pilot may not start two rounds (unless of course only three pilots).

10.3 Warm-up flights to be flown by the last competitor drawn for the specific round. A maximum of two warm up flights are allowed for per class per contest should it be necessary. For the F3A class, the F Schedule warm-up flights will be flown by the two best pilots who did not make the F- Schedule cut off.

11 Execution of manoeuvres

11.1 The manoeuvres must be executed during an uninterrupted flight in the order in which they are listed. The competitor may make only one attempt at each manoeuvre during the flight. The competitor has two minutes to start the engine/motor and for the model aircraft to commence its take-off roll. The competitor (in all classes) has eight minutes to complete the flight, starting with the instruction to start the motor and ending after completion

of the last manoeuvre of the schedule. Scoring will cease with the expiration of the eight-minute time limit, except for the in-flight sound score, which is done after the flight is completed, irrespective of the time.

11.2 In all classes the model aircraft must take-off and land unassisted, that is, no hand launched flights or the aircraft restrained during take-off. If any part of the model aircraft is dropped during the flight, scoring will cease at that point and the model aircraft must be landed immediately.

11.3 If the model is touched after announcing "Take Off" in the Novice and Sportsman classes, a 1-point down grade will be awarded. Should the model be restrained during take-off, a score of zero will be awarded, unless local conditions require assisted take-off at the CD`s discretion.

12 Schedule of manoeuvres

12.1.1 The schedules for Novice to Masters classes will be those as published for the specific years by MAASA (refer to Appendix A). The applicable aerobatic schedules descriptions, ARESTI diagrams and score sheets can be found on the following MAASA website :
http://www.samaa.org.za/new_pages/aero.shtml.

13 Classification at Provincial and National Competitions

13.1 For all classes except F3A, each competitor will have four flights, with the best three counting to determine the placing.
In the F3A class, four P-Schedules will be flown of which the best 3 normalized scores will be used to determine the Prelim placings. The top 30% or a minumum of 6 South African pilots plus any qualifying visitors will fly another two rounds of the F Schedule. The normalized average of the Prelim scores plus the highest normalized F round score to count towards determining the final F3A Positions.
Each rounds score will be normalised to 1000 points as described below. Normalizing will be applicable to all Provincial and National contests.

PointSX= (SX/SW)*1000

PointSX = points awarded to competitor X
SX = score of competitor X
SW = score of winner of round.

13.2 Should organisers not be able to have four rounds completed during a contest, the following criteria will be applied.
All Classes except F3A:

- 4 rounds completed - best 3 scores to count
- 3 rounds completed - best 2 scores to count
- 2 rounds completed - best score to count
- 1 round completed - completed round to count

F3A Class

- Should all the prelim rounds be completed and only one F-Schedule round be flown, the average of the 3 normalized prelim rounds and the normalized F-schedule score will be used to determine the final placings.

- Should only Prelim rounds be flown, then the final placings will be determined using two times the average of the normalized prelim rounds scores i.e. a maximum off 2000 point.

14 Penalties and Disqualification

14.1 The CD of a sporting event may penalise a competitor and these penalties may be in the form of operational disadvantage, deduction of points, alteration of placing order or disqualification.

14.2 Technical infringements of rules or a failure to comply with the requirements caused by mistake or inadvertence, where no advantage has accrued or could have accrued to the competitor should, as a guide, carry a penalty to a reduction of not less than 2% of the best score obtained during the event.

14.3 Serious infringements, such as dangerous flying and actions, or repetition of lesser infringements should, as a guide carry a minimum penalty leading to a reduction of not less than 5% of the best score obtained during the event.

14.4 Cheating or unsporting behaviour (which includes continuous derogatory comments by fliers against judges and officials), falsification of documents, use of forbidden equipment should be investigated by the jury and carries a sanction of immediate disqualification from the event.

14.5 A competitor who has been disqualified shall not be able to claim back any part of his entry fee and will not be eligible for any prizes awarded during the event.

15 Protests

15.1 All protests must be presented in writing to the CD at the competition and must be accompanied by a protest fee. The protest fee will be an amount equal to ½ the entry fee for the relevant competition.

15.2 The deposit is returned only if the protest is upheld. The protest must be handed to the Contest Director and adjudicated by the official jury formed by the organisers prior to the start of the event. The jury may be made up as follows:

- Contest Director
- Member of the hosting club
- Chief Judge / Senior Judge in attendance
- Jury President

15.3 A protest against the validity of an entry, qualification of competitors, the contest rules, the flying and contest area, the processing of models, the judges or other contest officials, ***must*** be lodged at least one hour before the opening of the contest, normally the official pilots briefing, or within one (1) hour after it has come to the attention of the protestor.

15.4 During the running of the contest a protest against a decision of the judges or other contest officials or against an error or irregularity apparently committed during an event by another competitor or CD must be lodged within one hour from the incident, or within one hour of coming to the pilots attention.

15.5 After announcement of the results: any protest relating to the results must be submitted to MAASA within 15 days after announcement of the results. If necessary this protest may be passed to SAMAA

15.6 The Jury shall after deliberations notify the pilot immediately of the outcome of his protest and quote the reasons for the ruling or disqualification.

15.7 Should the jury be called upon to adjudicate any matter not dealt with in the sporting code or FAI rules, they should use their discretion in coming to an amicable solution. The finding of a jury in such an instance will not be binding on the jury of any future competitions.

15.8 A complaint may also be filed, the purpose being that a correction can be obtained without the need to make a formal protest.

16 Aerobatic League rules

16.1 An aerobatic league event is open to all fliers in the classes from Sportsman to F3A and all competitors must be paid up members of MAASA and SAMAA. The league is a series of aerobatic competitions in every province culminating in the South African Masters.

16.2 The league contests will be flown between January and a date of at least two weeks before the Masters Championships each year, with the exact dates determined by the provincial associations or regional delegates. These dates must be communicated to MAASA before the season commences.

16.3 The aerobatic league per province will consist of no more than four (4) league contests throughout the flying season. There shall be no more than one league competition per month. All provinces will be allowed one provincial contest per year and provincial contests are classified as one of the provinces league events. Pilots are allowed to fly any league contests in any province and use the scores so obtained for purposes of qualification to the SA Masters.

16.4 All league, provincial, and national events will be flown in terms of MAASA / SAMAA rules and regulations. Permission for league competitions to fall outside these specified periods must be obtained from MAASA. In the case of the competitions being rained out or cancelled due to adverse weather conditions, the organisers may re-schedule the event for a later date.

16.5 Every league competition will, where possible, consist of three (3) flights, with the best two scores to count as percentages. Where the league round coincides with a provincial competition, the organizers must also publish the scores in percentages for inclusion in the national MAASA data base.

16.6 The full results (percentage scores) of every league competition must be forwarded to MAASA secretary no later than 14 days after completion of the event for ratification and publication. Failure to forward score will result in non-recognition of the event.

16.7 At League events, F3A pilots may elect which schedules ("P" and /or "F") they want to fly and must make their preference known before the start of the contest.

- If four rounds are flown the best three rounds to count
- If three rounds are flown the best two rounds will count
- If two rounds are flown the best round will count
- If only one round can be completed, one round will count

17 Qualification for the SA Masters event

17.1 The Masters Qualification flying season will run from the first League event starting each calendar year until the last league event prior to the Masters Championships.

17.2 No scores achieved at any league or provincial events will be taken into consideration for qualification to the Masters and for F3A team qualification if a competitor was not in good standing and be a paid up member of MAASA for the duration of the flying season. Standing will not be granted retrospectively.

17.3 All provincial contests will be classified as league events and pilots are allowed to fly any league contests in any province. All provincial and league events will be flown in terms of MAASA / SAMAA rules and regulations.

17.4 In order to qualify for the Masters, pilots must have flown three (3) league events and must have obtained a score of at least 60% for three (3) of the contests (**not an average of 60%**).

17.5 All pilots complying with the above-criteria will qualify for the Masters Championships.

17.6 The Masters will be held in October (or another date if so decided by the Management Committee).

17.7 Pilots will compete in the highest class he/she qualified in during the flying season. Should a pilot have qualified for the SA Masters in a class, and was promoted to the next higher class during the flying season, he / she will have to compete in the SA Masters in the next higher class. In special cases, pilots may submit a request for an Invitation to the Masters Event, to the MAASA committee.

17.8 The MAASA committee retains the discretion (***in exceptional circumstances***) to invite any competitor should just cause be shown by a competitor in writing why the qualification criteria was not adhered to, i.e judges not been available, adverse weather conditions, illness or out of town work commitments during league rounds.

18 Promotion and Relegation procedures

18.1 Any pilot may start competitive aerobatics in the class of his/her choice. It is however advisable for the beginner or newcomer to start flying in the Sportsman class.

18.2 Pilots may promote themselves to the next higher class at any given stage within the flying calendar year (January to December). It is the pilot's responsibility to formally communicate their intentions to the MAASA Committee before competing in the next higher class.

18.3 Should a pilot win a National contest (Nationals and Masters), or obtain an average percentage of 60% or more for his/her three highest National, Provincial or League events in a given year, the pilot will be promoted to the next higher class at the start of the next flying season. This is not applicable to the Masters Class.

18.4 Any pilot who elects to promote himself must inform the MAASA committee in writing, stating the grounds for self-promotion, prior to his promotion, in order to have the relevant changes made to the National Scoring Register.

18.5 Should any pilot fail to achieve an average percentage score of 55% or more in 3 consecutive MAASA recognized Provincial or National championships within a period of 12 months, he will be relegated to the next lower class only. The committee will inform a pilot in writing in this regard. The pilot may thereafter be promoted again in line with paragraph 18.2 and 18.3.

18.6 If a pilot is able to prove inactivity of 2 calendar years or more from any form of R/C flying and wishes to again start flying competitive aerobatics, he may start at the next lower class than the one that he had retired from. Should a pilot prove inactivity from any form of R/C flying for a period of 5 years or more, he may start competing in the Sportsman class.

19 F3A Team Selection

19.1 The criterion for qualification for inclusion in the National Team is described in more detail in Appendix B. Some extracts are highlighted below.

19.2 Every competitor, team manager and assistant team manager entering an international contest must possess a valid FAI Sporting Licence. This Sporting Licence is issued by the NAC of the competitor, team manager or assistant team manager under the conditions of the General Section of the Sporting Code and must bear the national identification mark. Substitution of team members are permitted only up to the time of registration or prior to model processing, whichever comes first.

19.3 The national team shall consist of three Competitors (Senior or Junior), one Junior competitor and a Team Manager. The reigning World or Continental Champion has the right (subject to the approval of his National Aero Club) to participate in the next world or continental championships in that category regardless of whether he qualifies for the national team or not. If he is not a member of the national team, his score will not be considered in the team results. A Team can also consist of one competitor.

20 F3 Aerobatics Manoeuvre Execution Guide

The purpose of this section is to furnish the pilot with some understanding of what judges will be looking for during the performance of various aerobatic manoeuvres.

Refer to the MAASA website for Power Point presentations on judging.

Refer to Annex 7b, the Manoeuvre Execution Guide as detailed in the 2011 CIAM minutes.

21 Judging

21.1 Local Judges Selection Criteria

MAASA shall use the following guideline for selection, training and monitoring local judges:

a) The requirement for a judge shall be any individual above the age of 16 years who has an interest in radio controlled aerobatic competition flying.
b) Teaching shall consist of the following:
    a. Studying of the MAASA Sporting code.
    b. Studying of the FAI F3A Sporting code.
    c. Practical training by regional senior judge.
    d. Judging at league level Sportsman Class.
c) Qualifying shall be obtained by a written open book examination.
d) A once of payment, as defined at the annual MAASA AGM shall be made to place the judge on the MAASA members list. This is only applicable to non-flying judges.
e) Judges career categories shall be the following:
    a. Level 5 – Monthly/ League competitions
    b. Level 4 - Provincial Championship
    c. Level 3 - National Championship (Nationals/Masters)
    d. Level 2 - Any other open international championship
    e. Level 1 - World Championship or Continental Championship (Continental e.g. European Championship or Asian Oceanic Championship)

   Note: Judge shall be awarded the relevant level, if he has judged at the said level competition.
f) Judges consistency shall be monitored by the relevant programs/software as approved by MAASA.
g) A logbook shall be kept by all judges interested in achieving level 1 status for the purpose of submitting a judging CV.
h) A judges list and register shall be maintained on the MAASA website for control purposes.
i) Progression to next level shall be at the discretion of the MAASA chief judge and the MAASA committee.
j) During October of each year all judges interested in achieving level 1 status shall be requested to submit a judging CV to the MAASA committee who will consider the applications and submit the names to the FAI F3A chairman for inclusion into the FAI International judges list. A minimum active career of five years is recommended for this qualification.

21.2 International Judges Selection Criteria

The MAASA committee will use the following criteria to rank and nominate Judges to the World Championships organizing Committee / CIAM to enable them to make a suitable selection for the following World Championships.

a) Eligible judges should have judges at two of the three Team Selection events prior to World Champs.
b) Interpersonal Skills
c) Presentation skills and being well versed in PC based programs.
d) Consistency, Impartiality, Accuracy and Objectivity of judges based on the Judging analysis during the preceding year. (The Chief Judge to consolidate the information)
e) Level of pattern activity in the province where the judge resides.
f) If the judge has flown competitive aerobatics in the past and or at present will be to his/her advantage.
g) Judges are advised to maintain a judging register, which must be submitted to the MAASA committee.
h) A minimum active career of five years is recommended for this qualification.

22 Appendix A – 2012 to 2013 Aerobatic Schedules

Refer to the MAASA website for more details on the current schedules.
Refer to the CIAM Plenary Meeting Minutes, ANNEX 7a Issue 2, Minutes Item 11.6 I, F3A Aerobatics Volume – F3A Maneuvers Description & Diagrams for details.

Novice:(K14) This schedule is a non-turn around schedule. The Take-off and Landings manoeuvres are judged.
This schedule may be flown at club level and does not form part of the National Scoring System/Invitation the to Masters.

Sportsman:(K23) This schedule is a turn around schedule. The Take-off and Landing manoeuvres are judged. This schedule forms part of the National Scoring System.

Advanced:(K41) This schedule is a turn around schedule. The Take-off and Landing manoeuvres are not judged. This schedule forms part of the National Scoring System.

Masters:(K60) The FAI A12 Schedule will be flown in this class and forms part of the National Scoring System.

F3A: (K60 - P13 and K70 – F13) These schedules will be flown at all league, Provincial and National competitions.

23 Appendix B – 2013 F3A Team Selection Criteria

a) The team selection events shall be the 2012 NATS, 2012 Masters and the 2013 NATS

b) All team selection events will consist of four rounds of P13 and two F-13 rounds. The average of the best three normalised scores of the four P13 rounds will be used to determine the 30% (or top 6 South African pilots) that advance to fly the two F13 schedules. The final placings will be determined by adding the average of the three normalised P13 scores to the best normalised F13 score.

c) The best two of the three mentioned team selection events scores will count towards the final team selection.

d) The normalized scores for the Senior and Junior Team selection ranking will be tabulated separately to determine the Ranking for the Senior and the Junior members.

e) Pilots must have qualified for the 2012 Masters or be invited to the Masters by the MAASA committee (refer to paragraph 17.8), to remain part of the team selection process even though for some valid reason they were not able to participate in that event.

24 Appendix C – F3A Team Declaration

Model Aerobatic Association of South Africa

F3A DECLARATION/UNDERTAKING BY PILOTS AND TEAM MANAGERS

To be completed by members of MAASA who have participated in and completed the team selection process, or are qualified and experienced to manage and coach the team. A team will only be selected by the MAASA committee upon receipt of this declaration from every qualifying team member, within fourteen (14) days after the selection process has been completed. Final team ratification lies with the SIG and SAMAA committees.

1. I the undersigned herewith acknowledge and declare that I am qualified to be included in the next South African F3A Aerobatics team and that I have fulfilled/will fulfil the requirements listed below, that my selection is not automatic and that my performance warrants inclusion in the team. I further declare that:

   - I am a South African citizen and that I will have a valid SA passport ~~one~~ three (3) months before the departure of the team, and I am eligible for a visa from the host country.
   - That I am a paid up member in good standing of both MAASA and SAMAA, and will obtain a current FAI Sporting license.
   - I will be able to obtain at least ten (10) working days leave to attend the world championships.
   - I will be able to attend reasonable training/coaching sessions as determined by the Team Manager/Coach.
   - I will follow all reasonable guidelines and instructions issued by the Team Manager/Coach.
   - I understand that the overall team performance is paramount and takes precedence over any personal aims.
   - Any sponsorships or grants received, will be declared and if possible must be shared for the benefit of the team as a whole.
   - I will have all the required funds available to attend the world championships, inclusive of entry fees, even if no sponsorship or grants are obtained.
   - I will not hold MAASA, SAMAA or the Aero Club of South Africa responsible should the team be refused entry to or the World Championships is cancelled.
   - At all times I will conduct myself in a sporting manner and be a worthy representative for South Africa.

Name: ……

Address: ……..

Signature: ……Date: …….
(if minor(≤18 years) to be signed by parent or guardian)

25 Appendix D - Contest Organizer Checklist

The following issues should be considered to ensure the smooth running of a Contest.
First estimate the number of entries for the event and then plan accordingly. Calculate the time required to fly the required number of rounds making provision for regular breaks for the judges.

D1. Facilities and Equipment

1. Ensure accurately and clearly marked flight line(s) with centre and end box flag poles and flags.
2. Chairs and Umbrellas / Gazebos for judges
3. Demarcated Ready Boxes
4. Clipboards, Pens for judges
5. Stop watches
6. Score sheets all classes.
7. Appoint Scorekeeper, arrange for scoring program and scoreboard.
8. Catering Facilities
9. Refreshments for Judges, line directors, and jury.
10. Frequency Control (if required)
11. Shelter / Tent for pilots/planes.
12. Function hall for social functions, meetings and Prize giving.
13. Security
14. Toilets
15. Charging facilities (Optional)

D2. Officials

1. Appoint / Invite the required number of qualified judges/scribes for one or two flight lines. (Judging list and grading levels are available on the MAASA website.)
2. Appoint a Contest Director
3. Appoint Flight line Director(s)
4. Appoint Jury
5. Appoint Runners to collect the score sheets from the judges.

D3. Finance

1. Compile a Budget for the event.
2. Determine the cost of Officials – travelling, daily fee, refreshments and accommodation.
3. Determine Entry if it is different to the MAASA recommendation Fee.
4. Determine Protest fee.
5. Submit the budget to the MAASA committee for possible financial assistance.

D4. Model Processing

1. Calibrated scale with 5kg or 5.5kg reference mass.
2. a 2 Meter measuring device (F3A)
3. Sound measuring instrument/s.
4. Voltmeter.

D5. General

1. Register the event with SAMAA
2. Generate and Distribute the Entry Form for the contest.
3. Publish a list of available accommodation in the area.
4. Provide a list of available practice sites in the near vicinity.

5. Provide GPS Coordinates for Contest and Practice sites.
6. Trophies - Follow up that floating trophies are returned for the event.
7. Ensure report and photographs available within one week of event.

26 Appendix E – Official Coaching Guidelines

In order to ensure transparency and fair conduct, the following guidelines should be followed when "Officials" are tasked to do pilots training.

1. A pilot (here after referred to as the organiser) can approach an official for coaching at the pilot's club.

2. First preference for attendance of the coaching session can be given to the local club members.

3. The coaching session should cater for a minimum of 4 pilots.

4. Should there be less than 4 pilots attending from the local club then the extra slots can be filled with other pilots (non-club members).

5. If there are extra slots (less than 4 local pilots attending) the organiser of the coaching session will contact the Provincial Representative and request the representative to circulate the details of the coaching session indicating the number of "extra" slots available.

6. Pilots wanting to be coached should reply to the representative and the organiser. The available slots will be filled on a first confirmed basis.

7. Any pilots attending a coaching session at a club where they are not a member may need to pay a local landing fee as per the local club rules.

8. The coach will be reimbursed for expenses. All pilots participating will make a contribution to these costs.

9. The organiser will need to make all arrangements for the session including any approvals by the local club committee.

10. Should a pilot not be able to attend sessions arranged by other clubs then the onus is on that pilot to contact an official to arrange for a coaching session at his/her club whereby he/she can be guaranteed a slot, but the minimum of 4 slots must be adhered to.

27 Notes