

Model Gliding Association

Rule Book



2003

Introduction

Internationally, there is an organisation known as the Federation Aeronautique Internationale (FAI), which generates the rules and regulations of model flying. Yearly, these are ratified during an international conference and published in a detailed and voluminous document and is available to all, at a cost.

To facilitate modelers and clubs in South Africa a condensed version of the above rules are published herein. It is not the intention of this publication to address all the detailed aspects of competition flying but to provide a base line by which fair competition can be promoted within the country.

Every effort has been taken to address the vital aspects, however, should you discover omissions or would like to introduce a change, please be free to do so in writing. All correspondence should be sent to, The Chairman, Model Gliding Association (MGA).

Reading the Rules

To make the book smaller and easier to read all the common rules are covered within Chapter One (General Rules), which is mandatory reading. Should a dispute arise, first read the appropriate discipline and if it is not covered in that section, refer back to Chapter One. Still not finding a clear definition (rule), the Competition Director shall adjudicate the disputes in accordance with Chapter One. In the case of there being a discrepancy between FAI published rules and these, FAI rules will be deemed correct.

To avoid excessive repetition, any male gender-specific word or term is assumed to imply the female equivalent as well.

Acknowledgement

I would like to record my appreciation for the work done by John Lightfoot in driving the process of updating this Rule Book, as well as the efforts of the members of the MGA who handled specific disciplines allocated to them.

J. H. Coetzer
(Chairman) 1/12/2002

General Rules

Definition

- 1 Definition of a Radio Controlled Glider: An aeromodel without any propulsion device and which generates lift solely through aerodynamic forces acting on surfaces remaining fixed. Models with variable geometry or area must comply with the specification when the surfaces are in maximum and minimum mode. The model must be controlled by the pilot on the ground using radio control connection. Any variation of geometry or area must be actuated at distance by radio.

Model

- 2 Characteristics of Radio controlled Gliders;
 - a The mass of a model shall not exceed 5 kg.
 - b The wing area of a model shall not exceed 150 dm².
 - c The wing-loading of a model shall not be outside the range 12-75 g/dm².
 - d Minimum radius of fuselage nose 7,5 mm.
- 3 A competitor may add or remove ballast during a competition, but the total mass and the wing-loading of the model, including the ballast, shall not exceed the limits given above. All ballast must be carried internally and fastened securely within the airframe.
- 4 The competitor may use three models in a contest, unless otherwise stated for a particular event.
- 5 The competitor may combine the parts of the models during the contest, provided the resulting model used for flight, conforms to the rules and that the parts have been checked before the start of the contest.
- 6 No fixed or retractable arresting device (eg. bolt or saw-tooth-like protruberance) is allowed to slow down the model during landing. The towhook may not be wider than 5 mm, nor may it protrude more than 15 mm below the fuselage.

Radio

- 10 Models must be controlled by means of a radio that operates on one of the frequencies specified by SAMAA.
(See SAMAA Approved Frequencies).
- 11 The radio shall be able to operate simultaneously with other equipment at 10kHz spacing. Where the radio does not meet this requirement, the working bandwidth (max. 50 kHz), shall be specified by the competitor.
- 12 Any device for transmission of information from the model to the pilot is prohibited, except in F3H or Cross-Country flying.
- 13 Competitor (pilot), must operate his radio equipment personally. The competitor is disqualified if the model is controlled by anyone other than the competitor.

Site

- 14 Thermal contests shall be held on a site having reasonable level terrain which will minimise the possibility of slope and wave soaring.

Competition Director

- 16 Every competition shall be under the control of a Competition Director (CD). For a National competition the CD shall be approved by the Model Gliding Association committee, and should have a good working knowledge of the rules. He shall have a copy of the official rules of the competition immediately available.
- 17 The CD is responsible for ensuring that all matters relating to the competition are arranged and carried out in accordance with the relevant rules, and he shall adjudicate all disputes except for official protests, which shall be adjudicated by the jury. (See **Disputes And Jury** below).
- 18 The CD may delegate his responsibilities and authority in respect of any specific matter to another official.
- 19 The CD may, at his sole discretion, stop or suspend flying because of adverse conditions. e.g weather.
- 20 It is recommended that the CD establish in advance limits on wind speed for all usable wind directions and for each type of competition, based on knowledge of local conditions.

Safety

- 21 Models should be scrutinized by organizers before being allowed to make an official flight (and after any crash or heavy landing) and if, in opinion of the CD a model is not safe (for example, because of structural weakness or poor control linkages), it may be barred from flying until acceptable repairs or modifications have been completed.
- 22 If in the opinion of the CD, any competitor flies his model in a dangerous manner, the CD may order the competitor to land and disqualify him from the competition.

Launching

- 24 The launch of the glider may be by one of the following means:
 - a **Hand towing** — Line must not exceed 150m when tested under a tension of 2kg.
 - b **Electrical Powered Winch** — The line length must not exceed 400m, except for the F3H and F4C events in which case the line length must not exceed 600m. (See Winch Specifications).
 - c **Hand Operated Pulleys** — Must not exceed 150m when tested under a

tension of 2kg. One end of the towline must be attached to the ground during launch.

- d **Bungee** — 150m bungee unstretched and with maximum 50m extensible section. (eg surgical tubing)
 - e **By hand** — For Hand Launched Glider class.
- 25 Parachute/Pennant. The towline must be equipped with a pennant having a minimum area of 5dm². A parachute 5 dm² (minimum area), may be substituted for the pennant provided it is not attached to the model and remains inactive until the release of the cable.
- 26 All launching shall take place in an area as designated by the CD with provisions made for launching into the wind. Unless otherwise specified, all launches will be made with equipment approved by the organiser or CD.
- 27 Any model launched prior to the start of the group's working time must be landed as soon as possible and relaunched within the working time. Failure to comply will result in cancellation of the competitor's score for that round.
- 28 After release of the model from the towline, the tow-ring must be retrieved without delay by hand to the winch.

Power Winches

- 29 Winches shall be set up and remain in a launching area designated by the organizer.
- 30 Winches may be supplied by the organizer or may be supplied by the team.
- 31 Each team will provide and is responsible for its own line retrieval.
- 32 To prevent lines from fouling on the ground, immediately after release from the model, every towline must be wound down to turnaround. Failure to do so will allow the Contest Director to add/subtract a time penalty to the flight time, typically 5 minutes.
- 33 More than one team may share the use of the same winch
- 34 A power winch must not be operated when its towline is lying on the ground and across other towlines.
- 35 During complete rewinding of the line on the winch, the parachute must be removed or deactivated.
- 36 Upwind turn-around devices, which must be used, are limited to a maximum height of 500 mm, measured from the ground to the centre of the pulley. The distance to the turnaround shall not exceed the line lengths stipulated under Electrical Powered Winch, 24b above.
- 37 Release of the model must occur within approximately 3 m of the winch.

- 38 Overall construction of the winch shall be such as to guarantee that no part can detach during operation. The projection of any part of the winch during operation, leads to cancellation of the flight and no further attempt is permitted.

Landing

- 39 Before the contest commences, the CD shall allocate a landing circle to each competitor, normally decided by his/her flying order. It is the competitors responsibility to ensure that he/she always uses the correct circle for landing. The centre of the designated landing circle is referred to as the “spot”.
- 40 During the landing process only the pilot and his time keeper are allowed in the landing circle, with the exception of the following paragraph.
- 41 After landing, competitors may retrieve their models before the end of their working time providing that they do not impede other competitors or models in their group.

Scoring

Thermal Soaring

- 42 There are five types of scoring, depending on the event being flown — the exact calculations are discussed under the different disciplines.

Scores are allocated as follows —

- a **Duration** — One point is awarded for each full second from the time the model is free to the time the model comes to rest, up to a specified maximum. Points are deducted for each full second flown over the specified maximum.
- b **Landings** — Points are awarded for landing, depending on the distance from the spot. The distance is measured from the model’s nose to the spot. Landing within a 1m radius awards 100 points and every additional metre decreases the total by 5 points up to 15m which is equal to 30 points.
- c **Distance** — The pilot with the most laps wins and is awarded 1000 points. The rest of the group receive scores in proportion to their distances.
- d **Speed** — The pilot returning the fastest time receives 1000 points, the remainder in (inverse) proportion to their times.
- e **Scale** — A pilot is awarded two scores, one for static display and the other for his flying skill. The scoring is based on K-factors, a weighted number, which is allocated depending on the complexity and skill required to perform a given task.

Note: By definition, the Distance and Speed course is demarcated by two bases, A and B, set at a distance of 150m apart. Flying from A to B or B to A is referred to as a lap.

Slope Soaring

43. Slope Soaring has four main events which require scoring and are scored according to the last two methods discussed above with minor modifications to suit the slope. They are —
- a **Aerobatics**
 - b **Scale** (PSS and Glider)
 - c **Speed** (Time Trials)
 - d **Pylon Racing.**
- 44 The order of priority of the events at a National Slope Championship will be decided by the Contest Director. The organizers should make every effort to ensure that, if the weather conditions should deteriorate and the time available seems likely to be insufficient to complete the full schedule of rounds for each event, the use of the available time is progressively shifted toward the higher priority events.

Definition of an Attempt and an Official Flight

- 45 An attempt starts when the model is released from the hands of the competitor or his helper(s), under the tension of the tow line or if F3E, with motor running.
- 46 The competitor is entitled to a new working time period at the end of the task if —
- a His model or launching cable, whilst attached to the model, collides with another model in flight, with a person while being launched or strikes another launching cable. Should the flight continue in a normal manner, the competitor may demand that the flight be accepted as official, even if the demand is made at the end of the flight.
 - b The flight has not been judged by the fault of judges or time-keepers.
 - c In the case of an unexpected event (outside of competitor's control) duly witnessed by the official judges or time keepers, the flight has been hindered or aborted.
 - d The pilot can prove that he was unable to perform a flight due to outside interference.
- 47 In such cases the flight may be repeated at any time decided by the CD.
- 48 A midair collision entitles a pilot to a reflight. A different model may be used.
- 49 Official flight. The official flight is the last flight performed during the working time.

Cancellation of a Flight and/or Disqualification

- 50 The flight is cancelled and a zero score recorded if the competitor used a model or a line or launching device not conforming with above specifications. In case of intentional or flagrant violation of the rules, in the judgment of the CD, the competitor may be disqualified.

- 51 The flight in progress is annulled and a zero score recorded if the model loses any part during the launch or the flight, except where this occurs as the result of a mid-air collision with another model or tow line. The losing of a part during landing (i.e. in the contact with the ground), is not taken into account.
- 52 If the model touches either the pilot or his helpers during landing manoeuvres, no landing points will be given.
- 53 The flight is cancelled and recorded as zero score if, during the landing, some part of the model does not come to rest within 100 m measured from the centre of the competitor's designated landing circle.

Disputes and Jury

- 54 A jury of three independent and competent persons shall be appointed for a National competition.
- 55 Any competitor may lodge a protest, which must be accompanied by the deposit specified by the organizing body for the event.
- 56 The jury shall adjudicate the dispute, and if the protest is upheld, the deposit shall be returned.
If the protest is rejected, the deposit shall be paid to the organizing body.
- 57 Any protest must be lodged within an hour of the completion of the round of competition to which it relates, but if the round is the last event of that day, and if the competition is due to continue on the next day, the protest may be lodged within one hour of the official starting time on the following day.
- 58 The decision of the jury on any matter shall be final.

Organisation of Contests

Transmitter Control

- 59 The CD will not start the contest until all competitors have handed over ALL transmitters to the organisers.
- 60 All transmitters to be used during the contest must be checked and placed in a compound kept under observation of a special official. The official will issue the transmitter to the competitors only at the beginning of their preparation time.
- 61 During the whole preparation time the officials will watch the competitors to prevent their switching on the transmitters before the preceding competitors have finished their flights. As soon as the flight has ended the competitor must immediately return his transmitter to the official at the transmitter compound.
- 62 All unauthorized transmissions during the contest will result in automatic disqualification of the offender from the entire contest, and render him liable to further penalties.

- 63 The organiser must endeavor to provide a radio monitor for the purpose of detecting possible interferences.

Obstacles

- 64 Sighting apparatus, winches or any device constituting an obstacle, should be placed on base A and base B, a minimum distance of 3 metres from the safety line for Task C, and a minimum distance of 13 metres from the centre line for Task B. Apparatus for judging the safety line in Task C shall be placed a minimum distance of 5 metres from base A or B outside the course.

Organisation of the Flying

Flying Order

- 65 The flying order for the qualifying rounds shall be arranged by the organizing body in accordance with the transmitter frequencies in use to permit as many simultaneous flights as possible. The draw is organised in such a way that, as far as possible, there are no competitors of the same Nation/Club in the same group.
- 66 The flying order shall be determined by a matrix system which minimizes situations where competitors fly together more than once.
- 67 Late entry to the contest shall only be accepted if a vacant position is available in the matrix.
- 68 A contest number, derived from the matrix, shall be allocated to each competitor and shall be retained throughout the qualifying rounds.
- 69 A minimum of 4 and preferably 8 or 10 competitors should be scheduled in each group.

Flying in Groups

- 70 Competitors are entitled to a preparation time period before the starter gives the order to count off the working time.
- 71 The working time allowed to each competitor in a group is as determined in the discipline being flown.
- 72 The CD shall indicate very positively the start of the group's working time, both audibly and visibly.
- 73 A warning of impending end of working time will be given. This should be a audible and/or visible signal.
- 74 The end of the group's working time shall be very positively indicated by the CD both audibly and visibly, as for the start.
- 75 Any model airborne at the end of the working time must land as soon as possible.

Organizer Responsibility

- 76 It is the responsibility of the organisers to;
- a Provide sufficient personnel to ensure that all rules are observed and that the correct distances are measured.
 - b Control all frequencies assigned to the competing teams to ensure that each team has a clear frequency.
 - c Ensure that contest notices contain a description of the launching equipment to be available and its general capabilities.
 - d For F3H events, provide at least one month prior to the start of the event, a map to each team describing the course area and pertinent features.

Advisory Information

Organisational Requirements

- 77 The organisers should ensure that each competitor has no doubt about the precise second that the group's working time starts and finishes.
- 78 Visual indication may be by the raising of a flag, coloured board or flashing lights situated near the contest control.
- 79 Audible indication may be by automobile horn, bell or by public address system etc. It should be remembered that sound does not travel far against the wind, therefore the positioning of the noise source should be given some thought.
- 80 To be a fair contest, the minimum number of flyers in any one group is three. As the contest proceeds, some competitors may be obliged to drop out for various reasons. When a group occurs with three (or fewer), competitors in it, the organisers should move up a competitor from a later group, ensuring, if possible, that he/she has not flown against any of the others in previous round and of course that his/her transmitter frequency is compatible.

Time-keepers' Duties

- 81 Organisers should make sure that all who are to act as time-keepers are fully aware of just how important their duties are and to make certain that they are conversant with the rules, particularly those that require quick positive action in order not to jeopardize a competitor's chances in the contest.
- 82 Each Pilot shall be responsible for returning his the transmitter to transmitter control, and for handing in his score sheet, as soon as possible after the end of the flight.
- 83 The organisers should ensure that an official is nominated to note any competitor who overflies the end of the group's working time and to time his/her excess flight time.

General

Model Gliding Association (MGA)

84 Model Gliding in South Africa is managed under the auspices of SAMAA by the Model Gliding Association which has a representative for each discipline. All queries regarding gliding should be addressed to the Chairman or Secretary of the MGA.

SA Records

85 All SA gliding records are registered by the MGA.

National Contests

86 For a contest to be adjudged a National Contest, there must be a minimum of 5 competitors in a particular class. In the year preceding the National Contest there will be at least 3 contests held to a similar format, each with a minimum of 5 entries.