

NZMAA FLYING RULES
Section 1: General Competition Rules
Updates and Alterations

Date	Paragraph	Change
April 06	4.2.2	Two paras, same number, corrected
April 06	4.2.3	Nats Manager changed to Comp Manager
April 06	3.2	CD may vary contest rules
April 06	3.2.4	Unofficial classes clarified.
May 06	10.2	Deleted – refer to Soaring CoP
	2.1/2.2	Definition changed
	4.1 – 4.6	International visitors added – Paras renumbered
	4.2.1	Corrected to align with 3.2
	11.1	Correction to volume numbers

NZMAA FLYING RULES

Section 1: General Competition Rules

1. JURISDICTION

1.1 International Control of Competitions

The Federation Aeronautique Internationale (FAI) is the sole international authority entitled to make and enforce rules and regulations for the encouragement and control of aircraft competitions (including records) and is the final international Court of Appeal for the settlement of disputes arising therefrom.

1.2 National Control of Competitions

The Royal New Zealand Aero Club, being a member of the FAI and the 'Recognised National Aero Club' of New Zealand, is bound by Statutes and the International Sporting Code of the FAI, and has the sole right to administer the Code and to draw up and administer rules for the control of, and to control, the sport of aviation throughout New Zealand

1.3 Delegation of Control of the Sport of Model Flying

The Royal New Zealand Aero Club has delegated its control of the sport of model flying to the New Zealand Model Aeronautical Association Incorporated (NZMAA).

1.4 NZMAA Flying Rules

The NZMAA Council of Management has prepared these rules in conjunction with their appointed Special Interest Groups. The interpretation of the rules or any that may hereafter be issued shall rest entirely with Council or their appointees. The Council reserves the right to add to, amend, or omit any of the rules they think fit at any time.

2. MODEL SPECIFICATIONS

Note: These Specifications are applicable to Contest and non-Contest model aircraft.

2.1. Definition of Model Aircraft

2.1.1 Heavier-than-air aircraft which are not capable of carrying a human being and which weigh no more than 25kg and are operated purely for sporting purposes.

2.1.2 A separate category of 'pilotless aircraft' that weigh more than 25kg but no more than 100kg may be operated as model aircraft through special approvals obtained by NZMAA from CAA.

2.1.3 There are no other restrictions on dimensions or propulsion systems except those specified for particular competition and record classes

2.2 The following three items refer specifically to FAI competition classes and FAI record classes

(a) Maximum loading 250 g/dm².

(b) Noise limit of 96 dB(A) at 3 metres for any FAI category which does not have approval for any other noise rule.

(c) For Electric Motors, the maximum no-load voltage of the power source is 42 volts..

2.3 Motive Power

All types of motive power are permitted with the following limitations:

- 2.3.1 Extensible motors. Motor in which the power is obtained by the torsion or extension of strands of an elastic material.
- 2.3.2 Mechanical motors. Motors in which the motive force is obtained by combustion or expansion of gases acting on one or more reciprocating or rotary pistons or by the action of electromotive forces.

3. CONTEST ORGANISATION:

3.1. Contest Director

The Contest Director will be the on-field manager of a particular contest, responsible for the fair and efficient running of the contest. At club level, the Contest Director will normally be the Club Captain.

3.2. Rules and Regulations

- 3.2.1 The organising body must make available all rules and regulations pertaining to the contest at the contest.
- 3.2.2 Special rules may be issued prior to the commencement of the contest as long as these special rules have been published along with the announcement of the contest in the "NZ Model Flier's World".
- 3.2.3 In exceptional circumstances on-field changes to the rules may be made at the CD's discretion, where on other alternative is available that allows the competition to adhere to the rules. These changes must be duly notified and clearly explained at a competitors briefly to be called before the change is implemented. Exceptional circumstances may include, but not be limited to, the following; Safety Issues, Environmental Hazards, Site Restrictions, or Adverse Weather conditions. *In the event of changes to the Maximum flight times no records will be recognized for events flown to a reduced maximum.*
- 3.2.4 a) A class that is not an approved class may only be flown at the Nats and in the NDC programme if the rules for that class are published in, or before, the July issue of the MFW. And published on the SIG's page on the NZMAA website.

b) A class that is not an approved class may only be flown at a Nationals and in the NDC for 2 years provided that the rules are presented as a remit to the AGM in the 2nd year. This may be extended to three years if the remit fails when first presented. But it must also be remitted at the SIG AGM in year 3.

Nb. An approved class is an FAI class or a class that has been remitted through the correct procedure and approved by vote at a SIG AGM.

3.3. Processing of Models

Contest organisers are responsible for measuring models to check compliance with specifications. Where rules call for areas to be checked, the competitor may be required to supply templates on card or stiff paper to verify areas. Should a model checked during or at the end of a contest be found not to comply with specifications, the competitor will be disqualified without right of appeal.

3.4. Hours of Contest

The hours of opening and closing a contest must be posted prior to the contest and must be displayed on the ground where the contest is held. The organisers must announce the start and finish of the contest one quarter of an hour before the times laid down.

3.5. Championship Awards

3.5.1. Championship awards at National Championships are recognised for winners and runners-up in various categories and Championship classes.

(a) Awards may be made to individuals in the following categories:

- Radio Control
- Free Flight
- Scale
- Control Line

Note: Each Official event will be assigned to one only of the above categories.

(b) Overall Championship classes are:

- Open Champion of Champions
- Junior Champion of Champions
- Open Champion Modeller
- Junior Champion Modeller
- Ladies Champion Modeller
- Champion Club

3.5.2. Champions of Champions are determined by summing the championship points from the contestant's best three results from official events in each of the categories in (a) above.

3.5.3. Champion Modellers are determined by summing the contestant's championship points from *all* official events.

3.5.4. Champion Club is determined by summing championship points from all club members' results in all official events.

3.5.5. Championship points will be awarded on the basis of 25 points for first place then 20, 15, 12, 10, 9, 8, 7, 6, and 5 for the remaining places down to 10th. Where there are less than ten competitors who scored an official flight or a no-flight, 5 points will be given for last place and so on up the scale.

3.5.6. Where equal placings are obtained, one place will be dropped for each equal place and points awarded for each equal place will be the sum of championship points of those placings divided by the number of equal places, calculated to 2 decimal places.

3.5.7. Club Membership. For the purposes of champion club, any points gained by individuals are to be credited only to a club of which the contestant is a financial member.

3.6. Club Meeting

A Club or Provincial meeting shall be deemed official provided that due notice of the meeting has been given to all members either by circular, club newsletter/bulletin, contest calendar or in accordance with the clubs constitution, rules or bylaws and when attended by the Club Captain or President or their appointed deputy and two members.

3.7. Measurement Committee

It is recommended that each club appoint a measurement committee which is responsible for ensuring that all models entered in contests or for record attempts comply to the required specifications. Record claim forms are signed by a member of this committee.

3.8. Weather

The Contest Director determines if the weather is suitable for flying. Flying may be interrupted if the wind is stronger than 12 m/sec (9 m/sec for all free flight classes), if visibility prohibits proper observation of the models, or if atmospheric conditions make it unsafe or unwise to continue a contest.

4. COMPETITORS

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4.1. Competitor and Entries

Competitors must be financial NZMAA members. Membership cards must be produced on request. With the exception of International Modellers visiting, but not residing in, New Zealand see 4.1.6

4.1.1. Age Categories.

Official Contest and Record classes are subdivided into Junior (age 17 or under at the first day of the meeting/contest or on the day the record is claimed) and Open (no age limit) categories. In Junior events, mechanics and assistants may be seniors.

4.1.2. Number of Competitors.

In the event of there being less than three persons actually recording scores in an event, the results of the event may be declared null and void at the discretion of the Contest Director.

4.1.3. At National Championships.

Should less than three entries be received in a given event by 6pm the night before the event is to be held, it will be at the discretion of the SIG and the NZMAA Competition Manager to cancel the event and will refund entry fees upon request. Events with less than 3 competitors will not be recorded as official for championship points.

4.1.4. Team Entries.

Control Line and Radio Control Power categories only. One member of the team shall be designated to fly the model. Entry shall be made in the name of the team and any records set or awards given shall be in the name of the team. No team

member shall enter the same class as an individual. Where a team entry is made in any National decentralised and/or National contest, the points gained by the entry should be divided equally between the individual team members, and may gain points towards Club Championship awards. An entrant may belong to more than one team, but will gain points from only one team, which shall be nominated before the start of the contest. In the case of team members belonging to more than one club, the points awarded shall be divided equally between team members' clubs.

4.1.5. Proxy Entries.

Proxy flying is permitted when the competitor has a bona fide reason for absence from a contest or has a physical disability. Application for an entry to be proxy flown must be submitted to the NZMAA Competition Manager or Contest Director in writing at least 12 hours before to the contest. Competitors suffering from a permanent disability may be granted permanent permission by the NZMAA Competition Manager to employ a proxy. The following requirements also apply:

(a) The proxy flyer must be a financial NZMAA member and must personally assume all responsibilities of the competitor.

(b) No individual or Club Championship points are awarded to proxy entries.

(c) No record may be claimed on a proxy flight.

(d) Proxy flying is not permitted in:

- Radio Control contests
- C/L Aerobatics
- C/L Combat
- H/L Glider (Indoor or Outdoor)
- F/F Aggregate
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4.1.6 International Visitors

International visitors wishing to fly in New Zealand must be able to produce evidence that they are current financial members of a recognised Aeromodelling body in their home country. They must agree to abide by the Rules and Regulations of the NZMAA in return for which they will be covered by the insurance policy of the NZMAA when flying at NZMAA approved sites.

4.2. Compliance With Rules

4.2.1. A competitor, by entering any contest, thereby agrees that he is bound by the regulations herein contained and any special rules issued prior to the commencement of the contest.

4.2.2. Interference. Any competitor who operates a model or equipment in a manner deemed to be careless, or causes interference to an other competitor who is competing or about to compete, is liable to disqualification from that flight/round.

4.2.3 Disqualification. Any member or competitor that breaks any rules of a contest, or acts in an unsportsmanlike manner is liable to disqualification or suspension. The Club Committee or Contest Jury is empowered to suspend or disqualify from the contest any member whom they find to so infringe.

4.2.3.1 The Contest Director and two appointed assistants shall constitute the contest jury, which shall have summary jurisdiction.

4.2.3.2 At a Nationals, the Competition Manager is responsible for arranging a suitably competent jury.

4.3 Protests and Appeals

4.3.1 Protests must be lodged in writing to the Contest Director and/or Committee within 24 hours of an alleged imposition. The appellant must give full details of the action or decision including names of officials or competitors involved. At centralised contests, the time limit of protests may be shortened at the discretion of the body controlling the contest provided prior notification has been published.

4.3.2 Appeals. In protest action, an appellant who feels that a protest has been unsatisfactorily dealt with by the Committee or Jury may appeal to the NZMAA Council of Management within 7 days. The decision of the Council shall be final.

4.3.3 Representation. Any person who makes a protest or appeal has the right to present, in person, their case to the ruling body. They may if they wish nominate another person to represent them. The complainant may waive this right if so desired.

5. NATIONAL DECENTRALISED COMPETITION (NDC)

5.1. Introduction

- 5.1.1. The National Decentralised Competition (NDC) is intended to foster competition during the year and may be used as a basis for Club competition calendars. Club members results are forwarded by club recording officers to the NZMAA recording officer who collates all results. Trophies for individual winner, top junior and winning club are presented at the National Championships prizegiving at the end of the year. The scores obtained by juniors are used to decide best junior.
- 5.1.2. The last competition is usually at the end of November each year to allow for collation of the last results and calculation of all scores before the Nationals.
- 5.1.3. The competition includes classes that obtain a result by the *timing* of flights. Classes that involve the judging of flights or models cannot be competed for on a decentralised basis.

5.2. NDC Rules

- 5.2.1. All competitions will be flown to the current NZMAA rules.
- 5.2.2. The NZMAA Recording Officer will publish the Programme of events for the year with the last "NZ Model Flier's World" of the preceding year.
- 5.2.3 Eligible Flying days. Flights may be made on any day from Friday to Monday of the advertised date as published in the NDC programme. Members of the same club need not fly on the same day or at the same site. Should it be necessary, any day from the following Friday to Monday may instead be taken as a rain date. It is strongly recommended that competitors who intend to utilise the rain date provision promptly inform their club Recording Officer.

A club may however, elect to fly the listed competition, including a rain date, at any time within the designated month provided that the club register their club NDC programme on the official form with the NZMAA Recording Officer not later than one month prior to the competition date.

5.3. NDC Results

- 5.3.1. Scoring. Each individual event will be scored as per scoring at the Nationals (See para 3.5.5. in these rules). Totals for individuals and clubs will be used to decide placing for the year.
- 5.3.2. Forwarding Results. Clubs must forward results to the NZMAA Recording Officer. To be included, the NZMAA recording officer must have received results within 14 days of the authorised date of the competition.
- 5.3.3. Publication of Results. Progress results will be published in "NZ Model Fliers World" magazine during the year. The first 10 placings overall will be posted at the Nationals and in the first magazine of the year. A full list of the overall results for individual competitors may be obtained by sending a self addressed, stamped envelope to the NZMAA Recording Officer after the Nationals.
- 5.3.4. Indoor Events. The ceiling height of the venue is to be submitted with results of Indoor events

6. RECORDS

NZMAA Flying Rules: Section 1 : General Competition Rules Amended 17/08/2004

6.1 General

6.1.1 Applicants for New Zealand Records must be NZMAA members normally resident in New Zealand. In the case of applications from teams, both members must satisfy this requirement. NZ records may be claimed for performances made outside New Zealand, provided the conditions herein are complied with.

6.1.2 Competition Class Records. New Zealand Records are recognised in all competition classes involving duration or speed subject to the regulations for the particular class and to the requirements of this chapter. All FAI classes are included when flown to all FAI rules.

6.1.3 Absolute NZ Records. The NZMAA recognises several absolute New Zealand records for model aircraft performance, classified as follows.

- a) R/C Power: Duration, Distance (Straight Line) and Speed. Open and Junior
- b) R/C Glider: Duration, Distance (Straight Line) and Speed. Open and Junior

6.1.3.1. Absolute records are independent of the class or type of model, provided its characteristics are within the general limitations for all model aircraft as specified in para 2.2 of these rules. The general procedure for setting these records is to be in accordance with Para 6.5 (Absolute Records) and Para 6.6. (Special Rules for Duration Records), 6.7 (Special Rules for Distance Records in a Straight Line), 6.8 (Special Rules for Speed Records in a Straight Line).

6.1.3.2. For R/C Glider Straight Line Distance records, the site chosen for the attempt must preclude the possibility of slope lift, i.e. the lift must, in the opinion of the officials and witnesses, be primarily attributable to thermal activity.

6.1.3.3. R/C Glider Duration and Speed records may be made in slope lift conditions if desired. Where tow launching of Gliders is used, the launching apparatus must comply with the standards in Section 5 (Soaring) of the NZMAA Flying Rules. The person operating the launching device must be standing on the ground.

6.1.4 World Records. NZMAA members may attempt World Records in the FAI / categories provided they:

- a. Are in possession of a current FAI licence;
- b. Comply with the FAI regulations pertaining to the class; and
- c. Receive prior sanction from the NZMAA Council of Management.

Full details of FAI record classes and procedures are obtainable on request to the NZMAA Competition Manager.

6.1.5 New Zealand records are recognised in Open and Junior categories (see General rules clause 4.1.1)

6.1.6 Records will not be recognised for vintage or unofficial classes.

6.2 Eligible Events

6.2.1 New Zealand competition class records may only be attempted or claimed at official club meetings (see General Rules clause 3.6.), at National Championships, International events either in New Zealand or overseas, at Official NZMAA Special Interest Group (SIG) events and at NZMAA sanctioned inter-club and Provincial meetings. Absolute records may be attempted at any time.

6.2.2 Flights made at National Championships are automatically eligible for New Zealand records without the need to claim. At provincial, club or NZMAA Special Interest Group meetings, the designated Recording Officer shall be responsible for raising the record claim form and for obtaining the necessary signatures.

6.3. Record Claims

6.3.1 Claims for New Zealand records must be made on the official record claim form available from the NZMAA Secretary or Recording Officer. Claims must be forwarded to the NZMAA Recording Officer post marked within 10 days of the date of the flight(s).

6.3.2 A Record broken in a particular class shall not count should it be eclipsed again on the same day.

6.3.3 A given flight can only be applied for in respect of one record class. (Note: A junior day, however, claim both junior and open records with the same flight(s).

6.4 Special Conditions (Records)

6.4.1 In addition to a timekeeper, flights for which a record is claimed must be witnessed. The witness and/or the timekeeper must be of 18 years age or over at the time of the record flight(s).

6.4.2 When a record comprises a series of flights, all flights, including fly-offs. must be taken on the same day.

6.4.3 Should the series of flights be a special record attempt, the claimant must indicate the class for which the attempt is being made and must state clearly before flying that a record attempt is to be made. There is no limit on the number of attempts in a given day.

6.4.4 No member shall act as timekeeper or witness in the case of flight(s) made by their own model.

6.4.5 Margins. Claims that equal or better the existing record shall be recognised, there are no minimum margins by which a record is required to be exceeded.

6.5 Absolute Records

6.5.1 General

An absolute record may belong to one person or a team. Where the record is in the name of more than one person, NZMAA will list those persons in alphabetical order, unless otherwise directed by the claimants.

6.5.2 Assistant Pilots:

In case of a team effort, each member of the team may act as pilot during the attempt.

Note: In the event it is desired that a distance or duration record shall be listed in a single name only, an assistant pilot may be utilised after two hours from the start of the flight, up to a maximum of 10% of the total flight time recorded.

6.5.3 Builder of the Model

In all records, the claimant(s) must be the builder(s) of the model aircraft flown in the attempt. The claimant(s) has/have to confirm this by his/their signature on the dossier accompanying the Record Claim Form.

6.5.4 Model Contact

No connection between the model aircraft and the ground, or to another model aircraft or flying object is allowed once take off has been completed - until the landing.

6.5.5 Launching:

The model aircraft may be hand-launched or take off from the ground for record attempts, the launcher standing on the ground. Aerotow is not permitted.

Auxiliary take-off devices, such as a cart or a dolly undercarriage are permitted for all model aircraft. No means of auxiliary power is permitted on such devices. The device may become airborne and subsequently ejected.

6.5.6 Point of Landing:

The point where the model first touches the ground or water shall be considered the Point of Landing. It is not required that seaplanes land on water.

6.5.7 Jettisoning or Loss of Parts:

The voluntary or involuntary jettisoning of any part of the model aircraft, except auxiliary take-off devices, during the flight, is forbidden.

6.5.8 Officials and Observers

There shall be NZMAA approved Officials consisting of a Senior witness, at least two timekeepers and a measurement Official.

6.5.9 Flying Site

Duration Records for powered model aircraft (any power source) shall be made without the benefit of slope lift, rotors, lee waves and similar forms of lift. The land within a sufficient distance from the course must be free from objects which during the attempt are generating such lift including but not limited to hills, tree lines, vehicles and hand held devices.

6.5.10 Safety

All Safety precautions and instructions of the NZMAA are applicable to record attempts

6.6 SPECIAL RULES FOR DURATION RECORDS

6.6.1 Recording the Time:

6.6.1.1 For all powered sub-classes the flying time starts at the moment when the model aircraft is airborne.

6.6.1.2 For model aircraft rising off the ground or water, the model aircraft must become airborne in a period that does not exceed 2% of the total flight time.

6.6.1.3 For all gliders, the timing starts when the glider is released from its launching device, or after hand launching.

6.6.1.4 For radio controlled model aircraft with piston engines, electric motors or gas turbines, the engine must be turning the propeller or turbine (fully unfolded if a folding propeller is fitted) for at least 98% of the time claimed as a record.

6.6.1.5 The flight ends when the model aircraft touches the ground or water or encounters an obstacle which definitely terminates its flight, or when it definitely disappears from the sight of the timekeepers, or from the sight of any devices being used by the timekeepers to track the model. The use of optical devices, electronic devices and other means of proving the model remained airborne is permitted if approved by the NZMAA.

6.6.1.6 For radio controlled models, the point of landing must be within a distance of 500 metres of the point at which the model was released from the ground during the launch.

6.6.1.7 In the case of a simultaneous record attempt for distance in a straight line and duration, the landing must be within 500 metres of the indicated landing point for distance record.

6.6.2 Timekeeping

6.6.2.1 Two timekeepers take the time.

6.6.2.2 The times registered must be recorded in ink on the flight card at the scene of the record, and must be signed by the officiating timekeepers. Only these times will be officially recognised. To follow the model during the flight, the timekeepers are permitted to move by all means of locomotion available to them.

6.6.2.3 Recording barographs of the model aircraft may be used if they have received prior approval by the NZMAA, in such cases the time which is established is that recorded by the barograph.

6.6.2.4 The loss in height between the starting and landing points must not exceed 2 metres for each minute of flying time.

6.6.3 Accuracy of Measurement:

6.6.3.1 For records only, electronic stopwatches of good quality (proof by certification) are to be used. A synchronous electric clock may be used as the standard of calibration.

6.6.3.2 Fractions of a second will not be retained in a time registered for a record flight.

6.7 SPECIAL RULES FOR DISTANCE RECORDS IN A STRAIGHT LINE

6.7.1 Distance Measurement

6.7.1.1 The distance of the record shall be that measured in a straight line between the point of departure and landing, whatever may have been the actual path of the model aircraft.

6.7.1.2 Distances up to 50 kilometres will be measured on an official map of a scale at least 1:100.000.

6.7.1.3 Distances up to 500 km will be measured on an official map at least 1:200.000 in Gauss/Krieger system

6.7.1.4 Distances greater than 500 km shall be calculated from the great circle of the verticals of the points at sea level. For purpose of this calculation, the terrestrial globe is considered as a sphere, the radius of which, adopted by the NZMAA, $r = 6371,0$ km

6.7.1.5 The exact position of the take-off point, landing point and turning point may be determined by GPS.

6.7.1.6 The dossier claiming the record must contain a detailed calculation, of the distance, with reference to the geographical ordinates of the place of departure and arrival.

6.7.1.7 The degree of accuracy of the measurement must be stated in the dossier. The distance shall be calculated to an accuracy of at least 1% for distances up to 500 km and 0.5% for distances in excess of 500 km.

6.7.2 Point of Departure:

6.7.2.1 For powered model aircraft the point of departure is the place where the model aircraft was released. For models rising off the ground or water, the distance covered in take-off cannot exceed 2.0% of the total record claimed.

6.7.2.2 For gliders, the point of departure is the place where the claimant is at the time when the glider is released from the launching device.

6.7.3 Point of Landing as Defined in 6.5.6.

6.7.3.1 For radio controlled model aircraft, the pilot must indicate in writing before the flight the place where his model aircraft will land.

6.7.3.2 The actual point of landing must be within a radius of 500 m of the point indicated.

For radio controlled model aircraft, the pilot may follow the model aircraft with his transmitter by any means of transport, the official observers accompanying him.

6.8 SPECIAL RULES FOR SPEED RECORDS IN A STRAIGHT LINE

6.8.1 Base:

6.8.1.1 For radio controlled model aircraft the record is measured over a distance of 200 m, and it must be traversed in both directions without any intermediate landing.

6.8.1.2 The altitude of the model aircraft must remain below 35 m and above 5 m during the 100 m entry and 200 m course. These altitudes are measured from the point where the pilot is standing.

6.8.1.3 The course must be flown in both directions within 30 minutes.

6.8.1.4 The dossier of the record must include a certified measurement of the course and a statement of the methods used to determine altitude and speed.

6.8.1.5 For radio control speed record attempts the model aircraft must be fitted with a throttle or any other device to stop the motor by radio control.

6.8.2 Timing

6.8.2.1 The following methods of measuring speed are approved by the NZMAA,

- a) Certified radar gun and 1/100th second stopwatch.
- b) 2 of Certified radar guns
- c) 2 of 1/100th second stopwatches

6.8.2.2 The timing of speed records must be effected by timing instruments approved by the NZMAA.

6.8.2.3 The time is taken as the model aircraft enters and leaves the base.

6.8.2.4 Timekeeping must be effected by two timekeepers equipped with electronic stopwatches recording to at least 1/100 of a second. The difference between the times registered by the two time-keepers must not exceed 0.05 second. Automatic timing devices are allowed provided the system is properly documented in the dossier and approved by the NAC of the claimant.

6.8.2.5 For speeds above 300 km/h manual activation of timing devices is not permitted. Only automatic means of timing which eliminate the human error factor are permitted and must be certified accurate within 1/100 of a second.

6.8.2.6 The mean of the two speeds of the two runs over the timing base gives the record speed.

6.8.3 Radar Gun

6.8.3.1 For record speeds over 300km/h two radar guns are an acceptable method on measurement

6.8.3.2 A radar gun should be checked for a full diagnostic and calibration test prior to any record claim flight, and for ease of recording be locked on 'peak hold'

6.8.3.3 For radar gun operator(s) should be located close to the pilot and this should enable the recording of speed in both directions.

6.8.3.4 The mean of the two speeds by 'peak hold' method give the record speed.

6.8.3.5 When using one radar gun and a stop watch the mean speed obtained by calculating the speed from the stop watch time and the radar gun speed shall be used. The speed calculated from the stop watch must be within one hundredth of a Km/h of the radar gun.

6.8.3.6 When using two radar guns the two guns must read within one hundredth of a km/h.

6.8.3.7 It is suggested that the radar gun operator is very familiar with the operating instructions of the radar gun, the understanding of the calibration verification fork, and all other diagnostic testing prior to speed recording.
Note; Incorrect angle reading is a common fault of radar gun operators and by him/her standing close to the pilot then the angle discrepancy shall be minimised.
Generally the operating instructions included with radar guns are very specific to that brand, however most do cover the subject of incorrect angle readings.

6.8.3.8 For all speed record claims where a radar gun/s has been utilised then the system of calibration shall be supplied with the dossier accompanying the record claim form

6.9 DOSSIER OF A RECORD ATTEMPT

6.9.1 It is the purpose of homologation procedures and requirements to ascertain as well as possible, that a given model aircraft indeed attains the flight performance claimed and that the flight was made within the requirements and standards of this Rule. The many factors involved in the flight require that adequate data be submitted to confirm a record attempt. In unusual circumstances, NZMAA may request additional substantiating data to insure that these purposes have been achieved.

6.9.2 A dossier must be submitted to the NZMAA Recording Officer within 10 days of the Record Attempt. It shall include:

6.9.2.1. A completed official NZMAA Record claim Form

6.9.2.2. A three view drawing of the model aircraft showing all basic dimensions and stating the scale of the drawing. Certification countersignature of the Senior witness is required.

6.9.2.3. A photograph of the model aircraft.

6.9.2.4. A statement of supporting data as listed.

- a) Builder(s) of the model
- b) Weight of the model
- c) Motor size, for internal combustion motors the cylinder capacity, for electric the maximum voltage used, for turbine the maximum thrust setting.
- d) If barographs, special electronic devices, timing equipment, Radio Speed gun, etc., are employed, a description adequate to ascertain the accuracy and validity of the devices must be included.
- e) A statement that all requirements for the specific categories were met.
- f) Latitude and longitude of take-off and landing points, as well as mathematical calculations must be shown for records involving great circle distances.
- g) A listing of all officials and participating observers shall be included. The directing official shall sign the supporting data sheet.

- h) For Duration and Distance in Closed Circuit records for powered model aircraft (any power source), a statement must be made which shows beyond reasonable doubt that the requirements of paragraph 7.2.11 Flying Site have been met. Documentation such as photographs, maps, and weather observations may be part of such statement.
- i) For Duration and Speed, describe in brief, the method of timekeeping employed. Number of watches or type of Radar Gun
- k) Position of timekeepers
- l) Electronic equipment used
- m) Describe in brief, the method of establishing the base measurement. Measuring equipment
- n) Method of marking base limits
- o) Number of observers at base limits Method of signalling, base to pilot.
- p) Supply a sketch of the course, defining base, turning points, marker poles, altitudes of base limits and position of officials relative to course.
- q) For historical purposes, a brief description of the flight is desired. Pertinent factors, such as weather, special equipment in the models or on the ground, or any unusual circumstances occurring during the flight will be of value. This section is not officially required but officials are encouraged to submit it on a separate sheet for future reference.

7. DEFINITIONS

7.1. Free-Flight

Flight during which there is no physical connection between the model and the competitor or the competitor's helper. Radio Control functions are allowed only if specifically permitted in the rules for the relevant class. Categories:

a) Gliders: Model aircraft which are not provided with a propulsive device and in which lift is generated by aerodynamic forces acting on surfaces remaining fixed except for changes in camber or incidence during flight. Catapult gliders do not carry a rubber motor on board for the flight, therefore are defined as gliders, not rubber powered.

b) Rubber: Model aircraft which are powered by an extensible motor.

c) Power: Model aircraft which are powered by a motor in which the energy is obtained by the combustion or expansion of a fluid or gas acting directly on a piston or pistons.

d) Indoor: Model aircraft flown in an enclosed space.

e) Helicopters: Model aircraft which throughout flight derive all lift and thrust from a driven rotor system rotating about a nominally vertical axis. A fixed horizontal stabilising surface with a maximum area of 4% of the swept area of the rotors is permitted. During power off flight, the rotor(s) shall continue to rotate and provide for lift. Ground effect machines (hovercraft) are not considered to be helicopters. Maximum swept area of rotor(s) is 300 dm².

7.2. Control Line

Flight during which the model aircraft is aerodynamically manoeuvred by control surfaces in attitude and altitude by the pilot on the ground by means of one or more inextensible wires or cables directly connected to the model. No other means of controlling the model or the motor may be employed during the take-off and flight, except that exercised by the pilot through the line or lines.

7.3. Radio Control

Flight during which the model aircraft is aerodynamically manoeuvred by control surface(s) in attitude, direction and altitude, by the pilot on the ground using radio control.

7.4. Scale

A scale model shall be a replica (miniature copy) of a heavier-than-air man carrying aircraft.

7.5. Vintage

Vintage Models are replicas of those which were first designed and flown, or which were first published or kitted within the following dates:

a) Old Time Indoor Category: before 1 January 1941

b) Old Time FF or RC Category: before 1 January 1951

c) Nostalgia FF or RC Category: from 1 January 1951 to 1 January 1961

7.6. Weight

The weight taken to determine minimum loading and minimum weight is that of the complete model less fuel. The weight taken to determine maximum loading and maximum weight is that of the complete model in flying order with fuel at the moment of departure.

7.7. Launching

- 7.7.1. Hand launch. A model is hand launched when it is released or thrown into flight directly from the hands of a competitor without other assistance. The model shall not be launched from a height greater than the competitor's normal reach above the ground.
- 7.7.2. Rise off ground (ROG). The model takes off from the ground under its own power without any help from the competitor. A special runway may be used but must not be more than 300 mm above the ground. A ROG model must be capable of resting unassisted on the ground on at least three points in take off attitude for at least 30 seconds and must be held by the competitor in this attitude for take-off.
- 7.7.3. Rise off Water(ROW). The model takes off from a sheet of water but need not alight thereon. An ROW model must be capable of floating unassisted in take-off attitude for at least 30 seconds and must be held by the competitor in this attitude for take-off.
- 7.7.4. Tow launch. The glider must be launched by means of a cable the length of which shall not exceed that specified when subjected to the required tensile load. Free Flight gliders must be towed by the competitor unless physically handicapped. Radio Control gliders may be towed by the competitor or an assistant or may be launched with winches, bungees or pulleys as detailed in the RC Soaring rules.
- 7.7.5. Catapult launch. The model is launched by means of an extensible strip or strips of rubber or similar material. For Free Flight models, both the model and the rubber strip (or handle) must be held by the flier.

8. SAFETY

- 8.1. All models must be operating in accordance with Chapter 4 of the NZMAA Member's Manual. In particular, for *all* categories, flying over or at spectator areas, parking areas or pits is deemed hazardous and may be grounds for disqualification. All RC pilots with transmitters must stand in an area assigned, which is not to be in the pits or on approach, landing or take-off paths.
- 8.2. The contest director may suspend or disqualify any competitor from flying if the competitor's model is flown in a hazardous manner or the model or operating equipment is unsafe.

- 8.2.1. Propellers. No model powered by mechanical motor(s) shall be operated with a propeller that has been repaired or is unsafe. The use of metal propellers is prohibited.
- 8.2.2. Fuses. Under no circumstances may fuses be used during officially promulgated fire ban periods. All models using burning fuses shall be fitted with a device designed to ensure:
- (a) that the burning fuse is not at any time ejected from the model whilst in flight or on the ground; and
 - (b) that as soon as practical after the functioning of the operation for which the fuse is fitted, the lighted end of the fuse is extinguished.
- 8.2.3. Ballast. If ballast is carried in or on a model, it must be fixed securely to the satisfaction of the Contest Director.
- 8.2.4. Prohibited items:
- (a) Compressed Oxygen, Hydrazine, Tetra Nitromethane, Nitrobenzene.
 - (b) Chemical rockets of the pyrotechnic type weighing more than 100 grams.
 - (c) Jet reaction motors (pulse jet, ram jet) weighing more than 500 grams.

9. INTERNATIONAL COMPETITION

9.1. Responsibilities

The responsibility to select/nominate NZ team members for International competition is delegated to the respective Special Interest Group. NZMAA Council reserves the right to veto any selections that it deems not to be of sufficient standard or not in the best interests of NZ aeromodelling. NZMAA Council approval is required before any arrangements are made to hold International events in New Zealand.

10. ORGANISATION FOR RADIO CONTROL CONTESTS

10.1. Control of Transmissions

- 10.1.1. It is strongly recommended that the organiser of a large event or any event involving more than one club has access to a radio monitor for the purpose of detecting possible interference. Monitors are available from NZMAA Area Representatives.

Note: This rule does not apply to Open International or World Championship events; FAI rules take precedence.

- 10.1.2. All unauthorised transmissions during the contest will result in automatic disqualification of the offender from the entire contest and render him liable to further penalties. All transmitters to be used during the contest must be checked and placed in a compound kept under observation. During the contest, a steward should be in control of the transmitter compound and will issue the transmitter to a

competitor only when his name is called to stand by to make his flight. As soon as the attempt has ended, the competitor must immediately return his transmitter to the steward at the transmitter compound.

10.2. RC Glider Flying

Refer to the NZMAA Soaring Code of Practice.

11. NZMAA FLYING RULES

11.1 These rules are published in three parts, which comprise:

Volume One

Section 1 General Competition Rules
Section 2 Free Flight NZ Rules
Section 3 Control Line NZ Rules
Section 4 Vintage
Section 5 RC Soaring NZ Rules
Section 5A FAI Soaring F3B,F3J,F5B
Section 6 FF/CL Scale

Volume 2

Section 1 General Comp. Rules
Section 7 RC Scale (Static)
Section 8 RC Pylon NZ Rules
Section 8A FAI Pylon F3D
Section 9 RC Helicopter NZ Rules
Section 10 RC Aerobatics NZ Rules
Section 11 RC Scale Aerobatics

Each part may be purchased separately or as one complete set from the NZMAA Secretary and will also be available for sale at the Nationals and through Special Interest Groups. Prices will be as published in the "NZ Model Flier's World" magazine.

Copies of FAI rules can be obtained from the FAI website

<http://www.fai.org/aeromodelling/documents/sc4> or from NZMAA Secretary or the relevant SIG.

11.2. **Rule Changes.** Any member may propose rule changes at any time to the respective Special Interest Group. Changes to General Rules should be proposed to the NZMAA Competition Manager. All change proposals will be considered, and if necessary debated, at the next scheduled General meeting of the SIGs. Any resultant rule amendments will only be effective after they have been promulgated in the Association's magazine.

11.3. **FAI Rules.** NZ will generally adopt changes to FAI rules as at the effective date promulgated in the FAI Sporting Code. Exceptions will be advised in the Association's magazine. FAI rules in force as at the start of a Nationals will remain in force for the full duration of the Nationals. The NZMAA Competition Secretary maintains a fully-updated copy of the full FAI Sporting Code in A4 format. Copies of all or part of this are available on request but note that this is a very large document and that a charge will be made for the photocopying required. It would be wise to request an estimate of cost before ordering.