

MODEL AERONAUTICAL ASSOCIATION OF AUSTRALIA



GENERAL RULES AND GUIDELINES FOR THE OPERATION OF MODEL AIRCRAFT

MOP014

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This Policy and/or Procedure forms part of the M.A.A.A. Manual of Procedures.
This entire document is for the use of all classes of members of the M.A.A.A. in the
conduct of activities associated with the M.A.A.A. and is not be used for any other
purpose, in whole or in part, without the written approval of the M.A.A.A. Executive.

Shading of text identifies changes to the previous version.

GENERAL RULES AND GUIDELINES FOR THE OPERATION OF MODEL AIRCRAFT

1. PURPOSE

- 1.1 The purpose of this publication is to provide all affiliate members of the M.A.A.A. a ready reference to their obligations and regulations as required under Commonwealth law, and M.A.A.A. rules and procedures for the operation of model aircraft.
- 1.2 It should be noted that where there is any discrepancy Commonwealth Law has precedence. The M.A.A.A. advises that where Commonwealth Law, including, CAR (1998) Part 101 is referred to it is for guidance only. It is up to every member to take the necessary precautions to ensure that they are aware of the actual detail of current Commonwealth legislation and the M.A.A.A. can accept no responsibility for any errors.

2. DEFINITIONS

All definitions given in the CAR (1998) Part 101 apply equally throughout this manual.

AAAO	Approved Aviation Administration Organisation An organisation approved by C.A.S.A. to administer a particular aspect of sport aviation.
Affiliate Member	A person properly affiliated with a Club that is properly affiliated to an M.A.A.A. Ordinary Member.
AGL	Above Ground Level
Approved Area	An area approved by C.A.S.A. as an area for the operation of model aircraft. See the Application to Register an Approved Flying Area Procedure, MOP005, in the M.A.A.A. Manual of Procedures.
C.A.S.A.	Civil Aviation Safety Authority.
Club	A Club properly affiliated with a State Association.
Club Member	A financial member of a Club.
Commercial Activity	A model aircraft flight is considered to be commercial if it is conducted for, or with the intent of, any purpose other than the sport of flying the model or learning or teaching the sport. It is commercial if it is used as a tool for conducting any other commercial purpose such as aerial photography etc.
Control-Line Model Aircraft	A model aircraft that is constrained to fly in a circle, and is controlled in attitude and altitude, by means of inextensible wires attached to a handle held by the person operating the model.

Display	An organized display of any type of model aircraft flying conducted in front of non M.A.A.A. Affiliate Members (including Control Line model aircraft and indoor flying).
Endorsed Pilot	A pilot who, having flown a test flight unaided to a safe standard while observed by the relevant M.A.A.A. Heavy or Giant Model Inspector, has his/her name endorsed on the "Permit to Fly" by the Inspector.
Giant Model Aircraft	Any model aircraft with a dry mass, (excluding fuel, but including all batteries if electric powered) of more than 25Kg but less than 50 Kgs.
Heavy Model Aircraft	Any model aircraft with a dry mass (excluding fuel, but including all batteries if electric powered) of 7Kgs or more, to a maximum of 25Kgs.
Inspector	A financial Affiliate Member of the M.A.A.A. who has met the requirements for his/her appointment and has been given written authority to carry out inspections on behalf of the M.A.A.A. in connection with the issue of a Permit to Fly.
Indoor Model Aircraft	A model aircraft flown in an area constrained by four walls and a roof.
Large Model	A Model Aircraft with a dry mass, (excluding fuel, but including all batteries if electric powered), of greater than 7Kgs. but less than 50Kgs
M.A.A.A.	Model Aeronautical Association of Australia Inc.
M.A.A.A. Ordinary Member	A State Association properly affiliated with the M.A.A.A. Inc
Model Aircraft	See Dictionary
Ordinary Member	See M.A.A.A. Ordinary Member
Permit to Fly	A document issued by an M.A.A.A. Inspector following inspection carried out in accordance to M.A.A.A. guidelines.
Pits	An area, generally adjacent to the runways, set aside for the assembly, preparation and maintenance of aircraft prior to and after flight.
Radio Controlled Model Aircraft ..	See M.A.A.A. "Internal Navigation and Stabilisation Policy", MOP044.
State Association	See M.A.A.A. Ordinary Member
Turbine Powered Model Aircraft ..	A model aircraft powered by a gas turbine engine.

UAV Unmanned Aerial Vehicle. A model aircraft used, or intended to be used, for commercial purposes/activity.

3. GENERAL

- 3.1 Any model aircraft in flight (excepting as noted in Paragraph 3.3) is subject to the regulations imposed by the Civil Aviation Safety Authority. The CIVIL AVIATION SAFETY REGULATIONS – CAR (1998) Part 101 cover all unmanned aircraft, including all model aircraft, except as detailed hereunder.
- 3.2 This document is intended to give an overview of CAR (1998) Part 101 but it is strongly recommended that affiliated members obtain and read the actual CAR (1998) Part 101 document and CASA's Advisory Circular AC101.3
- 3.3 Models Exempt from CAR (1998) Part 101 requirements, but not from M.A.A.A. Rules or the requirements of the M.A.A.A. Manual of Procedures.
 - (a) Models weighing less than 100 grams (3.5oz).
 - (b) Control Line models and
 - (c) Any model flown indoors (contained in four walls and roof)
- 3.4 C.A.S.A. recognises the Model Aircraft Association of Australia (M.A.A.A.) as an Approved Aviation Administration Organisation to administer and regulate the operation of Model aircraft under Part 101. C.A.S.A. expects the level of flying operation to be regulated by the M.A.A.A. so as to maintain a high standard of safety.
- 3.5 A model aircraft operated by an affiliate member of the M.A.A.A. are subject to the requirements of the M.A.A.A. Manual of Procedures as well as CAR (1998) Part 101.
- 3.6 The regulations and requirements contained in this document are not applicable to Unmanned Aerial Vehicles (UAV's) as they are not considered model aircraft. UAV's are subject to specific sections of CAR (1998) Part 101.
- 3.7 Operation of a model aircraft for, for intended, financial reward for any purpose other than the sport of flying the model or learning or teaching the sport is only permitted under C.A.S.A. rules for the operation of UAVs. See CAR (1998) Part 101.235(1) Note 1.

4. RESPONSIBILITIES

- 4.1 The individual operator of a model aircraft is responsible for his/her compliance, and his/her model's compliance, with CAR (1998) Part 101 and also with all M.A.A.A. rules as required by the M.A.A.A. Manual of Procedures.

5. CAR (1998) Part 101 RULES FOR THE OPERATION OF ALL MODEL AIRCRAFT

(Except exempt models) CAR (1998) Part 101 references are in brackets

This section identifies the major requirements of CAR (1998) Part 101. Affiliate members are requested to read the relevant sections of Part 101 document that is available on the CASA or M.A.A.A. web sites, www.casa.gov.au and www.maaa.asn.au.

It should be noted that in some cases M.A.A.A. Rules are more stringent than those contained on CAR (1998) Part 101.

- 5.1 General prohibition on unsafe operation. (101.005)
A person must not operate an unmanned aircraft (Model aircraft) in a way that creates a hazard to another aircraft, another person, or property.
- 5.2 Visibility for operation of model aircraft. (101.385)
A person may operate a model aircraft only if the visibility at the time is good enough for the person operating the model to be able to see it continuously.
- 5.3 Operating a Model Aircraft at Night (101.390)
A person may operate a model aircraft at night only in accordance with the written procedures of an Approved Aviation Administration Organisation.
See M.A.A.A. Procedure – Night Flying, MOP018.
- 5.4 Keeping model aircraft away from people (101.395)
A person must not operate a model aircraft over a populous area at a height less than the height from which, if any of its components fails, it would be able to clear the area

Someone who is operating a powered model aircraft must ensure that, while the model aircraft is IN FLIGHT, or is LANDING or TAKING OFF, it stays at least 30 metres away from anyone not directly associated with the operation of model aircraft.

This regulation is not contravened if somebody stands behind the model aircraft while it is taking off. This regulation is not contravened if the model aircraft is flown in a competition within 30 metres of someone who is judging the competition.

Note: The M.A.A.A. 30 Metre rules is more stringent than the requirements of 101.395 above, see item 6.8 for details for the M.A.A.A. 30 metre rule.

- 5.5 Height Limits for Model Aircraft.
- 5.5.1 Operation within an Approved Area.
The height limit within an Approved Area is governed by the terms of approval from C.A.S.A.
- 5.5.2 Operation of model aircraft outside approved areas (101.400)
A person may operate a model aircraft outside an Approved Area above 400 feet AGL only if he or she keeps it in sight and keeps it clear of populous areas.
- 5.5.3 Operation in controlled airspace (101.070)
A person may operate a Model Aircraft above 400 feet in controlled airspace only:
(a) In an Approved Area at a maximum height as specified in the terms of approval; and
(b) In accordance with an air traffic control clearance.
- 5.5.4 Operation near aerodromes (101.075) (101.080)
C.A.S.A. permits operation of a model aircraft at an altitude above 400 feet AGL within 3 nautical miles of an aerodrome only under certain conditions. Authority for the operation must be obtained from the Air Traffic Control

Service that controls the aerodrome, or in the case of other than a controlled aerodrome, authority must be obtained from C.A.S.A.

The operation of model aircraft within 3 nautical miles of an aerodrome shall be in accordance to the M.A.A.A. Policy MOP061 - Models Near Full Size Aerodromes.

- 5.6 Dropping or discharging of things. (101.090)
A person must not cause a thing to be dropped or discharged from an unmanned aircraft (model aircraft) in a way that creates a hazard to another aircraft, a person, or property.
- 5.7 Displays. (101.410)
Displays must be conducted in an approved area and in accordance with the rules and procedures of an Approved Aviation Administration Organisation (AAAO).
M.A.A.A Note, the M.A.A.A. is an AAAO.
See the Display Procedure (MOP019) in the M.A.A.A. Manual of Procedures and CAR (1998) Part 101.410.

6. M.A.A.A. RULES, GUIDELINES AND PROCEDURES

- 6.1 Heavy Model Aircraft
The M.A.A.A. requires that all model aircraft with a dry mass, (excluding fuel, but including all batteries if electric powered), of greater than 7kgs and less than 25kgs must be inspected by an M.A.A.A. Heavy Model Inspector prior to its first flight. Heavy Model Aircraft must be operated in accordance to the "Large Model Aircraft Operation" Procedure (MOP015) in the M.A.A.A. Manual of Procedures.
- 6.2 Gas Turbine Powered Model Aircraft
The M.A.A.A. requires that all gas turbine powered model aircraft must be inspected by an M.A.A.A. Gas Turbine Inspector prior to its first flight. Gas Turbine powered Model Aircraft must be operated in accordance to MOP030 – Gas Turbine Rules in the M.A.A.A. Manual of Procedures.
- 6.3 Giant Model Aircraft
The M.A.A.A. requires that all model aircraft with a mass, (excluding fuel, but including all batteries if electric powered), of greater than 25kgs and less than 50kgs must be inspected by an M.A.A.A. Giant Model Inspector prior to its first flight. Giant Model Aircraft must be operated in accordance to the "Large Model Aircraft Operation" Procedure (MOP015) in the M.A.A.A. Manual of Procedures.

Although C.A.S.A. define a Giant Model Aircraft as a model aircraft that weighs more between 25kgs and 150kgs, M.A.A.A. Rules only allow models with a maximum mass of 50Kgs. The operation of models over 50Kgs will not be covered by the M.A.A.A. insurance policies. The M.A.A.A. definition of Giant Model Aircraft applies to this document.

- 6.4 Displays
The M.A.A.A. requires that all Displays of Model Aircraft Flying organized and conducted by the M.A.A.A., M.A.A.A. Ordinary Members (State Associations), Clubs and Affiliate Members of the M.A.A.A. to which non Affiliate Members of the M.A.A.A. are invited or organized to attend are approved by the relevant State Association and where required through them to C.A.S.A.
See the Display Procedure (MOP019) in the M.A.A.A. Manual of Procedures.

- 6.5 Flying Field Spacing & Distance Between Transmitter Locations
The M.A.A.A. requires a minimum spacing of radio-controlled model aircraft flying sites of 4kms. Operations at less than this distance shall be carried out in accordance with the Close Fields Operation Procedure and Policy (MOP008) in the M.A.A.A. Manual of Procedures.
- 6.6 Instruction
Inexperienced operators operating under the M.A.A.A. insurance policy shall be instructed on all relevant safety and frequency management matters prior to the commencement of operations by an experience member.
- 6.7 Inspection of Aircraft
It is recommended that prior to flight the operator does a safety inspection applicable to the type of aircraft.
- 6.8 30 Metre Rule
The CASA requirement for safe operation of model aircraft is specified in CASR (1998) Part 101. However this is not in detail terms and in order to give M.A.A.A. members better guidance on acceptable practice the MAAA requirements are as follows.

Someone who is operating a model aircraft, must normally ensure that, while the model aircraft is IN FLIGHT, or is LANDING or TAKING OFF, it stays at least 30 metres horizontally away from, and at any height vertically above, any person or occupied building/vehicle, not directly associated with the operation of model aircraft

This requirement is not contravened if;

- (i) people are behind the model aircraft while it is taking off.
- (ii) if the model aircraft is flown in a competition within 30 metres of someone who is judging the competition.
- (iii) if the model aircraft is flown within 30 metres of Pilots and their assistants operating other aircraft, Flight Line Directors, Safety Officers, Instructors, and similar people who are directly involved with the operation of model aircraft at the time. In addition these may include pilots and their assistants with aircraft in the "pits" provided that this area is **not** accessible by the public. Wherever possible the pits shall be located outside the 30 metre limit or if this is not possible as near to 30 metres as can be reasonably achieved.

Whilst CASA require that a person must not operate a model aircraft over a populous area at a height less than the height from which, if any of its components fails, it would be able to clear the area, model aircraft can fail in modes that do not permit the aircraft to glide clear of an area. It is acceptable to the MAAA that the requirement be relaxed and model aircraft be allowed to fly above ground where there **may** be people directly below provided it shall only be at a reasonably high altitude and after careful consideration that there is low risk to the life, safety or property of someone who may be in the area but is not connected with the operation. This shall not, under any circumstances, include the car parks and public viewing areas of model aircraft clubs.

Note: This rule is more rigorous than the requirements of CAR (1998) Part 101 - 101.395 – see item 5.4

- 6.9 Flying Site Layout
Flying sites ideally should be arranged such that all flight operations are conducted in front of the operators with the pit area and all other persons to their rear. Where this is not possible, as a minimum pilots should have a clear and unobstructed view of the flying area and there should be clearly designated no fly zones complying with the 30 metre rule, covering the pit and other public areas such as car parks.
- 6.10 Flight Proficiency
State/Territory Associations and clubs are encouraged to promote the use of the M.A.A.A. Flight Proficiency Scheme. See the Procedure "Guidelines for the Award of Wings" (MOP027) in the M.A.A.A. Manual of Procedures.
- 6.11 Hearing Protection
It is recommended that hearing protection be worn by any person conducting noise testing in connection with any competition or where lengthy engine running or testing is required.
- 6.12 Engine Starting
It is recommended that hand starting (that is, without chicken stick, or electric or spring start) be prohibited with engines of capacity greater than 2.5 cc.
- 6.13 Engine Adjustments
It is recommended that all adjustments to running engines be done from behind the engine.
- 6.14 Propellers
It is recommended that propellers fitted to engines of capacity greater than 2.5 cc (not being static, non-flying propellers) have the tips delineated with a contrasting colour.
- 6.15 Aircraft Restraints
It is recommended that the model aircraft be restrained mechanically and/or physically by a person other than the person starting the aircraft, during engine start-up.
- 6.16 Radio Certification
The M.A.A.A. has recommendations for radios to be checked and certified by an approved testing station prior to use. See the M.A.A.A. Radio Certification Policy (MOP052) in the M.A.A.A. Manual of Procedures.
- 6.17 Internal Navigation Systems
The M.A.A.A. does not allow the use of internal navigation systems in model aircraft. See the M.A.A.A. Internal Navigation and Stabilisation Policy (MOP044) in the M.A.A.A. Manual of Procedures.
- 6.18 Safe Flying Code
See the Safe Flying Code (MOP056) in the M.A.A.A. Manual of Procedures.
- 6.19 Radio Equipment and Operations
- 6.19.1 Frequency Control
An adequate frequency control system shall be used at all flying sites where radio controlled models are operated. A keyboard system is recommended. See the M.A.A.A. Frequency Directive (MOP013) in the M.A.A.A. Manual of Procedures.

6.19.2 Radio Testing

Radio testing shall be as per the M.A.A.A. Frequency Directive (MOP013) in the M.A.A.A. Manual of Procedures.

6.19.3 Frequencies

Only frequency approved by the M.A.A.A. shall be used for the control of model aircraft. See the M.A.A.A. Frequency Directive (MOP013), 40MHz Policy (MOP047) and 27MHz Model Aircraft Policy (MOP048) in the M.A.A.A. Manual of Procedures.

6.19.4 Operation at 10 kHz Spacing

Clubs may decide to allow operation with radio frequencies separated by 10 kHz. All individuals taking advantage of this should ensure that the 10 kHz rated radio equipment that they use conforms to the 10 kHz testing requirements for technical performance and currency specified in the M.A.A.A. Frequency Directive (MOP013). In addition, in view of the more stringent requirements for operating at 10 kHz spacing, these clubs are required to ensure that all members comply with the field practices also specified in MOP013.

6.19.5 Radio Equipment

See the following documents in the M.A.A.A. Manual of Procedures;

- (i) Radio Certification Policy (MOP052),
- (ii) Frequency Synthesised Equipment Policy (MOP053),
- (iii) Mobile Phones at Model Aircraft Flying Fields Policy (MOP045),
- (iv) M.A.A.A. Frequency Directive, (MOP013)
- (v) 40MHz Policy (MOP047) and
- (vi) 27MHz Model Aircraft Policy (MOP048).
- (vii) 2.4GHz Equipment (MOP058)
- (viii) Interference Policy (MOP060)

6.20 Indoor Flying

Indoor flying shall be conducted in accordance to MOP059 – Indoor Flying Policy.