Canberra Model Aircraft Club
Operating Procedures

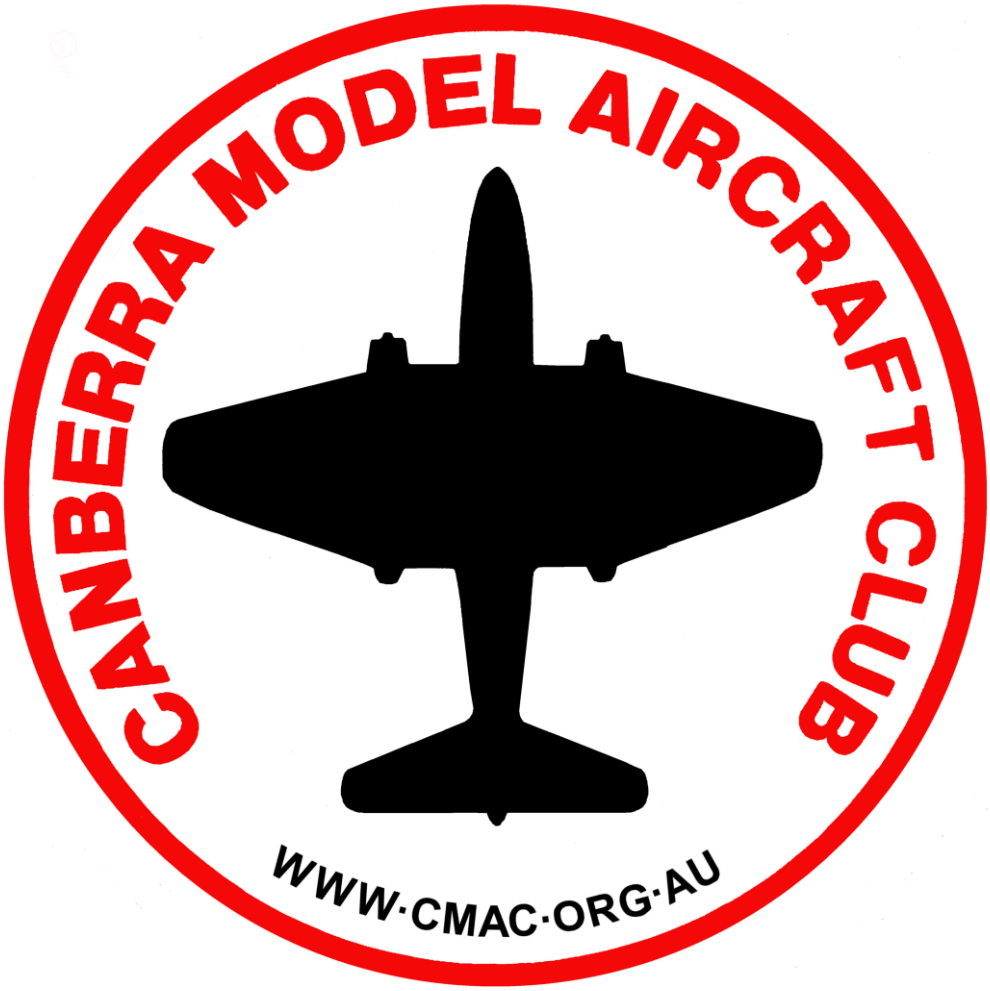

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Table of Contents

1. Introduction

1.1. Purpose

These procedures stipulate the mandatory safety framework for the operation of model aircraft at the CMAC Field and the required personal standards to ensure safe, friendly and considerate interaction amongst all CMAC members, visiting flyers and the public.
The CMAC Field is located under the flight path to Canberra Airport and adjacent to the Rescue Helicopter Base. It also is close to a busy highway and the ACT Gaol (Alexander Maconochie Centre (AMC)) is also nearby. These operating procedures were designed to minimise the risk of flying model aircraft in this demanding environment and MUST be complied with at all times.
If members have any questions about these Operating Procedures they should seek the assistance of a CMAC Committee Member.
These Procedures should be read in the context of the CMAC constitution, which is available on the club website in the members area. These procedures are complemented by a short checklist which must be read and signed off by new members.

1.2. Model Aircraft Regulations

The operation of model aircraft in Australia is governed by regulations administered by
the Civil Aviation Safety Authority (CASA)
the Model Aircraft Association of Australia (MAAA)
the requirements of the relevant State MAAA group (in this case ACTAA)
the local club rules and procedures (in this case CMAC)
These Operating Procedures and the CMAC Field layout reflect the Regulations administered by the Civil Aviation Safety Authority (CASA) and the Model Aircraft Association of Australia (MAAA). In the event of an inconsistency between a provision of these procedures and an MAAA or CASA regulation, the MAAA or CASA regulation shall prevail to the extent of the inconsistency.
Note that any other Commonwealth and Territory legislation pertaining to the operation of model aircraft at CMAC also necessarily applies.

1.3. Civil Aviation Safety Regulations (CASR) Part 101

Model aircraft are subject to the CASR Part 101 – Unmanned aircraft and rocket operation – Model Aircraft. The Regulations deal with the safe and legal operations of model aircraft and so CMAC members MUST comply with them when flying model aircraft.

1.4. MAAA Manual of Procedures (MOPs)

The MAAA Manual of Procedures (MOPs) deals with the administration/application of CASR Part 101 to model aircraft in Australia so CMAC members MUST comply with these when flying model aircraft.
The full list and copies of all MAAA MOPs is available at their website.
These CMAC Procedures are additional to the MAAA MOPs, providing details of local compliance arrangements.

1.5. Code of Conduct

To ensure maximum enjoyment of our hobby CMAC members must:

- Be ethical, fair and honest in all their dealings with other people and CMAC;
- Treat all persons with respect and courtesy and have proper regard for their dignity, rights and obligations;

- Always place the safety and welfare of children above other considerations;
- Comply with the applicable CASA, MAAA & CMAC rules, policies and procedures;
- Comply with the CMAC constitution;
- Comply with MOP056 on safe flying conduct;
- Comply with all relevant Australian laws (Federal, State and Territory), particularly anti-discrimination and child protection laws; and
- Be responsible and accountable for the conduct of any guests and children at the CMAC field.

Pilots and members should also be aware of the MAAA's MOP041 Member Protection Policy.

1.6. Duty of Care / Safety

All members and visitors have a duty of care which requires them to ensure that they operate their aircraft in a safe manner at all times as noted in MOP56 Safe Flying Code and MOP22 Risk Assessment. All members and visitors are required to take appropriate steps to minimise the risk of an accident to themselves, to others and to property. Pilots are responsible for the airworthiness of their aircraft and the safe operation of their aircraft. Unsafe aircraft are not to be flown. If there is any doubt as to the safety of the aircraft, the aircraft is not to be flown. Unsafe flying or deliberate breaches of these operating procedures will not be tolerated..

1.7. Accident / Incident Management & Reporting

Any accident or incident must be handled calmly with the intention to remove and minimise further hazards. Safety of people will take precedence over safety of models and property, with members expected within their personal capacity to render basic assistance in treating injuries, help fighting any fires and eliminating urgent hazards. A First Aid kit is located in the CMAC clubhouse for use on members and guests. Please assist others as required and advise a committee member if consumables are used. In the event of a serious incident, where any other models are still airborne, care must be given to recovering them safely to avoid exacerbating the incident.
Where an incident has lead to a fire, especially in the adjacent grasslands, members should give priority to calling 000 and responding with the club equipment only if it is safe and practical to do so, noting the density of the grass and limited club equipment available.
Incidents are to be reported to the MAAA as required in MOP001. Any incidence of a model fly-away out of sight is automatically reportable, even if the model is subsequently located. Reporting of a model fly-away must be directed to the Canberra Airport Air Traffic Control Tower as a matter of absolute urgency using the contact information on the clubhouse notice board. This fly-away rule does not apply in cases where a model has simply crashed in the grassland and cannot be located.
Any accident or incident should be reported to a committee member promptly to enable consideration of any lessons which could be learnt to improve these procedures or otherwise minimise future hazards. Any accident or incident having the potential to result in an insurance claim (committee members will assist with determining) must also be reported by the member involved to the MAAA via the committee using the MAAA Incident Report System in accordance with MOP001. The completed form is to be forwarded to the CMAC Secretary as soon as practical.
Blank forms are available in the CMAC Clubhouse or website, and may be used to record the immediate circumstances of the incident. These details should then be transcribed into the MAAA's Online Incident Reporting System with help from the committee.

1.8. Dispute Resolution

All members should try to accommodate reasonable requests by other members where possible, sharing the CMAC facilities equitably. To ensure good relationships within the club so the sport can be enjoyed by everyone the following dispute resolution system based on MOP028 will be used. Any member with a complaint about another member, whether or not it is related to flying procedures, should first try to resolve the dispute in a calm and reasonable manner with the other member.
If a dispute cannot be resolved through discussion between members then a member may take their complaint to the CMAC Club President, Vice-President or Safety Officer. These club officers are empowered to resolve the dispute by applying any additional reasonable remediation measures on a member's behaviour or flying practices that they deem appropriate in order to quickly restore good relations and safety within the club.
If either party wishes to have the matter dealt with by the whole CMAC Committee they may submit a request in writing with details of their complaint to the Secretary. The CMAC Committee will discuss the issue at the next committee meeting, and may request that one or more members with pertinent information attend the meeting if appropriate. Alternatively the CMAC Committee may organise another time to discuss the issue. Any arbitration decision made by the whole Committee is final and should be respected by all Club members.
If the CMAC Committee decides that enduring measures should be applied to a party in the dispute then the Committee shall provide a written explanation of those measures to the member.

2. Field Management

2.1. Access and Overview

CMAC Field is located on the western side of the Monaro Highway, approximately 800m north of the Alexander Maconochie Centre (ACT Gaol) and 1.6km from the ACT Rescue Helicopter complex. Entry is from the northbound carriageway via the public car parking area, members are reminded not to cross the median strip of the Monaro Highway when accessing the club.
The Members' car park is adjacent to the club house (see Diagram 1). The clubhouse has kitchen facilities and a single toilet. The Club is dependent on tank water and solar power.
The CMAC R/C pits setup is linear along the pit fence directly in front of the clubhouse.
Access to the starting area is via the opening in the front pit fence.
Taxiways either side of the pilot box provide access to the airstrip for take-off and for exit after landing.
A Control Line circle is located to the North of the clubhouse, with a fence to provide safety for spectators.
A rotary wing manoeuvring area is to the South of the clubhouse and adjacent parking area, with a fence to provide safety for spectators.
On total fire ban days (See ACT Government or CMAC website) the field will be closed to all flying.

Diagram 1 - CMAC Flying Field Layout

2.2. Authorised Pilots

Regular users (pilots) of CMAC Field must be current financial members of CMAC.
Visiting pilots must be affiliated with the Model Aircraft Association of Australia (MAAA), be carrying a current MAAA membership card, and be accompanied by a CMAC member, or a MAAA member if approved by a CMAC committee member. Visiting MAAA pilots may come to fly at CMAC for no more than four days per calendar year, not including any CMAC special event days.
On each occasion, Visitors must enter their name, address, transmitter frequency if applicable, the supervising CMAC member's name and the date in the CMAC Visitors Log Book. The Visitor Log Book is located in the clubhouse kitchen.
Pilots and members who have not attained at least MAAA Bronze level of expertise (Bronze Wings) are not permitted to fly unless accompanied by a CMAC member of at least Bronze Wing level, or a MAAA member with CMAC committee member approval.
Beginners, or other pilots who have never had MAAA membership, may have up to four days flying under the supervision of a CMAC member before joining CMAC, operating as a visitor.

3. R/C Flying Operations

3.1. Aircraft Flying Weight

R/C Aircraft with a dry mass of greater than 7kg and less than 25kg weight (Heavy Model) must not be operated without a current MAAA Permit to Fly issued by an MAAA approved Large Model Inspector.

R/C aircraft with a dry mass of greater than 25kg and less than 150kg in weight (Giant Model) must not be operated without a current MAAA Permit to fly issued by an MAAA approved Giant Model Inspector.
Anyone flying a heavy or giant model at CMAC must observe the rules in MOP015 .

3.2. Frequency & Transmitter Control

3.2.1. Approved Radios and Frequency Control

Members are responsible for only using radios complying with Australian Communications and Media Authority (ACMA) and MAAA rules.
Conflicting radio signals for fixed frequency radios (eg 29MHz or 36MHz) are likely to cause model aircraft to go out of control and become unsafe. Managing frequency control at the field is critical for safe flying operations. If you use a fixed frequency radio then please familiarise yourself with MOP049 which details safe operation in conjunction with other users of these and other radio types. CMAC has a radio frequency key board for users of these types of radios. This key board must be used when flying a fixed frequency radio system. If you are unfamiliar with the correct use of the frequency key board then you must ask a CMAC committee member before turning on your radio. Most members use radios in the 2.4GHz band with frequency hopping (Futaba, DSMX/2) or spread spectrum technology, which can be used with relative impunity. Alternative frequencies in the 433MHz or 900MHz ban can also be used for model aircraft control or telemetry/video feeds. All frequency hopping or spread spectrum radio systems used at CMAC must comply with the guidelines in MOP058 . When purchasing a new radio you should read that MOP first to make sure you understand the technical details on frequency licensing in Australia for use in R/C models. In particular, buying a radio from overseas can result in it operating on different frequencies and not being deemed legal for use in Australia. If you are unclear on any aspect of that MOP then please ask a CMAC committee member.

3.2.2. Fail Safe Settings

All pilots are to ensure that their fail safe is operational and is an appropriate setting for the type of aircraft. Additional details are provided in the model type specific sections.

3.2.3. Optical Ignition Kill Switches

The fitting of an optical ignition kill switch, which can be operated from the transmitter, is highly recommended to be fitted to all models with a petrol engine.

3.2.4. Mobile Phones

Unless required for control of the aircraft, mobile phones should be either switched off or set to “airplane mode” when inside the pilots' box, both to minimise risk of radio interference and to minimise distraction to other pilots. Members must not field calls in the pilot box, and preferably not in the pits. Members should also see MOP045 for more information.

3.3. Operations in the Pits

3.3.1. Pit Area

The pit area is designed to allow models to be assembled, displayed, and readied for flight within a fenced area. The fences are designed to protect CMAC Members and the public from any runaway model approaching from the airstrip. The fence also allows the public to view models from close range with safety but without interfering with either the models or pilots.

Members are requested to ensure that the public remain outside the pit area, unless closely supervised by a CMAC member. To this end, Members must observe the MAAA’s General Flying

Rules by ensuring that people not directly associated with model aircraft operations must remain at least 30m away from aircraft taking off, flying or landing. At CMAC, this includes the pit area, requiring that pit visitors be kept to an absolute minimum and under close supervision.

3.3.2. Running of Engines / Motors

The running of model engines (electric or internal combustion) within the pit area is not permitted. This is a key safety feature of the CMAC flying field layout. For electrically powered models with a propeller fitted the flight battery must not be connected to the motor when the aircraft is in the pits area, the car park or the clubhouse to prevent inadvertent start up. Electric motors must be "armed" only in the area to the west of the pits, in the proximity of the restraining poles (see 3.1.3 below).

3.3.3. Mufflers

All models equipped with an internal combustion engine must also be fitted with a suitable muffler. Standard manufacturer's mufflers will be taken to meet this requirement. Please refer to MOP062 for additional noise regulations.

3.3.4. Restraining Poles

When ready to fly, models are to be moved to the area near the restraining poles located between the pit area and the airstrip where engines/motors may be started. R/C models must be appropriately restrained prior to starting. Use of the restraining poles is the preferred and recommended method for restraining aircraft. The poles are intended to be used with the nose of the model pointing towards the runway (westward), this is to reduce the risk of a propeller escaping towards the spectator area. Where necessary, pilots can use the elevated tables with restraining poles to start their aircraft, being aware of the propeller hazard area to the front of the engine and ensuring members aren't loitering in the hazard zone. If pilots prefer to use an alternative method for restraining their aircraft for starting they should start their aircraft as near to the restraining poles as practicable.
Once the engine(s) has been started pilots can then move their model to the airstrip in preparation for taking off, by maintaining physical contact and control of their model rather than taxi through the pits.

3.3.5. Testing of Engines

Any extended testing, running-in or tuning, of engines should be undertaken at the designated engine testing area located to the South-East between the restraining poles and helicopter flying area.

3.4. Flight Rules

3.4.1. Full Size Aircraft

Full size aircraft, including fixed wing, helicopters and hot air balloons, have absolute priority over the airspace above and around CMAC Field. To avoid potential conflict with full size aircraft, all model aircraft must remain on the ground, land if feasible or maintain a low circuit (below 100 feet – 30 metres) until the full-size aircraft has departed CMAC Field airspace. Additionally, while balloons are not normally permitted to land in the ACT Grassland reserve, this is preferred in an emergency to impacting the airfield approach airspace and occasionally happens. Models should not be □own while balloon crews are retrieving a balloon from the vicinity of the CMAC flying area.

3.4.2. CASA/MAAA Requirements

In order to comply with CASA Regulations and MAAA MOPs, and to comply with the CASA approval to operate model aircraft at CMAC Field, it is the pilot's responsibility to observe the following limitations:

All flying of R/C aircraft (other than rotary wing identified separately elsewhere in these Procedures, or during takeoff or landing of any aircraft) shall be conducted to the west of the centerline of the airstrip. The eastern edge of the airstrip complies with CASA regulations requiring that there be a minimum 30 metre separation between flying R/C aircraft and people not directly involved in flying those models, who should be in the clubhouse area outside the pits.
The maximum flying height at CMAC Field is limited to 400 feet (120 metres) above ground level due CASA regulations. Pilots should check the club notice board as additional airspace limitations may be posted there from time to time.
Models may only be launched in conditions that enable the entire anticipated flight path of the model to be observed.
Models may only be launched in conditions that will allow the model to remain at least 500 feet below the general level of any cloud base, ground mist or fog with 5km visibility horizontally to ensure any light aircraft operating below the clouds can be seen.

3.4.3. Pre-Flight Checks & Failsafe Technology Settings

Model aircraft range from the very simple to complex and highly sophisticated, often achieving speeds that can present a significant collision or crash hazard. In order to safely operate a model, pilots must ensure that a pre-flight inspection is carried out before flights. A positive check of propulsion and control systems, model structure, radio failsafe settings and any takeover function associated with instruction or FPV operation should be performed by the pilot before commencing flying the model and after any incidents such as hard landings. Radio fail-safe settings should be set to minimise or stop the propulsion system to reduce the risk in a fly-away situation. For an internal combustion engine, setting failsafe to idle will limit the range the model will achieve if lost, but still provide the option to resume control if that becomes available.

Where a radio failsafe implements a return to base function for a model, that should be configured to maximise safety of other members and their aircraft. For multirotor models, landing directly below the point of loss of signal is preferred, or returning to then automatically land at a location on the field but 30m from where members are normally located. The return location set in memory for any multirotor models returning to base is to be 30m from the pilot box and the pits, with the western (far) side of the runway grass recommended for flights in the circuit. This may require some models to take off from this location in order to establish the return coordinates, while others can save it directly in their model memory. For a fixed wing model either cutting the motor and gliding down or performing an automatic landing on the runway are preferred.
Where a multirotor model with an automatic return function is being flown in the main circuit area, and other types of model are also being flown there, the transit height set for automatic returns should be between 350ft to 400ft to minimise the risk of collision. The selection of the return location is critical given the energy involved in a model descending from this height. A lower transit height is acceptable and preferred where other models are not being flown in the circuit, or in the case where a hybrid model has rotors and wings and therefore glides to land.
The pilot should in all cases clearly and loudly let all other pilots know of the loss of control by calling deadstick and advising what their model is doing and where it is in the sky so that the other pilots are not caught unawares by unexpected behaviour. In all cases, where a model returns to the strip area as a dead stick, the pilot must therefore communicate loudly and clearly with any other pilots currently flying to raise their awareness of the path of the model returning.

3.4.4. Model Traffic Management

Model aircraft vary significantly in performance and flight characteristics, and the experience level of pilots varies considerably. To manage the hazards associated with collision of models with each other, property or persons, a system of verbal coordination between pilots is essential and serves as the CMAC 'Air Traffic Control' system. Pilots are expected to communicate proactively using simple

and consistent phrases and defer to each other based on the pre-defined rules in these procedures. Broadly, models in flight have priority over those on the ground, models with materially different performance should not be flown without agreement from those currently flying and any in-flight emergency requiring an urgent return to the runway takes priority over routine take-offs, landings or circuit training.

3.4.5. Taking Off

Prior to taxying an aircraft onto the airstrip for take-off (or similar launch by hand, placement for vertical launch or bungee line), each pilot must first check that no-one has called a landing. The pilot must then call their intent to take off to request permission from pilots already flying. Other pilots must audibly acknowledge the request.

The pilot must not proceed until all pilots currently flying acknowledge with a clear response.

If necessary, a pilot may move onto the airstrip to control the model during take-off or hand launch, but must then move promptly into the Pilot Box. Any pilot access to the strip must be prefaced by a call indicating they would like to progress on to the strip, and be suitably acknowledged before proceeding. Pilots are strongly encouraged to take-off while standing in the Pilot Box if feasible with their model type.

Unless there are particular takeoff requirements for the specific model type, all take-offs should be along the airstrip and not across the airstrip.

3.4.6. Pilot Box

When flying at the main field, pilots are expected to stand in the pilot box facing west, keeping their aircraft clearly in front of them at all times to aid orientation with the circuit, to avoid over flying the flight line and other potential hazards such as flying into the sun or directly overhead. Pilots must not fly to the east of the airstrip, over the pilot box or over the pit area as this is a reportable safety breach and potentially dangerous to other pilots and spectators.

Any activity or behaviour in the Pilot Box which interferes with clear communication between pilots and/or assistants, or which is unduly distracting, is hazardous and therefore unacceptable.

Only personnel directly involved in flying or instructing model flight may be in the pilot box during model flight operations.

3.4.7. Flying Circuit

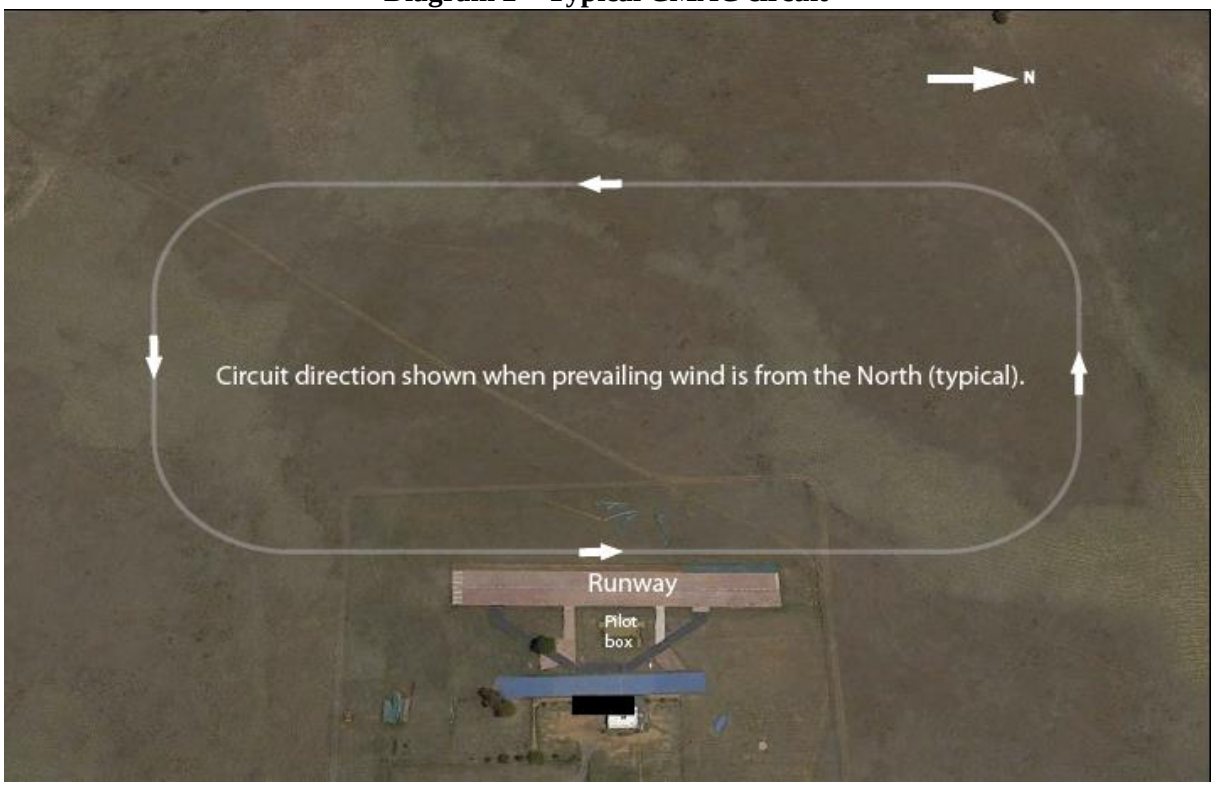
General flying is to be in a rectangular circuit, left-turning or right-turning as determined by the requirement to take-off and land into the wind along the airstrip. The circuit direction is to be determined by agreement between pilots if there is no wind or when there is a cross wind. (A typical circuit in a Northerly wind is shown at Diagram 2).

Pilots must not fly against the circuit direction unless they have clear verbal agreement from all other pilots flying at the same time. This is a key safety feature of the CMAC Operating Procedures so as to ensure adequate separation of aircraft in flight.

With the exception of take-off, touch-and-goes and landing, all flying at the main field shall be to the west of the centerline of the strip.

With the permission of all pilots in the flight box, low passes or simulated landings will be allowed above the runway strip.

Diagram 2 - Typical CMAC circuit



3.4.8. Aerobatics or Small Models and Unusual Manoeuvres

Pilots performing aerobatic manoeuvres, including hovering and "3D" manoeuvres are to have due regard to the safety of other R/C aircraft, and should only be performed after verbal agreement is received from the other pilots currently flying. Pilots performing other unusual manoeuvres when other models are airborne must confine their model to the area outside the field fence and directly in front of the pilot box, leaving space for others to fly a circuit around them.

Aerobatic pilots must be aware of the potential for distraction of other pilots, and if another pilot informs the pilot performing aerobatic manoeuvres that they would like the aerobatic flight to stop then it must be immediately stopped.

When pilots flying aerobatic manoeuvres are flying at the same time as other aircraft, airspace priority should be given to non-aerobatic aircraft.

All pilots should be especially vigilant of airspace clearance and separation if any pilot has requested permission to fly aerobatic or unusual manoeuvres or a dissimilar aircraft type.

3.4.9. Dead Stick Landings / Return to Home

A pilot whose model experiences an engine failure (including electric models) should immediately call that they have a Dead Stick and transit directly to a landing. Dead Stick should only be called in the event of a genuine problem with the model.

A Dead Stick landing that has been called by a pilot has absolute priority over all other flying procedures. Where possible, pilots should adjust their flying circuits to give the dead stick aircraft as much airspace as practicable.

For the purpose of this section, a multi-rotor, or flight controller operated aircraft (drone) operating in "return to home" mode is considered to be dead stick if called by the pilot. Pilots should maintain positive control input and only rely on any return to home function when the radio control link to

their model has failed, or very occasionally for training purposes, noting the earlier requirement for a dead stick call and safe transit altitude.

3.4.10. Landing

All forms of landings have right of way over take-offs. When preparing to land, each pilot must clearly call Landing. Where more than one pilot has announced their intention to land, the pilot who first called will have priority. Clear concise communication is paramount.

3.4.11. Touch and Go

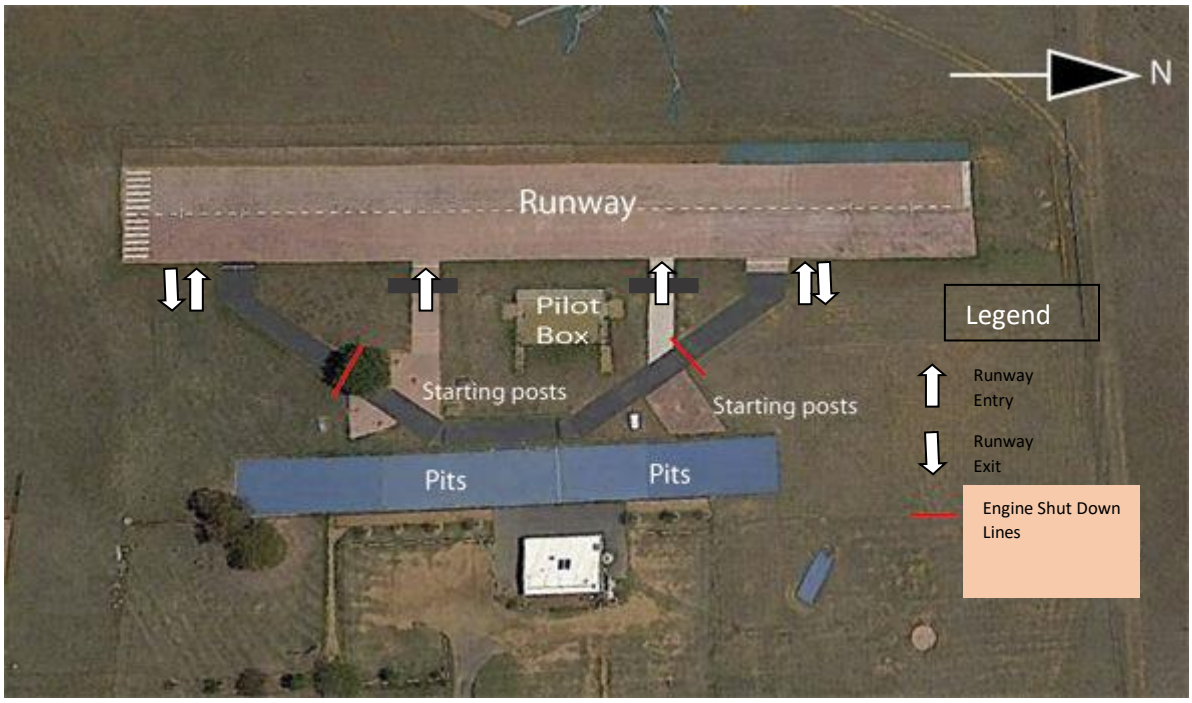
When preparing to conduct a practice landing and return immediately to flight, each pilot must clearly call touch and go and await confirmation call from other pilots.

3.4.12. Taxiways

Pilots are to use the taxiways for their models to enter and leave the runway. The red and black taxiways are for strip entry and the black for strip exit, see the figures at the end of these procedures. Given the prevailing northerly winds and the location of most of the start poles on the southern side of the pilot box, most models should enter the runway via the red taxiway directly to the south of the pilot box. Larger models needing the full strip length can enter using the black taxiways. When the wind is from the south, pilots should start in the northern start poles area and carry their model to the northern side of the pilot box and use the red taxiway there to enter the strip. Where the start location makes it hazardous to carry a large model with engine running behind the pilot box, a backtaxi down the runway to the takeoff location can be called by agreement with other pilots. Upwind black taxiways should always be used by models exiting off the runway. Exceptions to these taxiway procedures may be given by a Flight Director appointed by the Event Director during a special event or with permission of the safety officer or a CMAC Committee member.

Models exiting the runway are to have their engine/s or motor/s shut down before the taxiway engine shut down lines shown on Diagram 3.

Diagram 3 - Taxiway hold lines on exiting runway



3.4.13. Entering or Crossing the Airstrip

Anyone wanting to enter or cross the airstrip must seek clearance from pilots currently flying before proceeding. Once clear of the airstrip they are to call Strip Clear. Pilots should minimise time spent on the airstrip to maximise its availability for flight operations and to reduce the risk of injury by a model.

3.4.14. Gliders

Gliders including powered gliders must be towed, winched, hand or bungee launched as close to the airstrip as conditions permit, but should be controlled after launch in accordance with the rules for general aircraft types and must comply with CMAC altitude limits.

3.4.15. Turbine Aircraft

As the CMAC flying Field is surrounded by an extensive and sensitive grassland due care and consideration should be given before commencing to fly. Models fitted with turbines must not be operated during periods of high fire danger.
Pilots must hold Gold Wings (P) before flying aircraft fitted with turbines.
Before flying a turbine aircraft the pilot must comply with the rules in MAAA MOP030 .

3.4.16. Rotorcraft

Rotorcraft or other hovering models may be flown at CMAC with additional constraints.

3.4.16.1. Hovering Area

Pilots wishing to perform an extended hover or slow movement (for example during training) must do so within the designated hovering area (see Diagram 1).

3.4.16.2. Hovering Area Safety

Other than when assisting the pilot with starting, launching or retrieving a model, or while providing guidance or observation to the pilot during a flight at the hovering area, spectators must remain outside the safety fence at the northern side of the area while aircraft are operating. Operations in this area must not extend further West than a line extended south from the RC Pits area, further East than the field boundary fence.

3.4.16.3. Circuit Flying

Rotorcraft may also be flown in the main ‘circuit’ and must be controlled in accordance with the rules for general aircraft types. Flight in the circuit should accord with the direction of the circuit in use and rotorcraft should be flown in a manner broadly consistent with fixed wing models if there are any in the circuit. Hovering on the main field during fixed wing operations will be handled under the rules for aerobatic flight.

3.4.16.4. Small Models

Models that are very small, even if operated successfully on the main area of the field via FPV apparatus, represent a particular hazard when combined with larger and faster models. Pilots of small rotorcraft must consider the compatibility of their model's dynamics and in flight visibility to other pilots flying and should consult with them to seek agreement to join the circuit or a dedicated timeslot for that type of model.

4. Self Guided Model Aircraft Flying Operations

A Self Guiding Model Aircraft (SGMA) is one that can sustain controlled flight using onboard systems without input from the pilot. There are multiple types of SGMA with varying levels of autonomy. Noting the proximity of the CMAC field to sensitive airspaces and facilities, the risk of serious consequences from a 'fly-away' incident and the availability of multiple flying locations in the ACT,

SGMA are subject to additional requirements and some sub-classes not normally permitted to be flown at CMAC. The CMAC committee may at their sole discretion authorise specific and limited flights for sub-classes of concern based upon a suitable risk management plan but this should not be assumed.
The MAAA provides rules for Self Guided Model Aircraft (SGMA) in MAAA MOP066, although that is about to be substantially revised given the rapid technological developments in this area. CMAC will divide SGMA into the following categories:

a. **Stability Augmentation.** These models use advanced receivers (eg AS3X stabilisation) that employ accelerometers and potentially GPS to smooth flight and potentially also to maintain heading/altitude to simplify pilotage, but are also continuously subject to pilot input. Many trainers and some drones employ these modes, and some also employ back to home functions. Noting that the model is manually flown with assistance from the augmentation system, and the previous requirements for failsafe and dead stick, these models are not subject to any additional rules.
b. **Automated Models.** These models have more advanced capabilities for extended automatic flight, but can be over-ridden at any time by pilot input. As is the case for FPV models, Automated models must be continuously monitored by a pilot with MAAA wings who can takeover to effect any necessary control for safety reasons.
c. **Fully Autonomous Models (non-MAAA).** These models fly independently in pre-planned areas with no opportunity for the pilot to intervene in the control of the model to effect a safety related action. The model will use sensors and onboard systems in order to control flight and will make onboard decisions about its trajectory while in flight. While some may include a return to base option and features to geo-fence the model that could mitigate some hazardous scenarios, their control system is complex and they are not covered by MAAA rules or insurance. Fully Autonomous Models are not normally flown at CMAC, noting our partnership with Canberra UAV and the availability of the Spring Valley site. Where a police or emergency service requests to fly a Fully Autonomous Model at CMAC, they must provide a risk mitigation plan around hazards to flight from loss of control, and model flying will not occur and MAAA insurance will not apply.

5. First Person View Model Aircraft Operations

First Person View (FPV) Model Aircraft are defined in MAAA MOP 066. FPV may be flown at CMAC noting the requirements of the MOP for dual control arrangements and a suitable pilot in command with MAAA wings to be responsible for the flight and assume visual control should the FPV model present a hazard. The pilot in command must be able to visually monitor the entire flight in order to take control, even if theirs is the only model flying.
Noting the sensitive location of the CMAC field, FPV racing would not normally be undertaken at CMAC, unless agreed to be hosted as a dedicated event by the Committee. In all cases, FPV operation must remain on the basis of a separate pilot in command ready to assume control of each model.

6. Control Line Flying Operations

A Control Line Circle is located at the north-eastern corner of the CMAC field and all control line aircraft must be operated in this area.

6.1. Safety

Other than when assisting the pilot with starting, launching or retrieving a model, or while providing guidance or observation at the centre of the circle during a flight, spectators must remain outside the safety fence at the southern side of the flying circle while control line aircraft are operating.

6.2. Testing of Engines

Any extended testing, running-in or tuning, of engines may be undertaken in the CL flying circle or at the designated engine testing area located to the South-East of the RC starting area between the restraining poles and helicopter flying area.

6.3. Mufflers

All models equipped with an internal combustion engine must also be fitted with a suitable muffler. Standard manufacturer's mufflers will be taken to meet this requirement. Please refer to MOP062. for additional noise regulations.

7. Free Flight Aircraft

Free flight aircraft are prohibited at all times due to the altitude limit and the close proximity of Canberra Airport, the Rescue Helicopter Base and a major highway.

8. Unusual Aircraft

Pilots wishing to fly models having performance that is substantially different from models already in the circuit (for example pylon racers or other high speed aircraft, hovering, 3D or other low speed models including certain very small rotorcraft or blimps) should respect the rights of other pilots and seek clearance/acknowledgment from other pilots currently flying before commencing to fly themselves. Members are urged to be reasonable if asked by pilots of unusual aircraft to be allowed a short flying session exclusively for these types of aircraft. Similarly, pilots of such aircraft should be aware that general sport flying aircraft are the dominant type of model catered for at CMAC Field.

9. Models for Commercial Purposes

CMAC exists to promote aero-modelling as a hobby and sport, not as a basis of commercial operations. The CMAC lease also precludes commercial operations. Models that are being used for commercial purposes are not permitted to fly from CMAC.

10. Cooperation with Police and Emergency Services

The armed forces, police, emergency services, fire services or other related Government agencies may occasionally make requests to the committee to conduct *operationally necessary* drone operations at CMAC Field, so long as they comply with these procedures, especially those on SGMA and separate (ie non-MAAA) insurance if relevant.

11. Local Issues

11.1. Litter

Please do not litter the field or clubhouse. Use the bins provided and help out with cleanup.

11.2. Crash debris

When a model is crashed the owner should strive to ensure that all the pieces are picked up and removed. Where necessary, if a crashed model cannot be located but is known to be in the grasslands, members should request that a member with a suitable drone conduct an over-flight of the area to help locate the wreckage. All crash debris must be taken home by the member, not placed in the CMAC clubhouse bins, noting our limited rubbish capacity.

11.3. Surrounding grasslands - No Dogs allowed at CMAC

The surrounding grasslands are not part of the CMAC lease. They are a sensitive area and it is a condition of our lease that no dogs or any other domestic animals come to CMAC. Member's will respect the sensitivity of the area when retrieving models from grasslands and make appropriate efforts to create minimal disturbance.
From time to time the ACT Park Rangers that manage these grasslands have short term requests that impact on flying operations. These requests are to be observed and will be advised to members in advance when known by the committee. Where ACT Park Rangers or other authorised persons are transiting the grassland area at short notice, please do not fly overhead or within 30m laterally of their position.

11.4. Last Member leaving the field

The last Club Member/s leaving CMAC Field are to ensure that the transmitter pound (if outdoors) is closed and returned to the rear clubhouse if moved and that the moveable model assembly tables are under cover, any marquees and chairs are stored in the clubhouse. The toilet/washroom doors are to be closed and locked, the clubhouse alarm set and doors locked up, and the main gate locked upon exit.