



Model Aeronautics Association of Canada

BMAC Introduction To Training

MAAC Safety Codes

BMAC Field Rules



Brockville Model Aeronautics Club



BMAC Introduction To Training

You can visit our field any time other members are present. If you decide to pursue training, you must join the Model Aeronautics Association of Canada (MAAC) and BMAC. You must fly with an instructor until you have been awarded your "Wings".

The Chief Flying Instructor is named on our web-site. The CFI keeps a list of qualified instructors; you can train with any of them that are designated in the area to advance your skills. Either aircraft or drone/helicopter.

During the summer months, the club regularly meets at our airfield on Wednesday afternoons, from about 4pm until dusk. Usually the barbecue is going by 6pm. For a nominal fee you can have hot dogs and a drink, or bring your own.

Things to do to make your experience as rewarding as possible, with guidance from an instructor:

- The first time you visit our field, consider just visiting, with your eyes, ears and mind open.
- Don't be shy; introduce yourself, ask anybody a question. We all want you to succeed.
- Read the MAAC Safety Codes that directly related to your area of interest. Also BMAC Field Rules is provided. Documents provided to you separately.
- Understand local field conditions and etiquette.
- Before you come out to the field, check the weather forecast.
- Contact the instructors a day or two in advance, to see if one is available to help you.
- Ask an instructor for advice on what transmitter & model to borrow/buy for training. Refer to the information package given, re choices of Top RC Trainers, or Drone/Helicopters.
- Keep your model in top mechanical condition. If necessary, repair it before your next training day. Your instructor will help you troubleshoot problems.
- Help to create a duplicate setup on the BMAC buddy-box transmitter, and put your name on it.
- Before your next lesson, think about what you want to practice, and discuss it.
- After your lesson, make sure to get your BMAC Log Sheet updated.
- Consider purchasing a simulator, such as Phoenix or RealFlight. It will accelerate your training.
- Training resources can be found on the MAAC web-site. Look for:

Radio Control Ground School "MPPD 10"

Unavailable at this time.

For additional background: MAAC Wings Program

Unavailable at this time

Links:

- MAAC web-site www.maac.ca
- BMAC web-site: www.bmaclub.ca



BMAC FIELD RULES

1. Current MAAC membership card (or photocopy) to be prominently displayed on transmitter. MAAC insurance is mandatory to fly.
2. "A" Wings qualification before solo flying.
3. No taxiing in the pit area. Engines off when clear of runway after landing.
4. There will be absolutely **NO FLYING**:
 - 1 Over any general area where field workers or equipment are active.
 - 2 Behind the flight line no matter how far away from the runway. No flying over the pits, car parking.

Note: The presence of active field workers could easily require that no flying take place at all!

5. MAAC noise limits apply measured at 3 meters (10 feet) with full throttle. As of April 1999
MAAC noise guide lines are:
 - ◆ 98 dba @ 3 meters on hard surface
 - ◆ 96 dba @ 3 meters on soft surface
6. All aircraft shall be flown in a safe manner with consideration to others at the field.
7. Aircraft shall be flown in a fashion so as to minimize the noise footprint as perceived in adjacent areas.
8. Unaccompanied spectators (any observer who is not a club member unless invited) and animals must stay out of the pit area.
9. No breaking in engines in the pit area while other members are flying.
10. Every transmitter shall display the appropriate MAAC frequency flag at all times, if using 72 mhz radios.

No flying before 9:00 am Monday to Saturday and 10:00 am on Sunday.

11. Pilots shall announce their intention to land or take off.
12. Landing aircraft shall have the "right of way".
13. When in the pit area, aircraft shall be placed between the pilot and the runway to enhance awareness of the potential hazards posed by already flying aircraft.



Safety Code

This document contains safety rules and forms part of the MAAC Safety Code for all activities described herein.

MAAC Safety Document MSD 1- INTRODUCTION

The MAAC Safety Code consists of 23 separate safety documents that contain the safety rules applicable to each specific category of aero-modelling. By using the Document Retrieval Key presented in MSD 2 – Document Retrieval Key, members can determine, select and print those documents and only those documents which are applicable to the category or categories of aero-modelling in which they participate.

To use the Document Retrieval Key select the category from the left hand column. The individual document numbers are listed across the top of the Key. Read across the line for your category. The letter X indicates the documents applicable to your category.

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MAAC Safety Document MSD 3- ALL MODEL AIRCRAFT

The operation of a model aircraft in Canada is subject to rules contained in the Canadian Aviation Regulations (CARs) administered by Transport Canada. CAR 101.01 provides the legal definition of a model aircraft as follows. " Model aircraft means an aircraft the total weight of which does not exceed 35 kg (77.2 pounds), that is mechanically driven or launched into flight for recreational purposes and that is not designed to carry persons or other living creatures".

In addition, (CAR) 602.45 states, "No person shall fly a model aircraft or a kite or launch a rocket or a rocket of a type used in a fireworks display into cloud or in a manner that is or is likely to be hazardous to aviation safety".

All members operating a model aircraft either for sport or in competition shall adhere to the following basic requirements. Because these are basic requirements and because the safe operation of a model aircraft can be influenced by many factors such as local field conditions, weather, size of gathering, mix of model types etc. local club officials, event organizers or other assigned responsible persons shall provide interpretation, clarification and enhancements as necessary to ensure safe flight.

1. All members shall review and comply with the MAAC Safety Code, the specific rules of any special interest category and any rules established for the specific flying site and/or event.
2. The Safety Code and its attachments may be amended from time to time. All members shall review these documents for any such changes. Notification of all changes approved by the Board of Directors will be posted on the MAAC Web site as well as recorded in Model Aviation Canada in a prominent location so identified and will include the effective date of the changes.
3. No member shall operate a model aircraft in a careless, reckless or otherwise dangerous manner that may pose a hazard to persons or property.
4. No member shall operate a model aircraft while under the influence of alcohol or judgement impairing drugs.

5. No member shall operate a model aircraft in Canada weighing more than 35 kilograms (77.2 pounds) including fuel and payload unless he or she has a Special Flight Operations Certificate (SFOC) from Transport Canada and has arranged for his or her own insurance coverage. Members are further cautioned that any model weighing more than the above limit is considered by Transport Canada to be an Unmanned Air Vehicle (UAV) and may be subject to Air Regulations not normally applicable to model aircraft as defined.

6. No member shall operate a model aircraft at a location where it is prohibited by law.

7. No member shall create a hazard by carrying in or dropping from a model aircraft any object that may endanger persons or property.

8. No member shall allow projectiles to be launched from the ground with the intent of damaging or destroying a model aircraft.

9. No member shall fly a model aircraft at a location or in a manner that is or is likely to be hazardous to full-scale aircraft. For further information contact the MAAC Safety Committee.

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MAAC Safety Document MSD 6 - General Category R/C Model Aircraft

A radio control model aircraft is one controlled by a control system utilizing a ground based radio transmitter and an air-borne radio receiver.

This document covers outdoor R/C flying activities at R/C clubs or other venues involving many different types of R/C model aircraft flying at relatively low altitude in close proximity to a flying field similar to the one described in the MAAC Policy and Procedures Document MPPD 8 – R/C Flying Field Specifications.

There are other Special Interest Categories of R/C model aircraft whose flight regimes, field requirements and/or special safety precautions may differ from those contained in this document. These are addressed in Safety Documents located elsewhere in the Safety Code.

All members flying General Category R/C Model Aircraft shall adhere to the following.

1. No member shall operate a R/C model at a MAAC registered flying site until he or she has demonstrated that he or she can control the model in a safe and competent manner or is under the direct supervision of a qualified instructor.
2. No member shall fly a R/C model aircraft in competition or at an event to which the general public has been invited until the model has successfully completed a test flight or series of test flights to prove that it is airworthy and that the pilot is familiar and comfortable with its flight characteristics.
3. No member shall fly a R/C model aircraft designated as a special interest category type or participate in any competition involving that category until he or she has read, understands and intends to comply with all rules specific to that category.
4. All members shall prior to the first flight of the day conduct a thorough preflight inspection of all control linkages and control surfaces for correct direction of movement and secure installation and conduct a proper range check of the radio system.

5. All members shall use an appropriate method of restraining their model during starting and ground running of the model or during range checks when conducted with the motor running or where there is any danger of the motor starting as in the case of electric powered models.
6. No member shall taxi a model in a pit area so designated on the club field layout or in any other area where there are people. All models shall be carried or in the case of very large models walked to the flight line. The assistance of a helper shall be requested by the pilot if necessary. Where starting areas adjacent and having direct access to the runway are provided, taxiing directly to the runway is permitted.
7. All pilots shall fly from a designated pilot area and/or designated pilot-station where provided. Standing behind a model for take-off or hand launching a model from a position on the runway is permitted but once airborne the pilot shall move to the pilot area as soon as possible. All movement on and off the field shall be called out to other pilots. Club officials and/or event organizers may designate other areas of the field from which pilots may fly for certain events.
8. No member shall fly a model directly over pit or spectator areas, vessels, vehicles, structures, no-fly zones as designated on the club field layout or any other areas where there are people.
9. All initial turns after take off shall be made away from the pit, spectator and parking areas.
10. All takeoffs, flying and landings must be carried out on the side of the flight line opposite the pilot stations.
11. All members shall yield the right of way to all other types of aircraft including full-scale human carrying aircraft, UAVs and unmanned balloons.
12. All members shall utilize the assistance of a Spotter and/or a Helper when deemed necessary. (See MSD 7 – Need For and Duties of Spotters and Helpers)
13. A maximum of five aircraft airborne at one time is recommended but no longer mandatory. Club officials and/or event organizers may increase or decrease the maximum number based on specific events after taking into consideration the many factors that may affect safe operations. Such changes shall be documented in the club's Field Guidelines and/or the rules for a specific event.
14. All pilots shall maintain direct unaided (except for corrective lenses and sunglasses) visual contact with their model at all times during the flight.
15. All R/C flying shall be conducted in an area of the sky and at an appropriate altitude where the consequences of any mishap will minimize the danger to persons or property.

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MAAC Safety Document MSD 7 – NEED FOR AND DUTIES OF SPOTTERS AND HELPERS

Although the terms Spotter and Helper are often used interchangeably and the associated duties of each are often combined, the need for and duties of each are quite different.

A Spotter is a person assigned to assist the pilot of a R/C model aircraft during all phases of flight.

1. All members shall utilize the assistance of a Spotter while flying an RC model when,-
 - a) The rules of a special interest category require it.
 - b) It is determined by club or other event officials to be necessary.
 - c) The pilot is flying using a First Person View Device.

A Helper is a person assigned to assist the pilot of a R/C model aircraft during start up, ground running and ground handling of the model from the pit area to the flight line.

2. All members shall utilize the assistance of a Helper when,-
 - a) The model is too large or too powerful to be safely ground handled by the pilot alone.
 - b) There is no other suitable means available for restraining the model during start up and ground running.
 - c) The model requires hand launching and cannot be hand launched safely by the pilot.
3. The specific duties of both Spotters and Helpers may vary depending on many factors. Some of the possible duties are covered in MAAC Policy and Procedures Documents MPPD 4 – Duties of a Spotter and MPPD 5 – Duties of a Helper.

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MAAC Safety Document # MSD 8 - USE OF FIRST PERSON VIEW DEVICES

Definition: First Person View or FPV is a video system consisting of a video camera and video transmitter installed in a radio control model aircraft which transmits wirelessly to a ground station display or monitor a streaming video image generated by the camera. The camera is positioned near the front of the model and facing forward so that the FPV pilot views an image which provides him or her with the illusion of actually flying an aircraft from an on board pilot's perspective.

All members flying a radio control model aircraft by means of an FPV device shall adhere to all Safety Code Documents pertaining to the class of model he or she is flying in the same manner as if the model were being controlled by conventional R/C line of sight control.

In addition all members flying any R/C model aircraft using an FPV device shall adhere to the following.

- 1) All members flying FPV shall designate a Spotter who shall remain next to the pilot throughout the entire flight.
- 2) The spotter shall, unaided by any optical device other than corrective lenses, maintain direct visual contact with the model aircraft at all times and shall advise the FPV pilot of the model's position and altitude in relation to the field and any conflicting traffic. This rule is necessary to satisfy Canadian Air Regulations requiring continuous visual line of sight control of a R/C model aircraft and shall never be broken.
- 3) The spotter shall be a qualified R/C pilot capable of taking control of the model in any emergency and flying it by conventional R/C line of sight control until such time as the emergency is resolved or if necessary safely landing it.
- 4) The spotter does not have to be FPV qualified.

Continued on next page..

- 5) All models to be flown FPV shall first be proven airworthy by a test flight or series of test flights using conventional R/C line of sight control. In the event of any mishap resulting in damage to the model it shall be re- tested by conventional R/C line of sight control before further FPV flight.
- 6) Once qualified as an FPV pilot a member may fly FPV at any venue which permits FPV operation of the category of model he or she is flying, providing that the mandatory spotter rule is followed.
- 7) At venues where several FPV models may be present an FPV frequency control board or impound similar to those used for 72 MHz R/C radios shall be used . Frequencies that can currently be used to transmit a video signal from a model aircraft are shown in chart form in MSD 17 – RADIO SPECTRUM.
- 8) For additional information on FPV review MPPD # 13 – FIRST PERSON VIEW or contact the FPV Committee.
- 9) For additional information on HAM radio licensing and allotted frequencies, for FPV review MSD # 17 – Radio Spectrum or contact the Radio Frequency Spectrum Committee

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MAAC Safety Document #MSD 13 – ALL R/C HELICOPTER

1. All members flying R/C Helicopters outdoors shall abide by the Safety Code rules for General Category R/C Aircraft in so far as they may be applicable. All members flying R/C Helicopters indoors shall abide by the Safety Code rules for R/C Indoor Flying.
2. Operational differences of Helicopters may require some amendment of these rules by club officials and/or event organizers and where both helicopters and fixed wing aircraft are being operated concurrently helicopter pilots are expected to conform to the same rules as the fixed wing pilots plus any amendments. For example when a separate landing and/or hovering area for helicopters is provided.
3. For additional information and suggested best practices for the operation of helicopters see MPPD 9 – Flying R/C Helicopters or view R/C Helicopter Committee Document titled the Helicopter Blades Program on the MAAC Web site under committees, R/C Helicopter, View Documents or contact the R/C Helicopter Committee.

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MAAC Safety Document MSD 17 – RADIO SPECTRUM

1. Radio Systems shall be used in accordance with Manufacturers' recommendations.
2. All members shall utilize only frequencies approved by Industry Canada.
3. No frequency control is required for 2.4 GHz spread spectrum radios. For equipment on all other authorized frequencies, members must observe strict frequency control measures. These may include use of a MAAC Frequency Board, Transmitter Impound or other similar system.
4. All members shall range check their radios before the first use of the day and after any mishap requiring repairs.
5. No member shall knowingly operate a radio control system other than a 2.4 GHz Spread Spectrum system within 4 kilometres of an established R/C flying location without an adequate method of frequency control. Where two RC clubs have flying facilities within 4 kilometres of each other, a frequency sharing agreement must be established if any equipment other than 2.4 GHz Spread Spectrum is to be used.

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MAAC Safety Document MSD 19 - Small Park Flyers/Park Flying

A "Park Flyer" can be any type of model aircraft flown in a public park. This document covers only small, light-weight, slow moving Park Flyers. They can be fixed-wing or rotary, electric or rubber powered or an un-powered glider. They can be free flight or radio controlled. This document does not cover piston or fuel-burning turbine powered models, rockets or models flown by control lines.

1. Considerable discretion must be exercised in the choice of aircraft for park flying. Only models of a size, weight and performance level compatible with the clear flying space available shall be flown.
2. Members shall comply with any by-laws, air regulations or other ordinances in place that restrict or prohibit flying of model aircraft in the proposed space or in the community. Members must be aware that all parks are not public and all public spaces are not parks. School yards shall be of particular concern. They are controlled by authorities other than municipalities that may have different rules not covered by local by-laws. Similarly, if park flyers are to be operated from private property, the above conditions must also be met along with securing the landowner's permission.
3. The available area shall be defined in regard to fly and no-fly zones. The pilots working area, any buildings or major structures, parked cars, sports fields in use, inhabited picnic and play or similar populated areas shall be no-fly zones.
4. An effective means of spectator control shall be implemented. Particular attention shall be given to unsupervised children. All Spectators and other people not directly involved with flying the model shall be kept well back from the fly zone. In addition a spotter shall be used where a need exists to keep the pilot advised on the comings and goings of people using the park.

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MAAC Safety Document MSD 23 – ALL MULTI-ROTOR MODEL AIRCRAFT

Multi-rotor Model Aircraft are craft that achieve lift and therefore flight from three or more vertically mounted electric motors each driving a propeller mounted in the horizontal plane. All are controlled by a conventional R/C system augmented by some form of stabilization system consisting of gyros which control the amount of electrical current supplied to each of the motors independently in order to stabilize the model.

All members operating multi-rotor models shall adhere to the following rules.

1. All multi-rotor models flown by R/C direct line of sight at a MAAC registered club flying site shall adhere to the rules for General Category R/C models contained in MSD 6 in so far as their unique flight characteristics permit.
2. All multi-rotor models flown using FPV (First Person View) devices shall adhere to the rules for the use of First Person View Devices contained in MSD 8.
3. All multi-rotor models flown at locations other than registered MAAC club flying sites such as parks or private property shall adhere to the rules contained in MSD 19 – Small Park Flyers/Park Flying.
4. Use of auto-pilot systems providing self guidance control of the model are limited in their use on condition that the model must remain within direct unaided visual line of sight at all times and that the auto-pilot may be over-riden and hands-on control of the model regained by the pilot at any time through a single switch.
5. All members shall fly in a manner that takes into account that multi-rotor models rely entirely on the lift generated by the propellers to remain airborne. Any interruption in power will therefore result in an immediate and uncontrolled descent. Multi-rotor models shall never be flown over any area where there is the possibility of injury to people or damage to property.
6. All members shall ensure that prior to flight, all systems both manual and automatic self guidance are properly set and operating correctly and that the means to switch between manual and automatic modes is fully understood.
7. For further information and suggested best practices on the safe operation of multi- rotor model aircraft contact the Chair of the Multi-rotor Committee or visit the Multi- rotor web page at www.maac.ca, Committees, Multi-rotor, View committee documents.

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