



This document contains information and suggestions that while not mandatory are never-the-less important advice for all MAAC members. To ensure that you have the latest version always check the MAAC [Web Site](#).

1.0 **Title.** MAP01-T-6 – General Flying Field Set Up and Best Practices

2.0 **Purpose.** To provide some helpful advice and cautions to be considered when setting up a flying field along with associated best practices.

3.0 **Definitions** [Glossary of Terms](#).

4.0 **Discussion / Background.**

4.1 **Recommended R/C Flying Site Specifications** are covered in [MPPD06](#).

4.2 This document provides a variety of additional things to consider when setting up your Club flying field or even just Club best practices in general. Although compliance is not mandatory these best practices may provide improved margins of safety under certain conditions. If you have additional items you think others would benefit from, please pass those along to your Zone Director.

5.0 **Recommendations.**

5.1 **Increased Distance:** Physical separation between the flight line, pilot stations, pit and spectator zones are a primary means of managing risk. Larger, heavier, faster aircraft require greater distance to decelerate than smaller, lighter, or slower aircraft. While MAAC has mandatory minimum distances, increasing these separations based on types of aircraft expected to be flown can be more effective, especially when coupled with appropriate barriers.

5.2 **Barriers:** Netting, fencing and natural vegetation can be used to minimize the potential for harm caused by errant aircraft:

- Pilot station barriers should always be present and used. They should be constructed with a sturdy frame of enough height and material strength to allow pilots to “duck and shelter” **safely** behind. Their main purpose is a shield for pilots.
- Barriers separating the pits from the flight line should be present for larger gatherings or events. They should have staggered exits or overlapping fencing to allow heavier aircraft to be “towed” out, while preventing errant landing aircraft from entering the area. Pit barriers are normally a lower height to allow spectators to see over, or pilots to easily carry smaller models over. Whatever material and height are used, it must be able to arrest the type of aircraft flying/landing at the expected speeds.
- Spectator barriers should be present anytime the public is invited. At a minimum they should clearly indicate the required distance to stay back from the flight line. Simple

rope on stakes strung the length of the flying field normally suffices. At events with larger or faster aircraft, consideration should be given to spectator barriers capable of stopping errant aircraft on the ground – if that type of last line of defense is appropriate.

5.3 Site Security: Containment of the entire flying site (flying area, runways, pits, startup area) is always a critical element of safety. If this zone is compromised at any time by unauthorized persons, vehicles or any other “thing” (wildlife, livestock, pets, etc.) where our flying activities might reasonably cause harm, club rules should indicate the related activities must stop immediately until the situation is resolved. Clubs should have a means to monitor the flying area for unauthorized entry and published rules on how to re-start flying operations afterwards. If possible and practical, consider signage to define the perimeter of the area(s) where violation is most likely or often to occur. During fun-fly type events with many visiting pilots, the hosting Club should explain any protocols in place. During events open to the public, Club organizers should have enough personnel to monitor and control access to all safety sensitive areas of the flying site.

5.4 Signage: As a minimum, Clubs should have a prominent sign indicating the Club Name, that model flying occurs, risks associated, first responder process/numbers and preferably a Club point of contact. At fun-fly type events, signage should be increased to indicate where different actions occur (pits, start up, spectator). At events open to the public, signage should be very clear on “no-go” type areas, warning of risks, no-smoking areas and directing people along safe routes. Signage should be simple, clear and a large enough font to be read from a few feet. A permanent laminated weatherproof copy of the Exemption is also a good idea.

Field Reference Markers are a great idea to assist in locating a downed aircraft. They can typically be located along the parameter of the field where trees, tall grass or high level crops (corn) can make it difficult to reference a location by spotters. For example, a tall bush line at the back of a field can be referenced using number plaques 1 through 8 and spread at equal distances. A spotter can call out “look between sign 3 and 4”.

5.5 Startup Location: Even during casual Club open flying, care and consideration should be given to where start up and especially run-ups or tuning occurs. During events with extra people milling about this becomes even more important. Consider the areas beside as well as behind the startup area, and proximity to other areas:

- A broken propeller at full throttle flies like a knife – sideways more than forward. Try to ensure people are not in the immediate “prop-arc” area, and if they are, they are made aware of the risks, or equipped with PPE (eye/face protection).
 - High power EDF blades suffering an uncontained failure at full throttle can be equally unsafe for persons nearby.
- Prop/EDF blast behind large powerful models can easily flip and damage smaller models. If there is loose dirt or debris, that can easily become a projectile and eye risk for anyone behind the startup/run up area. Check for loose debris, and place startup/run up areas away from people, and parking/display areas.
- Noise may be a consideration – run-ups and especially prolonged glow/gas tuning near pilot stations can be a very serious distraction. Tuning “stations” should be

located as far from pilot stations as is safely possible – and pilots should be informed to **use them**.

- JET blast from running turbines poses an added fire/heat risk as well as potential to burn or damage field property. If your club currently has or plans to host turbines, consider building aluminum or steel ski-slope style blast deflectors. **Ensure they are securely anchored**. Some spectators do not respond well to the smell and noise of turbines and the exhaust velocity can flip even larger models. Consider an isolated start up area specifically for turbines – they generally like to be right at the end of the runway anyway.

5.6 Startup restraints: There are many different methods of restraining models during preflight, start up, tuning and run-ups. The appropriateness of each method depends on many factors including but not limited to size, weight and power of the model. All members should use good judgment in selecting an appropriate method of restraint.

- **Starting tables** have an advantage of getting the model up higher where the pilot should not need to reach over or through a spinning propeller. If the holding posts block/grab the wings this is also often less stressful on the airframe. Extreme caution must be taken when lifting a running/armed aircraft off the starting table. If you are alone, set the transmitter **flat on its back** somewhere where the throttle cannot be accidentally advanced. The use of an assistant is greatly encouraged. Free plans for simple wood tables exist online.
- **U brackets or tail holds** of many designs and prices are readily available. Take care to ensure the tail cannot jump up and out of the brackets, and that the holding power is enough for your size of airplane. An assistant holding the plane forward while the pilot activates the starter, normally pushing the plane backwards, is advisable. As with a starter table, if you need to lift a running/armed plane out of the tail hold, set the transmitter **flat on its back** somewhere where the throttle cannot be accidentally advanced. The use of an assistant is greatly encouraged.
- **E-power** – even with safeguards such as throttle position sensors, it is considered a best practice to secure electric powered aircraft before plugging in the battery. Unlike internal combustion engines, an electric motor will not stop because the propeller hits something. Electric propellers are extremely thin edged – which cuts flesh with staggering efficiency.
- **Helicopters** – Helicopter operations, whether gas/glow or electric may require specialized startup areas and holding protocols. If inviting helicopter pilots to a Club not familiar with that type of operation, consult with the pilots before the event to set up any areas unique to their operation. The same applies to Quads or “drones”.
- **PPE** – personal protection equipment. Nothing ruins a potential fun day of flying like injury to oneself or others. The startup phase places the pilot nearest a very real source of injury – spinning propellers and other fast-moving parts. The following are highly encouraged:
 - Safety glasses – preferably wrap around impact proof “safety” rated protective eyewear. Failing that even sun-glasses and normal eye glasses are better than nothing. A metal starter can shatter a composite propeller in a heartbeat – sending sharp shards everywhere. Not fun.

- Gloves – if hand-propping, the use of cowhide or leather gloves is encouraged. Not only does it provide a little cushioning for the occasional finger whack, gloves protect against needless and often deep lacerations from the sharp back side of propellers. Consider supplying gloves at the startup stations during a fun-fly.
- Hearing protection – especially for turbines. Hearing damage is no joke – model turbines produce sound levels comparable to their full-scale brethren. Hearing protection for those in the immediate vicinity is encouraged. Yet another reason to have turbine start up areas more remotely located. Pulse Jets are still legal and can produce upwards of 140 dB – hearing protection is strongly encouraged during startup.

5.7 Fire Protection: When flying activities are occurring, Clubs and individual members should consider having adequate means to extinguish small fires. This must include consideration for the types of fires to be expected – gasoline fires are different than Lithium fires which are different than what the Turbine operator wants sprayed on his very expensive turbine. Fun fly's and events with the general public carry more risk and should have a more robust fire protection plan in place. Designated smoking areas and no-smoking signs near pit areas are also encouraged. Lastly, knowing beforehand how to summon local fire fighters and expected response time is an extremely good idea. 911 does not work in every rural area of Canada. **Post the information prominently.** Clubs in areas with frequent open fire bans should consult with their RM or land-owner on any additional fire protections required.

5.8 Medical Supplies: It is recommended that a first aid kit be on hand any time flying is occurring. A small first aid kit is easy to carry with your transmitter – meaning you should never go flying without it. For a Club fun fly or events where the public is invited, consider having additional medical supplies and perhaps even first aid trained personnel – comparable to the size of event.

The location and remoteness of some flying sites may make it difficult to summon help. It is a good idea to avoid flying alone if at all possible. Though the risk of injury might be quite low for smaller models the possibility of serious injury increases as the size and speed of the model grows. Even ground handling of larger models can be dangerous. Carrying a cell phone is a good practice as well. As with fire protection, it is an extremely good idea to determine how to summon first responders before an event happens. If there is no cell service or first response available, know the location of the nearest treatment center and transit time – minutes can matter. **Post that information prominently.**

5.9 Insurance. Every MAAC chartered club and sanctioned flying site following the MAAC rules has MAAC insurance – the only additional document clubs should have on hand at the field are the [incident reporting forms](#). Completing these the day of the incident can go along ways to ensuring an accurate version of the event and ultimately protecting the Club. It also makes it easier to comply with reporting requirements for incidents:

The [Transport Canada exemption](#) (item #5) **legally requires**, that Clubs and individuals report to MAAC any incident or accident between a MAAC operated model aircraft and any other aircraft (full size) or persons on the ground that are not members or MAAC.

If your Club is planning an event such as a fun-fly or anything open to the public, you **must** obtain a MAAC sanction for your event. Do not assume that you have insurance coverage unless you have received a sanction number from your Zone Director. Following all MAAC [Safety Codes](#) is essential, (see [MPPD02 MAAC Sanctioning of an Event](#)).

5.10 Establish Club/event rules: While this may seem obvious, many Clubs don't have any written rules for various reasons. The absence of clear basic rules or guidelines has probably led to more confrontation and issues for Clubs than anything else. A Club is a group of likeminded people who should enjoy a common activity – it's a best practice to figure out what that means to your group, the do's and do nots, write it down and then communicate it openly. Preferably your Club should review and renew Club rules each flying season but at the very least do that before any events begins – especially if the public can attend. Some common best practice issues:

- Define key Club roles and ensure that everyone understands their responsibilities in ensuring safety. Will you appoint an everyday Safety Officer?
- Has any appointed Safety officer read **the actual** MAAC and Club rules? Quite often people think they know MAAC rules but often get them wrong. ([MAAC Safety Documents are available online](#)).
- Flying types and segregation – do you want warbirds to share the same airspace at the same time as 3D planes hovering and flying mid-field, or do you want to set up some form of segregation? (they don't mix well!) Segregate by time or simple verbal agreement? Do you want helicopters to fly in the middle of your runway or off to a side? Same for quads or "drones" – they do show up at fun fly's, are a legitimate and allowed MAAC model aircraft. Will your Club accommodate them? Perhaps a more appropriate Club rule might be how a "drone" club plans to accommodate fixed wing airplanes!
- Hand-launch procedures – where do you stand – literally! Adjacent to pilot stations or end of runway? Do you need permission to launch or just call it out? Does it differ during a fun-fly or events?
- Stand behind or "Pilot on runway" take-offs - Do you need permission or just call it out?
- Bungee launches – where is acceptable? Markers for the gear? Launch procedures?
- Calling out actions – do you want to have pilots announce intentions? LANDING, DEADSTICK! Those can be **important** calls. Do you need permission to take off or just do it?
- Spotter use – when are they required and more importantly what are they looking for. They should be looking for full-scale aircraft but can also be for in air conflicts, coordinating with other pilots or anything else your Club decides.
- Recovery procedures – Clubs should have procedures to ensure pilots do not enter an active flying area to retrieve their models. What if they crash off field – is land owner permissions required before or informed after? How long can members "look

in the weeds” before flying resumes – not much fun watching flyers walk around for an hour trying to find a hatch cover.

- Demonstration flights – Will your Club allow one pilot to use the entire flying area for a demonstration? If so, for how long?
- Formation or mass flights – With 2.4 there is no frequency limit to the number of pilots flying at once. Consistent with MAAC Safety codes how will your Club or event handle mass flying? How many is too many? Who decides?
- Contest activities – If your Club plans contests or other fun activities during a fun-fly, who is in charge? What are the rules and how will you communicate them?
- Visitors - as a rule non-MAAC spectators should not be allowed past the spectator line or in the pit area unless accompanied by a Club member. How will your Club monitor this during a fun-fly or event? What about invited guest or visitors standing next to pilots or getting a chance on a buddy box – do you have any protocols?
- Housekeeping items – any Club rules about Parking, smoking, bar-b-ques and refreshments. We are adults usually on private property – what are the Club rules to avoid problems on a beautiful Saturday night **after** flying? Understand certain activities **after** flying may be perfectly legal – including Cannabis – especially at a camp n fly event. That might set off quite a few heated arguments, but it is now a legal reality. How will your Club/event deal with that?
- Communication – How will your Club communicate whatever rules you decide? What vehicle will you use for club members? This can be especially important to communicate to visiting pilots during a fun-fly or events:
 - The use of a daily safety briefings, before flying activities begin, to inform and educate non-club pilots is very important.
 - Experience has shown that a semi-prepared list of items is more effective than “winging it”.
 - Experience has also shown if you are hosting a multi-day event to expect new pilots every day – and sometimes they show up throughout the day. Does your club or event have a pilot registration protocol to ensure new pilots are informed pilots?

5.11 Anytime an R/C model is running or “armed” in preparation of flight and not restrained, it is a good practice for the pilot to hold the transmitter in their left hand with their thumb or finger holding the throttle down, or in a position to prevent the throttle from accidentally advancing. (right hand/finger/thumb for Mode 1 Tx). Use of a neck strap or tether is encouraged but the transmitter should never be allowed to dangle from a neck strap as the throttle may be accidentally advanced. Pilots using transmitter trays should similarly take steps to protect the throttle from accidental movement. Never dangle a loose neck strap near a prop aircraft which is running or attempting to start by hand or with a starting device.

5.12 Pilots should commence and end all flying activities from a stationary position, preferably behind a pilot station and barricade. If the pilot must take-off and then move to the pilot station, it is strongly encouraged to have a spotter physically guide the pilot – one hand on the pilot’s shoulder and herd them safely to the pilot station. If there is any risk of the

pilot tripping or otherwise losing control of the aircraft due this movement, the pilot should remain where they took off from, land as soon as possible and otherwise discontinue flying until they can do so safely behind a barrier.

5.13 All R/C pilots should concentrate on their flying at all times, avoid distractions as much as possible, and **not be distracted by other persons**.

- Cell phones have been known to cause interference with 2.4 and should not be used while flying. It is recommended to leave cell-phones in the pit area, or vehicles.
- Pilots practicing to music or even just enjoying music should be considerate of other pilots – all pilots must be able to hear verbal action calls – if utilized.
- Guests of Club members should be briefed on acceptable behaviors at the flying field – loud conversations and pronounced verbal responses to observed flying can be especially distracting.
- Club pilots socializing or observing in the pit or spectator area should be respectful of noise level and especially of yelled comments – those are distracting and not always understood. Yelling “altitude” or “flight line” when there is more than one plane flying is **not helpful**. The proper place to provide solicited advice is beside the pilot flying – when it’s not a distraction. Unsolicited advice should not occur until after flying is concluded. Published protocols for members to address observed obvious and unsafe actions in real time are encouraged.
- Prolonged tuning and engine run-ups can be especially distracting and annoying. Practice respectable behaviors – timing is everything.
- Club members should be cognizant and respectful of different experience levels and nervousness.
 - A newly minted pilot may be more nervous about flying in front of the Club “peanut gallery” than they are about flying the model – keeping any comments to a minimum can go along way to building confidence and Club comraderies.
 - Equally, an experienced member about to maiden a yearlong scratchbuilt giant \$\$\$ whatever does **not** need other club pilots asking a million questions while he assembles it, starts it, and fly’s it. Plenty of time for those conversations after the flight is over.

6.0 **Current Version.**

Version 1- Approved by the BOD on June 29, 2020

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