Operation of RPAS over 400'
Summary

Site:

- Operation of RPAS over 400' is only allowed at sites approved by MAAC.
- Approval is for a specific site on a site by site basis after a review. It is not issued to individual members
- Details are in the approved site rules
- Site operators (club or personal flying site) will have copies of all required paperwork sent to them by MAAC
- VLOS operation only - no FPV

RPAS

- Registered, declared and meeting the MAAC Manufacturer Declaration
- Equipped with anti-collision beacon
- Failsafe active

Pilot

- Must have an Advances RPAS Certificate or be under supervision of an appropriate RPIC (where approved)
- Completed crew training fitness requirements and signed declaration
- Altitude determination & declaration as appropriate (pilot or each RPA)

Altitude Determination

- Real time telemetry is acceptable for all altitudes

Up to 700'agl

- Visual estimation is acceptable for both sustained (ie glider) or intermittent (ie aerobatics) operation
- Training and declaration completed for visual estimation

Up to 1200'agl

- Telemetry required for sustained operations
- Visual estimation is allowed intermittent (ie aerobatics) operation
- Training and declaration completed for visual estimation

Over 1200'agl

- Telemetry required for all operations

Documentation

- Copy of current SFOC and application
- Manufacturer declaration for each RPA
- Certificates of registration, pilot RPAS certification and recency proof

- An altitude determination declaration as appropriate (pilot or each RPA)
- RPAS Pilot has completed Crew training and fitness requirements and signed declaration
- RPIC documents (if applicable)
- Student declaration

Crew Training and Fitness Requirements Declaration

To operate any RPAS under the MAAC SFOC (930433), each member and their crew must meet the following requirements. MAAC has an agreement with RPAS Center to utilize their advanced school program free of charge.

Any members who have taken the RPAS Center training course have met the MAAC "crew training" requirements to operate an RPAS above 400'AGL. Those who did not take the RPAS Center course must read the applicable MAAC Safety Documents (MSD) or MAAC Policy and Procedures Document (MPPD) and TC AIM material on these topics.
All members must complete the self-declaration of understanding below. This form once completed must be readily accessible during any RPAS operations above 400'AGL.

For the purposes of this policy, crew is defined as the RPIC, RPAS pilot, Program Director (ATC Coordinator), spotter, or visual observer(s) (VO) as appropriate. All MAAC crew involved in RPAS operations above 400'AGL shall be trained in MAAC standards in the following topics per Transport Canada's Advisory Circular - AC No. 900-001 1.1(3)(a)(ix)(A) as contained in various MAAC policies:

a) Application of operational procedures (normal, contingency, and emergency procedures, flight planning, pre-flight and post-flight inspections)
b) Communication
c) RPA flight path management, automation
d) Leadership, teamwork, and self-management
e) Problem solving and decision-making.
f) Situational awareness
g) Workload management
h) Coordination and handover
i) CRM (Crew Resource Management)
j) Crew fitness policy and requirements.

I hereby declare that, for the operation described in the MAAC SOC:

- All RPAS crew members have been trained on the topics identified in Transport Canada's Advisory Circular - AC No. 903-001 Appendix C, Section 1.1(3)(a)(ix)(A).
- A crew fitness policy is in place, and each RPAS crew member self-declares their fitness prior to acting as a member of the flight crew.
- Any external systems or services in use are adequate for the operation.
- The environmental limits in use for the proposed operation are adequate to ensure safe operation of the RPAS(s).

Name of Responsible Person_____Date_____

Signature_____

You are required to keep this declaration at the site while operating the RPAS.

MPPD 29 - RPAS Pilot in Command
MAAC RPIC Pilot Qualification requirements and limitations

The MAAC RPIC program is unique to MAAC and is based on the MAAC SFOC approval guidance contained in IPB 2021-03 (in support of SI 903-002) which relates to the qualifications of crew members operating heavier RPA under VLOS. In addition to the pilot qualifications, each site must be assessed individually as there are site specific variables mostly related to controlled airspace requirements. Consult site rules for the MAAC RPIC stipulations.

> *From the Aeronautics Act (s.3 (1)), "pilot-in-command" means, in relation to an aircraft, the pilot having responsibility and authority for the operation and safety of the aircraft during flight time.*
>
> *The PIC requirements listed are only for the person assigned as PIC for the RPAS operation and do not constitute the requirements for the pilot physically controlling the aircraft. There may be multiple pilots assigned flight duties on a particular RPAS operation but there shall only be one PIC (at a time). The PIC may be the pilot operating the controls of the RPAS or they may be directing other pilots at the controls of the RPAS.*

Relevant Terms in increasing order

Non-certificate holder – whether a MAAC member or not, is any person who does not possess or does not have in their possession, all required, current and valid RPAS operator certificates – regardless of ratings.

- Example 1 – a non-MAAC member who attends a fun fly and wants to receive a demonstration flight using a members model. This is perfectly allowable under the RPIC program in all airspace scenarios.
- Example 2 - a US citizen coming to Canada to operate an RPA at an event who has written and passed the appropriate Transport Canada RPAS certification tests but forgets a key document at home. They cannot legally operate an RPA independently. They can however take full advantage of the RPIC program and enjoy the hobby while in Canada.
- Example 3 – A long time MAAC member who used to conduct flight reviews but allowed all of their Transport Canada RPAS documentation to lapse and does not have any type of Pilot License. They may not provide direct supervision under the RPIC program until they renew their Transport Canada RPAS documentation but may still enjoy flying under another members RPIC direct supervision provisions.

Basic RPAS Certificate holder – is a MAAC member who possesses a current and valid Transport Canada issued Basic RPAS operators certificate.

Advanced RPAS Certificate holder – is a MAAC member who possess a current and valid Transport Canada issued Advanced RPAS Operators Certificate. The technical requirements of the RPA (manufacturer declaration, SFOC) to operate in some advanced scenarios are not tied to the person and must also be met.

RPAS Flight Reviewer status – is any MAAC member, whether affiliated with a Transport Canada recognized RPA Flight school or not, who possesses a current and valid Transport Canada issued Flight Reviewer certificate.

Restricted Operator Certificate Aviation (ROC-A) – A current and valid ROC-A may be required in certain circumstances such as to maintain 2-way VHF communication with other airspace users or ATC. This requirement, where applicable, can be met by any person as outlined in the Site rules, or MAAC Crew roles and responsibilities policy. An RPIC(s) may be assigned any communication responsibility. Note - VHF monitoring does not require ROC-A and can be accomplished by any member consistent with site rules, however no student shall be assigned any communication requirements.

Private Pilot License or higher (PPL+) – any MAAC member who has been issued a Canadian Pilot **License** by either Transport Canada of the Royal Canadian Air Force (RCAF/DND) can act as RPIC with the following notes:

a. Expired PPL+ qualifies for RPIC provided the document was not rescinded or revoked by Transport Canada/DND for regulatory infractions etc.
b. Pilot Permits, ATC Licenses or Aircraft Maintenance Engineer (AME) or similar do **not** qualify for RPIC.
c. Foreign pilot licenses, of any rating, do **not** qualify for RPIC under the MAAC program.

For clarity, any person (member or not) who **only** holds a PPL+ shall not:

a) be allowed to independently operate an RPAS at any MAAC site.
b) provide direct supervision to another PPL+ **only** holder, at least one person/member must have an RPAS certificate of some kind.

Basic Site/scenario – is any site where the RPAS pilot only requires a Basic RPAS operators certificate **and** the RPA does not require compliance with any Manufacturer Declaration (i.e. not in controlled airspace, within 3nm/1nm airport/certified heliport, below 400', less than 25kg etc.).

Advanced Site/scenario – is any site where either the RPAS pilot requires an Advanced RPAS operators certificate, **or** the RPA is required to meet a Manufacturer Declaration, **or** both.

The following explains the options for any MAAC member to provide RPAS Pilot in Command (RPIC) direct supervision to another person. These rules in full shall be listed in all RPIC approved site rules:

1. **Basic RPAS Certificate Holder - Direct Supervision options** – any MAAC member with a current and valid Basic RPAS certificate may perform RPIC duties as follows:
   a. supervise a **single** non-certificate holder at a Basic site
   b. Shall not supervise a group of other people regardless of any certificates.
   c. Shall not supervise any other member in any "advanced scenario".

2. **Advanced RPAS Certificate Holder - Direct Supervision options** – any MAAC member with a current and valid Advanced RPAS Certificate may perform RPIC duties as follows:
   a. supervise a **single** non-certificate holder at **any site** or Basic scenario,
   b. supervise a **single** Basic Certificate holder in **controlled airspace**, all scenarios.
   c. supervise up to 5 "Basic" Certificate holders in **uncontrolled airspace** advanced scenarios, as outlined in Appendix C.

3. **PPL+ with no RPAS Certificate - Direct Supervision options** - any MAAC member with a current or expired PPL, may perform RPIC duties as follows:
   a. supervise a **single** non-certificate holder at any Basic site,
   b. supervise a **single** Basic Certificate holder in **controlled airspace**, all scenarios.
   c. supervise up to 5 Basic Certificate holders in **uncontrolled airspace** advanced scenario, as outlined in Appendix C.

   Notes:
   d. PPL+ cannot supervise a non-certificate holder in **controlled** airspace – at least one person must have a valid RPAS operators certificate.
   e. PPL+ only holders may not independently operate an RPAS in basic or advanced scenarios unless supervised by an appropriately rated RPAS Certificate holder
   f. A PPL+ only holder cannot supervise another PPL+ only holder while in **controlled** airspace – at least one person must have at least a valid basic RPAS operators certificate.
   g. If the PPL+ has a valid and current RPAS operators certificate, then the higher of either provisions apply.

4. **RPAS Flight Reviewer – Direct Supervision options** – any MAAC member with a current and valid Flight reviewer Certification may perform all the duties of an Advanced RPAS Certificate holder. RPIC does not affect the Transport Canada flight reviewer program or CAR regulations associated with it.

I hereby declare that I have read and understand the pilot qualifications to be a MAAC RPIC.

Name of RPIC: _____

Type or Title of Aviation Document(s): _____

License number: _____

RPAS Certificate number if applicable: _____

Email Address: _____

Signature: _____

Date: _____

This declaration once completed must be kept and made available by the RPIC anytime they are performing RPIC duties.

MAAC Manufacturer Declaration Requirements

Please refer to the full policy for additional information. The following are the core requirements of the policy that enable MAAC RPAS operation in controlled airspace. There are additional requirements to operate under the MAAC SFOC (930433)

To be eligible to be classified as meeting the "MAAC RPAS Manufacturer Declaration", the RPAS must meet the following technical requirements:

a. The RPA must not weigh more than 25kg ready to fly (SFOC are not permitted),
b. The RPA must be of a type, quality and construction or assembly method consistent with the commonly accepted definition of "model aircraft" in North America, wherein the MAAC member, using the MAAC safety code and processes, is responsible for any portion of construction or final flight ready assembly. See MAAC policy for a detailed description of the types of acceptable MAAC RPAS/model aircraft and their classifications.
c. The control system and components must be of a type, and quality meeting Industry Canada approval and otherwise meet MAAC Safety Code and commonly accepted modelling and model industry standards for radio control installation and operation.
d. The RPAS must not contain any type of "Human-on-the-loop" or other computer control in the control system. For clarity, deactivation, or temporary disabling of any such system is not acceptable – these types of control systems must not be present in the system.
e. RPA operating in controlled airspace up to 400'AGL, meets CAR922.04 requirements provided the RPAS pilot operates in accordance with MAAC VLOS.
f. The RPA must have performance capability to descend from the maximum altitude approved by the controlling agency to 60'AGL at a rate of 700 feet per minute or greater.
g. The RPA or RPAS must have an operable "flight termination" system or design criteria that can be reasonably expected to terminate the flight with minimal delay in the event of a control link failure.
h. If intended to be flown at night, or if required by the controlling agency during the day, the RPA must have a functioning lighting system to ensure MAAC VLOS requirements are met or to provide enhanced visual detection for full-scale pilots.

Prior to RPAS operation under the "MAAC RPAS Manufacturer Declaration", the **RPAS pilot shall ensure the RPAS owner** has documentation available at the site/event for each RPA which contains the following information.

This may be in electronic or printed format however MAAC highly recommends this information be included in the RPA logbook, either as a separate page entry, an addendum, or as a package of info

a. RPA Make or manufacturer name,
b. Model – the specific RPA model designation including the bound/used transmitter.
c. The RPA category (MAAC Model Aircraft, MAAC Rotary Wing, MAAC Hybrid)
d. The RPA maintenance program that includes:
    i. instructions related to servicing and maintaining the RPA and control system,
    ii. An inspection program to maintain system readiness.

e. Any weight limits or center of gravity concerns or related special requirements.
f. Any RPA design features such as limitations on speed, altitude, or operational restrictions,
g. Any foreseeable weather conditions or limitations affecting RPAS operation,
h. Any special or unique features of the system that could result in severe injury to crew members during operation.
i. Any special or unique design features of the system, and the operating procedures, that are intended to protect against injury any person not involved in the operation,
j. Any warning information provided to the pilot notifying any degraded system performance,
k. Any special procedures for operating in normal or emergency conditions,
l. Any special assembly, adjustment, or post flight inspection requirements, and
m. Any available manuals or component operating instructions.
n. The above records shall be kept by the owner, and any subsequent MAAC owner for the life of the RPAS, or until two years after the RPAS is withdrawn from service and de-registered.

To operate a RPAS under the "MAAC RPAS Manufacturer Declaration", the **RPAS pilot shall** ensure the following requirements are met:

a. All other relevant sections of the CAR are met,
b. The RPAS is operated in compliance with the MAAC Safety Code and any category specific rules or requirements.
c. The RPAS meets the technical requirements of MAAC policy,
d. The RPAS shall not be operated in any mode other than "direct manual control"
e. The pilot shall not operate more than one RPAS at a time.
f. The pilot shall not operate the RPA unless any equipped onboard flight termination system is operable,
g. The RPA shall not be operated within 30 meters of any bystander or spectator, under any circumstances and **regardless of altitude**.
h. The pilot shall not operate an RPAS unless at least one visual observer is present. Note, unless required by the controlling agency or stipulated in the site SOC, mRPAS do not require a visual observer.
i. The RPAS shall not be operated in any weather condition, near terrain or any other condition which could:
    i. reduce or negate visual detection of approaching full scale aircraft or bystanders,
    ii. interfere with radio control link range or clarity of reception or
    iii. negatively affect the performance of the RPA or the control system where safety of operation could be compromised.
j. The pilot shall only operate a RPA of a type, size or performance capability that can realistically be expected to maintain controlled flight within the lateral and vertical flying area confines specified in the SOC or by the controlling agency,
k. The RPAS pilot shall report to MAAC without delay any service difficulties, defects, flaw or equipment performance issues that negatively affected meeting any of the technical or operational requirements of this policy.
    i. The RPAS shall not be operated again under this declaration until both MAAC and the RPAS pilot/owner have investigated and agree the noted deficiency has been rectified.
    ii. Members shall use the MAAC Reportable Occurrence form and MAAC shall respond in writing. Any such record shall be kept for two years from the date of the agreement to cause and remedy.
    iii. The above records shall be kept by the owner, and any subsequent MAAC owner for the life of the RPAS, or until two years after the RPAS is withdrawn from service and de-registered.

MAAC RPAS Manufacturers Declaration – Owners Declaration

Owner Name and MAAC #_____Date of Initial Declaration_____

RPA Make or Manufacturer name_____

RPA Model_____Transmitter_____

RPA category ☐ MAAC Model Aircraft (Fixed Wing) ☐MAAC Rotorcraft ☐MAAC Hybrid

1. List any instructions related to servicing and maintaining the RPA and control system.

2. List any inspection program to maintain system readiness.

3. List any weight limits or center of gravity concerns or related special requirements.

4. List RPA design features such as limitations on speed, altitude, or operational restrictions Specify Weather conditions or limitations affecting RPAS operation.

5. List Special or unique features of the system that could result in severe injury to crew members during operation.

6. List Special or unique design features of the system, and the operating procedures, that are intended to protect against injury any person not involved in the operation.

7. Specify Warning information notifying any degraded system performance, List Special or procedures for operating in normal or emergency conditions, List Special assembly, adjustment, or post flight inspection requirements.

8. Describe the availability of manuals or component operating instructions.

Owner Name_____ Date_____

Signature_____

MPPD 29 - RPAS Pilot in Command
Student Declaration

I, _____ (name) _____ do agree to
(name) (MAAC # if applicable)

freely participate in the MAAC RPAS pilot in command (RPIC) program and agree to the following:

1. I have read and agree to follow the MAAC main safety code as it applies to me.

2. I will follow the directions and guidance of the person providing my direct supervision (RPIC) in good faith, expeditiously and to the best of my ability.

3. I will not hold the person providing RPIC, or MAAC liable for any damage to any model I may have offered for use in the RPIC program, and

4. I will otherwise accept any and all responsibility as is legally required of my by operating, even in a limited fashion, a RPA.

Signature: _____

Witness or RPIC Name: _____

Signature: _____

Date: _____

You are required to keep this declaration at the site while operating the RPAS.