


PART IX - A SUMMARY REFERENCE OF NEW UAV RULES (VER 1.2) with notes by D Cooke inskyphoto.com

These rules come into force in Canada Jun2019 (see BOX for acronyms)

DIV I GENERAL - SMALL REMOTELY PILOTED AIRCRAFT. ie: between 205grams and 25 kilos

901.01 These rules apply to Small Remotely Piloted Aircraft Systems (RPAS)

DIVISION II - REGISTRATION

901.02 All small RPAS have to be registered and (you must have the certificate on you during ops 901.09)

901.03 Registration clearly visible on the a/c

901.04 (1) To register an a/c you must be Canadian Citizen, Permanent Resident or Fed, Prov or Muni gov't Agency

901.04 (2) Owner must be >14 yrs

901.5 Registration data required (Long list look it up) reg certificate includes if Manufacturer has made declaration (901.76)

901.06 Minister to maintain a database of owners and reg numbers

901.07 Owner must notify TC in writing (within 7 days) if

Destroyed, stopped using it, missing >60days or gave up looking, or transferred ownership

If any of that happens the reg is cancelled

Reg also cancelled if:

Reg Owner becomes unqualified, dies, Company desolved, acquired or bankrupt

901.07 (4) also if you have responsibility for the Ops & Maint . . You ARE the owner

901.08 Notify Minister with 7 days changes per 901.07

901.09 You must have registration certificate accessible during operations

DIVISION III - GENERAL OPERATING AND FLIGHT RULES

901.11 PIC or OBS has UAV visible at all times (VLOS)

901.12 no flying over or within Police Fire rescue Security perimeter (unless approved by the ops commander)

901.13 Can't leave Domestic Airspace

901.14 Can't fly in controlled airspace unless specifically authorized by ATC or person ID'd in Desig Airspace Handbook

901.15 notify ATC or airspace authority if you violate controlled airspace inadvertently or are likely to

901.16 Stop operations immediately if anyone likely to be in danger

901.17 always give way to all other manned aircraft, balloons, gliders . . . everyone

901.18 STOP if there is any risk of collision with nearby aircraft

901.19 No sick or tired or unfit crew allowed

901.19 (2) >12hrs since Alcohol or under influence of ANY impairing drug (prescribed or other)

901.20 (1) ANY/ALL Observers used must have clear communications with PIC at all times

901.20 (2) Observers MUST communicate hazards in a timely manner

901.20 (3) Observers only monitor 1 UAV at a time or get an SFOC

901.20 (4) Observers cannot observe while driving vessel vehicle of other aircraft

901.21 Crews must obey the PIC instructions during flight

901.22 no living creatures on bord UAVs

901.23 Following precedures mandated for all flights

Preflight Take-off Launch Approach Landing recovery

Controller failure, Equipment failure, A/c Failure, C2 Loss, Fly-away, Flt Termination

Refer to Manufacturers procedures for establishing the above

901.23 (3) No take-off without reviewing checklist that is available to PIC

901.23 (4) No operating UAV unless IAW established procedures

901.24 Don't start without knowing info needed for the flight

901.25 Stay below 400ft AGL over 100 ft above and 200ft horiz from bldgs and structures

901.25(2) otherwise get an SFOC see (903.01)

901.26 no less than 100ft from people no associated with the flight (crew or actors)

901.27 Site Survey must be done, including

boundaries physical and electronic

Airspace CLASS/type

Approach and Departing routes and altitude (AGL)

distance from Manned a/c airports, heliport and other aerodromes

locations and height of towers ,bldgs, masts, cell towers, wind turbines and obstacles etc

weather condition at planned time

distance from bystanders that are NOT crew

901.28 ensure enough fuel or energy for the flight

everyone knows their role and has been briefed including emergency equipment

what's max distance to travel without endangering aviation or others

901.29 PIC to ensure

a/c is serviceable, has been maintained, following manufacturer's instructions and equip is installed properly

901.3 Manuals must be available on site (print or electronic form)

A/c - Aircraft (all kinds UAV or normal)
 ACK - Acknowledge (like a clearance)
 GL - Above Ground Level
 ATC - Air Traffic Control
 BVLOS - Beyond Visual Line Of Sight
 C2 - Command and Control
 ELT - Emergency Locator Transmitter
 IAW - In Accordance With
 MOD - Any modification of the "system"
 PIC - Pilot In Command
 RPIC - Remote PIC (I just threw that out there)
 RPAS - Remotely Piloted Aerial System (w CTRLR)
 SRPAS - Small RPAS (between 0.25 and 25kg)
 SAFE - Complies with Standard 922 (DRAFT)
 SFOC - Special Flight Operations Certificate
 SOP - Standard Operating Procedures
 SI - Staff Instruction (see No. 623.001)
 STD921 - RPAS Operator Review Standard (TC)
 STD922 - RPAS Safety Assurance Std DRAFT (TC)
 TP15263 - Small RPAS Knowledge Req's (TC)
 TC - Transport Canada
 UAV - Unmanned Aerial Vehicle (drone only)
 VLOS - Visual Line Of Sight

- 901.31 must follow manufacturers instructions
- 901.32 no autonomous flight unless PIC can take control at any time
- 901.33 No take-off launch approach or land unless site is safe and no likelihood of collision with anything
- 901.34 Weather condition at planned time must follow manufacturer's instructions and REMAIN VLOS
- 901.35 no flying in icing or potential ice without anti-ice, de-ice or ice detection equip or with frost snow or ice on any a/c surface
- 901.36 don't fly formation unless pre-arranged between pilots
- 901.37 no fly and drive any other vehicle/vessel at the same time
- 901.38 no FPV unless observer can see VLOS beyond UAV at all times
- 901.39 no Night FPV without nav lights visible with or without NVG and lights are ON
- 901.39 (2) no NVG unless PIC/OBS have other means to detect visible spectrum light
- 901.4 no operating multiple a/c from one controller unless IAW manufacturer's instructions
- 901.4 (2) no operating more than 5 UAVs except under SFOC
- 901.41 any special event get and SFOC like public gathering concert, sporting event, market or festival
- 901.42 no HANDOVER of PIC unless prearranged and risk analysis and procedures done
- 901.43 no ops carrying anything that creates a hazard or can injure people or animals or GET AN SFOC NO explosives, corrosives, flammables, biohazard, weapons, ammunition or . . . war equipment (look it up)
- 901.44 don't activate flight termination if it can cause a further hazard or endanger aviation safety
- 901.45 don't carry an ELT
- 901.46 No flying in transponder space without transponder and pressure altitude equipment
- 901.46 (2) You CAN fly (in Transponder Space) if you request & ATC gives clearance (and you ACK) BEFORE entering
- 901.47 no fly if it may interfere with the established traffic pattern (CFS or WAS water aerodrome supp)
- 901.47 (2) ONLY fly >3 nm from center of an airport >1nm from heliport center
- 901.47 (3) Stay <3 nm from Military aerodrome or get an SFOC issued under 903.03
- 901.48 You have to keep Flight Records -names, dates and crews for each flight Maintenance Records - names dates of actions taken, for MODS manuf name, model, part name installed as well as any instructions provided for the work done (NOTE: It's the Part Manuf data they want, not the UAVmanuf)
- 901.48 (2) Flight records must be kept for 12 months, maintenance records 24 months
- 901.49 STOP ops if any following happens until analysis of cause and corrective/mitigation action is taken to correct Unintended UAV contacts with any person especially if injury requires medical attention Unanticipated damage to UAV - adverse control response or flight characteristic a/c exceeds geo-fence or planned distance or altitude (apparently you can intentionally CRASH one, no report) but if UAV becomes uncontrolled - fly-away or is missing, or "RISK" of collision with manned a/c Also, if there is a police report or Civil Aviation Occurance Report filed by you or anyone else, you file
- 901.49 (2) Incident records of any 901.49 to be kept 12 months after the date a report is filed (make them avail to Ministry)

Document Set

(Hard or Soft copy)

REQUIRED (on-site)

Small RPAS Certificate

PIC Flight Logs (recency)

Site Survey

Property Permission

Checklist (incl Emerg)

RPAS Operator's Manual

OPTIONAL

Company SOPs

Company Training Manual

EQUIPMENT

Fire Extinguisher

Sign/Safety Vest

DIVISION IV - BASIC OPERATIONS

- 901.53 The following is for OTHER THAN advanced ops per 901.62 (a) thru (d)
- 901.54 Must be >14 yrs old, hold a BASIC or ADVANCED Small RPAS VLOS (TP15263 based on STD921) under 14 PIC can fly if supervised by someone who has BASIC 901.55 or ADVANCED 901.64
- 901.55 Minister will issue certificate if you pass the appropriate exam
- 901.56 Every 24 months - either write/pass BASIC certificate or a Flt Review or any one of STD921.04 prior to flight
- 901.56 (2) you must keep 24 months of records showing you have met recency requirements
- 901.57 MUST have Small RPAS certificate with you when flying and can document recency requirements
- 901.58 Don't copy exam questions, help or accept help during exam or complete any question for someone else
- 901.59 24hrs before re-taking failed exam

DIVISION V - ADVANCED OPERATIONS

- 901.62 Advanced Ops limits - special rules apply for controlled airspace 901.69(1)(a) 901.71-72. and applies to flight <100ft(30m) but >16.4ft (5m) from people, except crews and actors (see 901.69 +manuf's declaration)
- For <16.4ft (5m) your UAV manufacturer must declare it meets Standard 922 see 901.69
- Flight <3nm airports and <1nm heliports centers must be IAW 901.73 (Airport needs published procedures)
- 901.63 PIC must be >16yrs, hold SRPAS ADVANCED VLOS Certificate or under Flight Review or supervised by Advanced holder
- 901.64 Minister will award SRPAS ADV if >16yrs, has passed ADV Exam (80%) and Flight Review <12months from application
- 901.65 Recency req'mts for ADVANCED Certificate. Within 24 months prior to any flight you must:(with records) be issued SRPAS ADV Cert, pass that exam or pass a Flight Review or show recurrent trg was done per 921.04
- 901.66 MUST have at least, SRPAS ADV (VLOS) Certificate, Flight Logs, and/or recency documentation on-site of flight (see doc set)
- 901.67 Don't cheat on exams - don't do anything in 901.58
- 901.68 Wait 24 hrs for retest after failed Flight Review
- 901.69 (1) (a) You cannot fly in controlled airspace without the UAV Manufacturer's Declaration and then;
- (b) NOT <100ft (30m) Horiz from public or >16.4ft (5m) except own crew or actors, (not overhead AT ANY ALTITUDE)
- (c) NOT <16.4ft of anyone as long as UAV is a declared or grandfathered a/c (but not overhead AT ANY ALTITUDE)

CANNOT overfly Crew or
Actors <100ft without
mfg declaration 901.69

- (2) Grandfathered a/c designated "compliant" prior to 1April19 treated as Mauf'r declared (SI 623.001)
 - 901.7 Can't fly any modified RPAS unless you can demonstrate compliance with Standard 922 RPAS Safety and it was done IAW the part manufacturer's instructions (ie: manufacturer of the MOD not the system manuf)
 - 901.71 Flight in Controlled Airspace - You must request ATC with following
 - Category, Reg # and physical characteristics of a/c
 - Vert and Horiz boundaries of area of ops (GeoFence) + Flight Route to access the area
 - Proximity to manned operations as well as approaches and departures
 - Name contact #'s and certificate # for PIC
 - means of 2 way COMM with ATC - Lost Link and fly-away procedures
 - Emergency Procedures incl process and time needed to terminate ops
 - Anything else requested by ATC
 - 901.71(2) In controlled airspace, you CAN fly higher than 400ft AGL if ATC approves (*NOT LIKELY*)
 - 901.72 You must acknowledge and follow ALL ATC instructions in controlled airspace
 - 901.73 <3nm airports and <1nm heliports centers you must follow **THAT** aerodrome's RPAS published procedures
- HINT: Few if ANY Control Zones actually have any published RPAS procedures yet (as of March 2019)**

DIVISION VI - ADVANCED OPERATIONS - MANUFACTURERS

- 901.76 No advanced Ops without manufacturer's declaration (except grandfathered under Compliant A/c)
- 901.76 (2) Manufacturer SHALL: declare Manuf Name , Model, max. t/o weight, Category (fixed rotary lighter-than-air) and say it declares documentation req'mts of (901.78) and meets Standard 922 for 901.69(1) ops
 - Declaration is invalid if Ministry says it does not meet Standard 922 or if manufacturer notifies the Ministry
- 901.77 Manufacturer must notify Ministry ASAP if it's a/c fails to meet Standard 922
- 901.78 Manufacturer must give every owner
 - Servicing and Maintenance instructions and inspections program/procedures
 - A manual with range or weight an balance limits for safe ops and any mandatory actions needed
 - Modes of operation for each phase of flight, safe operating limits and emergency conditions
 - Weather effects and impact on performance
 - Design features to prevent injury to anyone
 - Warning information against unsafe operations
 - Standard Operating Procedures (SOPs) for normal and emergency ops
 - Assembly and adjustment procedures
- 901.79 A declaring manufacturer shall keep records of all mandatory actions and how they verified meeting STD 922 for 2 years from date of manufacture of that model or for the life of any component

DIVISION VII - REQUIREMENTS RELATED TO FLIGHT REVIEW

- 901.82 Flight Reviewer must hold ADVANCED cert endorsed for Reviewer under 901.83 and be affiliated with a training provider (921.05 Standard 921)
- 901.83 Minister will issue Reviewer Certificate if:
 - >18 yrs old holds ADVANCED Cert per (901.64) and meets recency (901.65) for at least 6 months before application
 - Passed Reviewer's exam >80%
- 901.84 Reviewers should not cheat on exams per 901.58
- 901.85 Reviewer candidates wait 24 hrs for retest
- 901.86 Schools must submit Reviewer names to Ministry, ensure they adhere to 901.87 and changes within 7 days
- 901.87 All reviews done IAW AGE 901.56(1)(b)(ii) Review in past 12 mo 901.64(c) and 901.65 (1)(b)(ii) to Standard 921

SubPart 3 - SPECIAL FLIGHT OPERATIONS

- 903.01 Operations need SFOC (903.03) for any of the following
 - >25kg BVLOS, Foreign Operator, >400ftAGL, >5 UAV from 1 controller, Any special aviation or advertised event
 - Hazardous payloads (901.43(1)), less than 3nm from Military installations (901.47(3))
 - Anything else the ministry wants to cover
- 903.02 Application for SFOC includes
 - legal name , trade name, addr and contact#s of applicant
 - PIC Contact means during OPS
 - Operations description and purpose with dates/times plus alternates
 - Manufacturer, model, description with photo or 3 view drawings of a/c, + performance, Ops limits, & equipment
 - Safety plan for proposed area with emergency contingency plan
 - Mission plan describing the operation
 - PIC Name, cert#, License#, permits and qualifications of crew members including maintainers
 - Weather minimum for ops and ATC traffic coordination is needed
 - Collision avoidance methods, normal SOPs and emergency procedures
 - Anything else the Minister wants
- 903.03 Minister will issue SFOC with above info - if the ops won't adversely effect aviation safety or other people