SUMMIT RPAS COMPLIANCE & CONSULTING

Transport Canada RPAS Advanced Operations Flight Review

Complete Candidate Preparation & Field Study Handout (TP 15395E Standards)

Regulatory Framework: CARs Part IX / Standard 921.02 / TP 15395E	**Target Audience:** Advanced Operations Certificate Candidates
Evaluation Standard: Met / Not Met (Single-Item Fail Policy)	**Mandatory Retest Period:** 24-Hour Cooling-Off Period

The Flight Review is not a training flight—it is a formal, in-person evaluation of your piloting skills, SOP compliance, and legal airmanship under Transport Canada Canadian Aviation Regulations (CARs Part IX). To achieve a 'Met' grade and earn your Advanced Pilot Certificate, you must demonstrate total mastery of flight planning, pre-flight inspection workflows, emergency protocols, and flight maneuver precision.

This study guide outlines the exact evaluation sequence, mandatory verbal callouts, required flight binder assembly, and critical failure points evaluated under the official TP 15395E Flight Reviewers Guide.

1. Mandatory Field Prerequisites & Equipment Checklist

Before arriving at the review field, verify you have all required items. Missing any single document or prerequisite results in an immediate administrative cancellation of the review.

- **Administrative Credentials:** Valid government-issued photo ID (driver's license or passport), Transport Canada account number (TC##########), and printed proof of passing the RPAS Advanced Operations Written Exam.
- **Aircraft & Registration Requirements:** An RPAS platform declared compliant for Advanced Operations (CAR 901.71), displaying legible, permanent registration markings (CAR 901.03), possessing a valid Transport Canada Certificate of Registration (CAR 901.05), and accompanied by the manufacturer's operational manual.
- **Dedicated SOP Flight Binder:** A physical multi-tab binder containing your complete operational checklists, emergency scripts, site survey templates, and maintenance logs.
- **Hypothetical Site Survey Assignment:** A pre-completed site survey for the designated review location based on scenario parameters supplied in advance by your reviewer.
- **Real-Time Aeronautical Data Access:** Smartphone or tablet with active cellular access to check live METARs, TAFs, NOTAMs, and NAV CANADA airspace tools on site.

2. Flight Review Evaluation Structure & Grading Policy

The Flight Review is a holistic operational evaluation split into two clear phases: a ground assessment and a practical flight test.

Phase 1: Ground-Based Oral Evaluation

Conducted seated in a quiet, private area free from distractions (e.g., a field picnic table, tailgate of a truck, or hangar office):

1. **Describe the Site Survey Process:** Present your site survey map, detailing hazard identification, airspace classification, local aerodromes, and population density buffers.
2. **Describe Emergency Procedures:** Present your emergency documentation and explain your lost-link boundaries and fly-away protocols.
3. **Describe Post-Incident Actions:** Verbally define reportable accidents/incidents and state notification timelines for Transport Canada and the TSB.

Phase 2: Flight Practical Evaluation

Conducted on the airfield with the candidate acting as the legal Pilot-in-Command (PIC):

1. Pre-Flight Checks & Field Setup	2. Take-off & Control Verification	3. Obstacle Navigation
4. Visual Distance & Altitude Recognition	5. Simulated Emergency Handling	6. Landing & Securement

EVALUATION GRADING POLICY
The Golden Rule: Single-Item Fail Policy
The review is strictly graded 'Met' or 'Not Met.' Failing any single exercise—whether during the ground oral evaluation or the practical flight test—results in an immediate failure of the entire review, requiring a mandatory 24-hour cooling-off period before a complete re-test. Overall airmanship, situational awareness, and regulatory compliance are evaluated continuously from the moment you greet the reviewer.

The Neutral Observer Rule: Under Transport Canada rules, your flight reviewer is strictly an evaluator, not an instructor. They cannot teach you, give hints, or correct mistakes during the test. If an answer or maneuver is incorrect, they simply note it in their records. However, if an instruction or scenario question is confusing, you are fully encouraged to ask for clarification before proceeding.

3. Step-by-Step Practical Flight Line Sequence

Step 1: Credentials & Drone Prerequisites Check

Before your evaluator looks at your drone, you must clear the mandatory administrative prerequisite check. Ensure you present your valid government photo ID, TC Account number (TC##########), Advanced written exam pass reference, Drone Certificate of Registration, legible airframe registration markings, and the manufacturer's operating manual.

Step 2: Assembling a Flawless SOP Flight Binder

Demonstrate professional airmanship by presenting a dedicated Standard Operating Procedure (SOP) Flight Binder. Structure your binder into two distinct tabs:

Tab 1: General Checklists (Permanent Model-Specific Procedures)

- **Physical Site Survey Checklist:** Elements to evaluate during physical site walkarounds.
- **Normal Operating Checklist:** Step-by-step guides for pre-flight inspections, system startup, compass calibration, launch, landing, and teardown.
- **Emergency Checklist:** 'Vital actions' for technical failures, detailing platform lost-link behavior, critical battery states, and manual motor shut-down.

Tab 2: Site-Specific Checklists (Active Flight Planning Folder)

- **Site Survey Sheet:** Mapped visual diagram of the test field showing exact flight boundaries, vertical limits, nearby structures, aerodromes, and relevant CFS/VFR charts.
- **Weather & NOTAM Briefing:** Printed, time-stamped METAR/TAF forecast and active NOTAM report pulled morning of the review. Include NAV CANADA authorization if in controlled airspace.
- **Location-Specific Emergency Script:** Fly-away cheat-sheet (printed on RED paper) listing exact takeoff lat/long coordinates, max battery flight time in minutes, and direct phone numbers for the local ATC tower, regional ACC manager, and emergency dispatch.
- **Crew Briefing Sheet:** Written safety briefing delivered directly to the flight reviewer (acting as crew/bystander).

MANDATORY VERBATIM CREW BRIEFING SCRIPT (SOP BINDER TAB 2)
"In the event of an actual emergency, I will command 'Emergency Abort.' I need you to step back into the safety zone, maintain eyes on any airspace intruders, and let me handle the emergency checklists."

Step 3: Arriving on Site & Acing the Ground Phase

The evaluation begins the instant you greet the reviewer. The ground oral sequence proceeds as follows:

1. **Document Hand-Off:** Hand over your ID and binder. The reviewer inputs your TC and exam numbers into the Drone Management Portal to unlock your file.
2. **Site Survey Walk-Through:** Open your binder and present your field map, explaining runway headings, power lines, bystander control zones, and ground risk buffers.
3. **Emergency Checklist Scenarios:** Respond to verbal 'what-if' scenarios (e.g., 'Control link drops while executing this turn—walk me through your exact checklist actions').
4. **Aviation Occurrence Definitions:** Define reportable accidents/incidents and detail exact notification windows for Transport Canada and the TSB.

Treat the oral portion as a professional briefing between two commercial pilots. Speak clearly, reference your checklists, and await your 'Met' clearance.

Step 4: Pre-Flight Field Procedures

With your ground oral marked 'Met,' move outdoors to the flight line as active Pilot-in-Command:

1. **Securing Your Airfield Area:** Inspect launch/recovery pad, clear debris, mark takeoff pad, and establish safety perimeter clear of bystanders.
2. **Professional 'Walkaround' Inspection:** Hold your SOP Binder checklist in hand (or on tablet) and read each item out loud. *Industry Standard: Never pre-flight from memory.*
3. **Physical Inspection:** Inspect airframe structure, verify landing gear security, check propellers for micro-cracks/burrs, and ensure LiPo battery is locked.
4. **System Initialization:** Power up GCS first, then aircraft. Verbally announce telemetry metrics out loud to the reviewer.
5. **Live Crew Briefing:** Turn to the reviewer and deliver your site crew briefing directly from your binder.
6. **Final 'GO/NO-GO' Decision:** Conclude by making a definitive, confident operational declaration.

> ***VERBATIM SYSTEM INITIALIZATION ANNOUNCEMENT***
> *"GPS satellite count is 18, battery voltage is 16.8 volts, control station signal quality is at 99%, and home point is successfully updated. I have selected a safe RTH altitude that clears all local trees and power lines."*

> ***VERBATIM FINAL 'GO/NO-GO' OPERATIONAL DECLARATION***
> *"Based on my live weather check, active NOTAMs, aircraft airworthiness, and secured field, we are a 'GO' for flight."*

Step 5: The Air Exercises

Upon receiving 'GO' clearance, launch safely and execute all commanded flight maneuvers smoothly:

1. **Takeoff and '5-Second' Controls Check:**
   - Note takeoff time out loud. Climb to a stable hover at 5 feet AGL, pause 5 seconds, and gently input quick forward/back, left/right, and yaw commands.
   - *Verbatim Callout:* "Aircraft is stable at five feet and flight controls are responsive and correct."
2. **Stabilized Hover & Obstacle Navigation:**
   - Climb to planned operational altitude and maintain a rock-solid hover without altitude or heading drift.
   - When instructed, navigate around a designated physical landmark (cone, post, tree) keeping the drone oriented in the direction of flight (no sideways/backward flying). Scan airspace intermittently for birds and aircraft.
3. **Correcting for Wind Drift:**
   - Standard multirotors rely on automated GNSS position hold. This maneuver is actively evaluated on fixed-wing platforms or aircraft lacking automated positioning.

4. **Distance & Altitude Recognition Challenge:**

• With the drone positioned away from you, the evaluator will ask: *'Without looking at your ground station screen, estimate your drone's horizontal distance and vertical altitude.'* Practice visual estimation beforehand.

5. **Active Power & Telemetry Monitoring:**

• Throughout the flight, check your GCS every few minutes and call out remaining endurance out loud.

• *Verbatim Callout:* "Confirming current battery level is at 65%, which is more than sufficient to complete our flight plan."

Step 6: Simulated Emergencies

During flight, the evaluator will declare a simulated emergency. Handle these scenarios immediately, systematically, and without panic:

1. **Handling a Lost Link:**

Triggered when evaluator declares: *'Simulated emergency! Your command link has dropped.'*

Maintain visual tracking on the drone and announce automated Return-to-Home (RTH) behavior out loud:

• *Verbatim Callout:* "If the drone remains unresponsive, it is programmed to climb to 150 feet, and fly directly back to our landing pad. I will monitor its flight path."

FLY-AWAY EMERGENCY VITAL ACTIONS PROTOCOL
2. Handling a Fly-Away (3-Phase Protocol):
Triggered when evaluator declares: *'Simulated fly-away! Your drone is ignoring controls and flying away.'*

Action A: Declare and Record (Read GCS Screen):
• Present Position: *"My takeoff coordinates are 53.91 degrees North, 122.74 degrees West."*
• Vector: *"The aircraft was last observed traveling East-Southeast at an altitude of approximately 100 feet."*
• Remaining Endurance: *"The drone has 12 minutes of active battery flight time remaining."*

Action B: Attempt Flight Termination:
• Verbatim Announcement: *"I am attempting an emergency motor shut-down using my controller's stick command to terminate the flight immediately."*

Action C: Airspace Notification (The Emergency Call):
• Open SOP Binder Tab 2 to red emergency contact sheet and state:
• Verbatim Announcement: *"I am immediately calling the Airport Control Tower emergency number listed in my CFS [or Regional ACC] to warn them of an active airspace hazard."*

Step 7: The Landing & Post-Flight Procedures

A flight operation is not legally finished until the aircraft is powered down, inspected, and logged:

1. **Landing Approach & Touchdown:** Announce intentions out loud: *'Initiating landing approach on the designated pad.'* Keep observers focused on pad and touch down centered on target.

2. **Safe Shut-Down Workflow (CRITICAL SEQUENCE):**

• **FIRST:** Power OFF the aircraft battery. *(Prevents accidental motor spin-up during handling).*

• **SECOND:** Power OFF the handheld controller / GCS.

3. **Post-Flight Physical Inspection:** Manually rotate motor bearings, run fingers along propeller edges checking for micro-cracks or burrs, inspect chassis for structural stress, and check battery for swelling/heat.

4. **Log Your Flight:** Open physical logbook and enter mandatory CARs flight records: PIC name, flight date, exact takeoff time, landing time, and total flight duration.

Step 8: The Debrief & Unlocking Your Advanced Certificate

Return to the briefing table for the final assessment phase:

1. **The 'Pass/Fail' Announcement:** Evaluator is legally required to declare whether you achieved the standard ('Met') or failed ('Not Met') before discussing specific notes.
2. **Debriefing Format:** Expect a Traditional Debrief (minor notes), Facilitated Debrief (self-critique of threats and errors), or Failed Review Debrief (respectful review of errors; 24-hr re-test guidance).
3. **The 'Digital Handshake' to Unlock Your License:**

• Reviewer electronically submits your successful flight review report in the Drone Management Portal within 24 hours.

• Log into your personal DMP account, pay the Transport Canada licensing fee, and download/print your official Pilot Certificate – Advanced Operations.

Note: Advanced operating privileges become legally active only after the fee is paid and the certificate is generated in the portal.

4. Candidate Flight Line Quick-Reference Matrix

Keep this quick-reference matrix on top of your SOP Flight Binder for rapid review on the test field:

Phase & Sequence	Candidate Operational Actions	Mandatory Verbatim Callout / Script
Phase 1: Ground Prerequisites	Hand over ID, TC Account #, Exam Pass reference, Certificate of Registration, and SOP Binder.	"Here are my administrative credentials, drone registration, and SOP Flight Binder."
Phase 1: Ground Oral Exam	Walk through site survey map, hazard mitigations, emergency scenarios, and incident reporting rules.	Reference SOP Binder maps and checklists directly during oral responses.
Phase 2: Pre-Flight Walkaround	Secure perimeter, inspect airframe/props/battery, hold checklist in hand, read items out loud.	Read every checklist item aloud. Never pre-flight from memory.
Phase 2: Pre-Flight Telemetry Check	Power on GCS then drone. Announce satellite count, battery volts, signal quality, RTH altitude.	"GPS satellites 18, battery 16.8V, signal 99%, home point set, RTH altitude 150 ft AGL."
Phase 2: Pre-Flight Crew Briefing	Deliver live safety briefing to flight reviewer acting as crew member / visual observer.	"In an actual emergency, I command 'Emergency Abort.' Step into safety zone, watch for intruders, let me work checklists."
Phase 2: Launch GO / NO-GO	Confirm live weather refresh, NOTAMs, airframe airworthiness, and clear perimeter.	"Based on live weather check, active NOTAMs, aircraft airworthiness, and secured field, we are a GO for flight."
Phase 2: Launch & Controls Check	Lift off to 5 ft AGL, hover 5 seconds, gentle control checks on pitch, roll, and yaw axes.	"Aircraft is stable at five feet and flight controls are responsive and correct."
Phase 2: Flight Maneuvers	Navigate around designated obstacle in direction of flight. Estimate distance/altitude on command.	"Confirming current battery level is at 65%, sufficient to complete our flight plan."
Phase 2: Lost-Link Emergency	Maintain visual tracking, announce automated Return-to-Home climb and pad return.	"Drone is unresponsive, programmed to climb to 150 feet and return to pad. Monitoring path."
Phase 2: Fly-Away Emergency	Declare coordinates/vector/battery, attempt motor cut-down, execute ATC tower emergency call.	"Coordinates 53.91N, 122.74W, 12 min battery remaining. Attempting motor kill. Calling ATC tower."
Phase 2: Landing & Shutdown	Announce approach, land centered on pad. Power OFF aircraft battery FIRST, GCS SECOND.	"Initiating landing approach on designated pad. Aircraft battery OFF, GCS OFF."