



Pilot Procedures for Photographic Survey Flights

Flight Planning, Coordination, and Control

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2020 Summary of Changes

1. Contents – Section added on RPAS Operations
2. Primary Contacts – Updated site contact information.

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Introduction

This publication provides updated direction to pilots, photo survey operators, and Air Traffic Services personnel to accommodate the unique operational requirements of aircraft conducting photographic survey flights.

Significant technological changes within the photographic survey industry, have seen such operations shift from being primarily IFR/CVFR operations to primarily VFR operations, and from remote sensing and exploration to more urban applications. Also, photographic missions in busy Terminal Class C airspace across Canada have increased dramatically.

Guidance is provided on how to efficiently and safely conduct operations under both IFR/CVFR and VFR conditions, and assistance given to all flight operations within controlled airspace.

Abbreviations

ACC	Area Control Centre
ATC	Air Traffic Control
ATS	Air Traffic Services
CARs	Canadian Aviation Regulations
CVFR	Controlled Visual Flight Rules
FIR	Flight Information Region
FSS	Flight Service Station
IFR	Instrument Flight Rules
NTS	National Topographic System
SID	Standard Instrument Departure
TMU	Traffic Management Unit
VFR	Visual Flight Rules

Coordination

Prior coordination with the appropriate ATS facility is a prerequisite for the effective operation of photographic survey flights.

IFR/CVFR Operations

Coordination timelines may be adjusted to account for local ATS procedures and complexity of airspace. When considering lead time for coordination, complex operations require greater advance notice. Please adjust accordingly.

At Least One Week Prior

The pilot or crew member initiates pre-flight coordination with the regional point of contact (see Primary Contacts, page 10). Details of the mission to be flown include, but are not limited to:

- Photo blocks to be flown
- Requested schedule for photo survey flight
- Altitude(s) to be flown – specified for individual photo block(s), when appropriate
- Time in photo blocks
- Aircraft type and call sign
- Point of departure/arrival

24 Hours Before Departure

The pilot or crew member contacts the assigned point of contact 24 hours before departure or as determined during prior coordination to:

- Confirm that all previously coordinated items are unchanged
- Adjust any items that have changed
- Ensure all outstanding items, including coordination with outside agencies, have been completed

VFR Operations

Coordination timelines may be adjusted to account for local ATS procedures and complexity of airspace. When considering lead time for coordination, complex operations require greater notice. Please adjust accordingly.

At Least One Week Prior

The pilot or crew member initiates pre-flight coordination with the regional point of contact (see Primary Contacts, page 10). Details of the mission to be flown include, but are not limited to:

- Photo block(s) or line(s) to be flown
(Depicted on a visual reference map or chart –preferably a VTA Chart, or, Google Earth, for example)
- Altitude(s) to be flown
(Specified for individual photo block(s) or line(s), when appropriate)
- Time in photo block(s)
- Specify time periods where operations must occur if required for sun angle or other factors
- Aircraft type(s)
- Point of departure
- Other factors that may require special handling or coordination (for example, interaction with ground-based equipment, etc.)

Day of Photographic Survey Mission

On the day of the mission, the pilot or crew member contacts the assigned point of contact to:

- Confirm all previously coordinated items are unchanged
- Adjust any items that have changed
- Ensure all outstanding items, including coordination with outside agencies, have been completed

Class C or Class D Airspace Operations

At Least One Week Prior, or According to Local Procedures

Photographic survey operations must be coordinated in advance with the appropriate ACC (see Primary Contacts, page 10). Such coordination is necessary to ensure protection of the lateral and vertical airspace for active IFR approaches and/or SIDs at affected airports. Most photographic survey missions will be considered on a first-come, first-served basis. Consequently, on occasion, a mission might be delayed.

Coordination may require operators to:

- Arrange flight times to operate in periods of reduced demand
- Hold clear of arrival or departure paths until reduced demand permits safe operation
- Operate at altitudes above IFR approach and/or SID altitudes when photographic survey operations might significantly interfere with active arrival and departure paths, which may involve adjusting focal parameters or using alternate equipment (cameras and/or aircraft)
- Operate during periods when certain runway configurations are used

Day of Photographic Survey Mission

On the day of the mission, the pilot or crew member contacts the ACC Shift Manager or the unit responsible to:

- Confirm all previously coordinated items are unchanged
- Adjust any items that have changed
- Ensure all outstanding items including coordination with outside agencies have been completed


IFR/CVFR Photo Survey Operations


Flight Planning Photo Blocks

When filing a flight plan or itinerary for a photo block, apply the following procedures (see Figure 1– Sample Photo Survey Flight Plan, page 7):

At least one hour prior to the proposed departure time, file a flight plan or itinerary with the ATS facility closest to the point of departure with the following:

- In the “Altitude/Flight Level and Route” section
 - Planned altitude enroute to photo block
 - Route to photo block
 - (WORDS) “ENTER PHOTO BLOCK”
 - Point of entry
 - Requested altitude within the photo block
 - (WORDS) “EXIT PHOTO BLOCK”
 - Point of exit
 - Planned altitude to destination
 - Route to destination

 *The entry point and the exit point can be described by bearing/distance from a navigation aid or by latitude/longitude.*

 *ATC will not protect additional airspace against excursions of IFR or CVFR photo flight aircraft from the flight planned photo block area.*

- In the “Other Information” section
 - (WORDS) “PHOTO BLOCK”
(followed by LAT/LONG coordinates or grid numbers and letters).
 - (WORDS) “TIME TO PHOTO BLOCK”
(followed by the estimated elapsed time from departure to point of entry of photo block expressed in hours and minutes).
 - (WORDS) “TIME IN PHOTO BLOCK”
(followed by the length of time within photo block area).

Figure 1– Sample Photo Survey Flight Plan

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FILED FLIGHT PLAN
Aftn list:
/-.CID: C █████ SSR Code:A/0436 Flt rules:V Flt type: Nr Acft:
Acft type: C206 WTC: L Nav/Comm/Apch: DV Surv: C
Dept: CYTF ETD: 1910
Speed: N0100 Alt: A025
Route: PHOTO PS16130
Dest: CYTF EET: 0230 Altn: Altn2:
Other information: DOF/161108 REG/C █████ OPR/ █████ QUEBEC INC RMK/PV RM
K/PHOTO PS16130 RMK/NID QB00 █████


(FPL-CGPXA/A0436-V-C206/L-DV/C-CYTF1910
rN0100A025 PHOTO PS16130
ACYTF0230
-DOF/161108 REG/C █████ OPR/ █████ QUEBEC INC RMK/PV RMK/PHOTO PS16130 RM
K/NID QB00 █████)

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Flight Planning by Photographic Flight Lines

Due to traffic density, it may at times be impossible to protect the required photo blocks. In such cases, ATC will request that the flight plan be by individual flight lines. When it is necessary to flight plan by photographic flight lines, the ATS facility may request that the photo survey pilot or operator file a flight plan at least 72 hours in advance with a topographical chart of adequate scale (1:500,000 or 1:1,000,000), on which the applicable flight lines, entry, and exit point are clearly delineated.

 *This special flight planning requirement will be exercised only where ATC considers that the flight line information would enable the controller to accommodate the affected air traffic more efficiently. This requirement will be made known to the photo survey pilot or operator during the initial coordination contact.*

In-Flight Operating Procedures

- Advise ATS on initial contact that “This is a photo survey mission.”
- Advise ATS when entering and exiting the photo block.
- Monitor ATS frequencies at all times.
- Operate transponders as directed by ATC, except in an emergency or communication failure using the standard emergency transponder code.
- Advise the appropriate ATS facility when work has progressed to the point where the area defined in the flight plan can be reduced by blocks or quarter blocks.
- IFR flights – Include a position report, preferably by bearing/distance from a navigational aid or, if not practical, the aircraft’s position in the quarter block being flown.
- Pilots of photo survey aircraft, operating in accordance with IFR or CVFR, are responsible for the navigation necessary to confine their activity to the airspace allocated.

Airspace to Be Protected

While the photo survey aircraft is either enroute to, arriving in, departing from, or established on a flight line, controllers apply lateral, longitudinal, or vertical separation minima between the photo survey aircraft and other aircraft operating under an ATC clearance in accordance with the requirements of the airspace classification involved.

While the photo survey aircraft is operating, controllers protect the whole block by ensuring the airspace to be protected for IFR and CVFR aircraft not engaged in the photo survey work does not overlap the assigned photo block.

ATC will not apply separation between individual aircraft operating in the same block(s). If more than one aircraft has been assigned to work in the same photo block(s), operators are responsible for separation.


ATC will not apply separation between individual aircraft operating in abutting photo blocks, but will advise each operator of the activity in the adjoining photo block. For the common line that separates the two photo blocks, operators are responsible for separation between the individual aircraft.

ATC will protect four nautical miles each side of the flight line of the photo survey aircraft operating in reference to individual photographic flight lines instead of a photo block(s).

In addition, controllers will provide the following additional airspace for the aircraft to complete a turn at the end of the flight line:

- 4 miles below FL 180
- 14 miles at FL 180 to FL 230
- 17 miles above FL 230

Communication Failure Procedures

 *These procedures are in accordance with TWO WAY COMMUNICATIONS FAILURE in the Canada Flight Supplement (CFS), In the event of a discrepancy between this document and the CFS, the procedures defined in the CFS take precedence.*

Except when instructed by a controller to cover an anticipated communications failure, the pilot of a photo survey aircraft operating in, or cleared to enter, controlled airspace in accordance with IFR, who experiences communications failure:

- Sets the transponder code to 7600
- If operating in VFR weather conditions or if such conditions are subsequently encountered, continues to fly in VFR weather conditions and lands at the nearest suitable aerodrome

If the above procedure cannot be followed and the communications failure occurs, the pilot:

- Sets the transponder code to 7600
- While enroute to the photo area, proceeds to the photo block via the cleared routing and altitude
- While in the photo block, operates according to the flight times and altitudes When the estimated time in the photo block has expired, proceeds to the destination airport as filed
- When there is no existing procedure, is expected to exercise good judgment.

In any event, ATC will protect the airspace in the immediate vicinity of the aerodrome of first intended landing for 30 minutes from the time at which the aircraft is expected to commence approach.

RPAS Operations

The procedures in this document do not apply to remote piloted aerial photography or survey operations. For further information on RPAS operations please consult the NAV CANADA website.

Primary Contacts

GANDER ACC

Shift Manager
Telephone: (709) 651-5207
Email: QXACCSHIFTMNGRS@navcanada.ca

ACC Operations - Area Control Centre
Gander International Airport
Memorial Drive
P.O. Box 328
Gander, NF A1V 1W7

WINNIPEG ACC

Shift Manager
Telephone: (204) 983-8338
Email: wpgaccsm@navcanada.ca

ACC Operations - Area Control Centre
Winnipeg International Airport
777 Moray Street
Winnipeg, MB R3J 3W8

MONCTON ACC

Shift Manager
Telephone: (506) 867-7173
Email: QMFIRUnitManagers@navcanada.ca

ACC Operations - Area Control Centre
Moncton International Airport
222 Old Coach Road
Riverview, NB E1B 4G2

EDMONTON ACC

Shift Manager
Telephone: (780) 890-8397
Email: SM_Edm_Shft_Mgr@navcanada.ca

ACC Operations - Area Control Centre
Edmonton International Airport
P.O. Box 9867
Edmonton, AB T5J 2T2

MONTREAL ACC

Shift Manager
Telephone: (514) 633-3365
Email: REAquebec@navcanada.ca

ACC Operations - Area Control Centre
Dorval International Airport
1750 Chemin St. François
Dorval, QB H4P 2P6

VANCOUVER ACC

Shift Manager
Telephone: (604) 586-4500
Email: vrsm@navcanada.ca

ACC Operations Area - Control Centre
7421-135th Street
Surrey, BC V3W 0M8

TORONTO ACC - TMU EAST

Telephone:
(800) 268-4831 (Canada)
[\(800\) 387-3801 \(US\)](tel:(800)387-3801)
FAX: (905) 676-3121
Email: tmueast@navcanada.ca

NAV CANADA Facilities Map

The following map is current as of the date of this document.

Figure 2– NAV CANADA Facilities Map



