

IFR PHRASEOLOGY





NAV CANADA would like to thank all those from across the industry that contributed to this document.

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Legend



Safety-Related Content



Best Practice-Related Content



Phraseology Used by All Pilots



Phraseology Used by Air Traffic Controllers



Phraseology Used by Flight Service Specialists



Phraseology Used by Air Traffic Services

About This Document

This document is intended as a learning tool and reference guide to phraseology for all pilots flying within Canadian airspace. This document has been created using resources including the *Canadian Aviation Regulations* (CARs), *Transport Canada Aeronautical Information Manual* (TC AIM) and *Glossary for Pilots and Air Traffic Services Personnel*, as well as input from Air Traffic Controllers (ATC), FS Specialists, Flight Information Centres (FIC), flight training units and commercial aviation leaders from across the country.

Safety is a driving force in aviation. Communications are an important contributing factor to safety and many incidents and occurrences cite miscommunication as a primary cause. It is easy to forget that the voice on the other end of the radio is a person too. If everyone begins with the same foundation of standard phraseology, there is less room for error or misinterpretation.

Document Format

Examples of phraseology in this document are laid out as follows:

- Any pertinent information is given
- The example is broken down into its critical parts
- A fictitious example is then shown to give the user a clear idea as to how the phraseology might be spoken



These examples are not intended to be exhaustive, and if uncertain, or when the standard phraseology falls short, use plain language to communicate your request or intentions.

For simplification, Area Control Centres, Control Towers, Aerodrome Advisory Services, Flight Information Services, and Community Aerodrome Radio Stations are identified as Air Traffic Services, or “ATS” in this document. For more details on these units, see [“What to Expect From Different ATS Units” on page 10](#).

For definitions of unfamiliar or aviation-specific words found in the document, consult Terminav® or the Transport Canada *Glossary for Pilots and Air Traffic Services Personnel*.

Phraseology Examples

In the examples given, the critical parts are designated as follows:

UPPERCASE	Indicates words that are to be spoken exactly as written
(in parentheses)	Describes the information to be inserted
/ slash	Indicates that there are alternative words or information; use only one

Example:

Reads as: SPEAK LOUDLY AT/IN (unit name)

Spoken as: Speak loudly at home ...or... Speak loudly in the hangar

Phonetic Alphabet

Alphabet	Pronunciation	Alphabet	Pronunciation
A – Alfa	AL fah	N – November	No VEM ber
B – Bravo	BRAH VOH	O – Oscar	OSS cah
C – Charlie	CHAR lee	P – Papa	Pah PAH
D – Delta	DELL tah	Q – Quebec	Keh BECK
E – Echo	ECK oh	R – Romeo	ROW me oh
F – Foxtrot	FOKS trot	S – Sierra	See AIR ah
G – Golf	GOLF	T – Tango	TANG go
H – Hotel	Hoh TELL	U – Uniform	YOU nee form
I – India	IN dee ah	V – Victor	VIK tah
J – Juliett	JEW lee ETT	W – Whiskey	WISS key
K – Kilo	KEY loh	X – X-Ray	ECKS Ray
L – Lima	LEE mah	Y – Yankee	YANG key
M – Mike	MIKE	Z – Zulu	ZOO loo

Numbers

Term	Pronunciation	Term	Pronunciation
0	ZE RO	7	SEV en
1	WUN	8	AIT
2	TOO	9	NIN er
3	TREE	decimal	DAY SEE MAL
4	FOW er	hundred	HUN dred
5	FIFE	thousand	TOU SAND
6	SIKS		

Altitude	Pronunciation	Time	Pronunciation
2 000	Two Thousand	1700Z	One Seven Zero Zero Zulu
Distance	Pronunciation		
2 500	Two Thousand Five Hundred		
11 000	One One Thousand	25 Nautical Miles	Two Five Miles
FL180	Flight Level One Eight Zero	25 Nautical Miles DME	Two Five D M E
Heading	Pronunciation	Speed	Pronunciation
005 Magnetic	Heading Zero Zero Five	110 Knots	Speed One One Zero Knots
180 True	Heading One Eight Zero True		

Decimals

Numbers with a decimal point, such as an altimeter setting or radio frequency may be spoken as:

29.95 TWO NINER DECIMAL NINER FIFE or TWO NINE NINE FIFE

127.7 ONE TWO SEVEN DECIMAL SEVEN or ONE TWO SEVEN SEVEN

 ATS uses **NINER** and **FIFE** when issuing altimeters and altitudes, pilots are urged to do the same to reduce the possibility of missing incorrect readbacks.

 You may group numbers together if the number is an aircraft type number, flight number, wind speed, cloud height, vertical visibility or direction of traffic using the 12-hour clock system.

Number Groups

Example	Pronunciation
Airbus 320	Airbus Three Twenty
West Jet 620	West Jet Six Twenty
Wind 270/10	Wind Two Seven Zero at Ten
BKN035	Thirty-Five Hundred Broken
Traffic 10 O'clock	Traffic Ten O'clock

Transponder Phraseology

ATS Phraseology	Meaning
SQUAWK (four-digit code)	Input assigned transponder code
SQUAWK IDENT	Press the "ident" feature of transponder
SQUAWK MODE CHARLIE	Ensure MODE C function is selected
STOP SQUAWK MODE CHARLIE	Turn off MODE C function
STOP A-D-S-B ALTITUDE TRANSMISSION	Turn off ADS-B altitude transmission
RESET A-D-S-B	Turn ADS-B off, and then back on
RESET TRANSPONDER	Turn transponder off, and then back on
REPORT / SAY YOUR ALTITUDE	State your current altitude
CONFIRM SQUAWK	Visually and then vocally confirm the selected mode/code
SQUAWK STANDBY	Select "standby" function
ROGER IDENT	Used by FSS to acknowledge a request to squawk ident or change to a new code
YOUR TRANSPONDER APPEARS UNSERVICEABLE/MALFUNCTIONING	You are not showing up properly on the surveillance display. Cycle transponder OFF and back ON to see if this fixes the issue



ATS personnel are required to verify that the altitudes displayed on surveillance equipment for IFR aircraft are correct. Stating your altitude on initial contact facilitates this process.



Porter four-two-three, squawk ident.



Porter four-two-three, identified.

Standard Words and Phrases

Word	Meaning
ACKNOWLEDGE	Let me know you have received and understood this message.
AFFIRMATIVE	Yes.
APPROVED	Permission granted.
BREAK	Separation between portions of the message.
BREAK BREAK	Separation between messages for two different aircraft.
CHECK	Examine a system or procedure.
CONFIRM	Verify (clearance, instruction, action, information) given.
CONTACT	Establish communication with...
CORRECT	True or accurate.
CORRECTION	An error was made in transmission, the correction will follow.
DISREGARD	Ignore.
EXPEDITE	Comply with instruction as soon as possible.
HOW DO YOU READ?	Can you hear my transmission clearly?
I DO NOT UNDERSTAND	I do not understand, please rephrase your last transmission.
I SAY AGAIN	I repeat for clarity or emphasis.
IMMEDIATELY	Immediate action as required for safety reasons.
MONITOR	Listen to (frequency) without checking in.
NEGATIVE	No, or Permission not granted, or Not correct, or Not capable.
OVER	End of transmission, require response.
READ BACK	Repeat all, or specified part of message back.
RECLEAR	A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof
ROGER	I have received your transmission (generally used by ATC rather than pilots).
SAY AGAIN	Repeat all, or specified part of last transmission.
SPEAK SLOWER	Reduce rate of speech.
STAND BY	Wait and monitor frequency, caller will re-establish contact.
UNABLE	Cannot comply with instruction, or clearance, or request.
WILCO	I understand the message and will comply.
WITHOUT DELAY	Follow instructions expeditiously, specifically and safely.
WORDS TWICE	Communication difficult: please say every word or group of words twice. Communication difficult: therefore, I will repeat every word/group of words twice.



You may hear phraseology such as "blocked," "stepped on," or "two at once" used by ATS or other pilots. These phrases all indicate that your transmission was interrupted or distorted by other radio transmissions.

Aircraft Identification

Aircraft identification (call sign) is different depending on whether you are a general aviation flight/small operator, or an operator with a telephony designator and flight number (e.g., Air Canada, First Air, Helijet).

On initial contact with any ATS unit you must identify yourself using your full identification (call sign). If ATS refers to your aircraft using an abbreviated call sign, you may then begin using that abbreviation.

	Full Call Sign	Abbreviated Call Sign
With Telephony Designator	Designator + Flight Number e.g., Air Canada 452	N/A
Without Telephony Designator	Aircraft Manufacturer/Type + Last 4 Characters of Aircraft Registration e.g., Katana Golf Delta India Bravo, Robinson 22 Foxtrot Lima Mike Victor	Last 3 Characters of Aircraft Registration e.g., Delta India Bravo, Lima Mike Victor
Foreign Private Aircraft	Aircraft Manufacturer/Type + Full Registration e.g., Challenger November 6739 X-ray	Last Three Characters of Aircraft Registration e.g., 39 X-ray
	CANFORCE + Last 4 Numbers of Registration	N/A
Military	CANFORCE + Flight Number	N/A
	Tactical Call Sign, e.g., Gonzo Zero Eight, Royal + Flight Number	N/A
Coast Guard	Canadian Coast Guard + Flight Number e.g., Canadian Coast Guard 305	N/A
Ice Patrol	CANICE + Flight Number	N/A
Civil Air Search and Rescue Association	RESCUE + Flight Number CASARA + Aircraft Registration	N/A

 **Helicopters, gliders and ultralights may prefix their call sign with "Helicopter", "Glider" or "Ultralight" instead of the manufacturer name or type.**



Ultralight Golf Echo Echo Hotel

In addition to the aircraft call sign, large aircraft may also designate weight category:

Heavy: This refers to an aircraft with a maximum take-off weight of over 136,000 kilograms (300,000 lbs)

Super: This refers to an Airbus A380



FEDEX three-seven-two heavy, Montreal Terminal, identified, climb to flight level two-one-zero.

Heavy and Super aircraft are required to designate themselves as "Heavy" or "Super" on their initial contact with ATS. After this, they may abbreviate their call sign to only the telephony designator and flight number, removing the term "Heavy" or "Super." Keep this in mind while listening to transmissions around an airport.



It is important to recognize these terms and the wake turbulence associated with Heavy and Super Heavy aircraft, as you may be required to provide your own separation behind these types of aircraft.





Similar call signs by aircraft operating in the same place, at the same time, on the same frequency can cause misunderstandings and potential or actual confusion between ATC and pilots and could result in safety incidents.

Call sign similarity is one of the main causes for an aircraft taking a clearance not directed to them.

Most commercial flight numbers are allocated in sequential and very similar numbers.

Similar Call Signs

Similar call signs are an ongoing safety concern for NAV CANADA, Transport Canada, and pilots alike.

When two or more aircraft with similar call signs are operating on the same frequency, ATS may:

- Advise aircraft to be aware and listen carefully
- Add aircraft type to call sign (e.g., Piper GRF, Cessna GRF)
- Instruct one pilot to use full four-letter registration (e.g., FGRF)
- Instruct one pilot to use telephony designator followed by two characters of registration (e.g., Air Canada 432 and Air Transat 452 could become Air Canada 432 November Charlie, Air Transat 452 Echo Papa)

Maintain a careful listening watch; there is always potential for miscommunication.



Air Traffic Service (ATS) Units

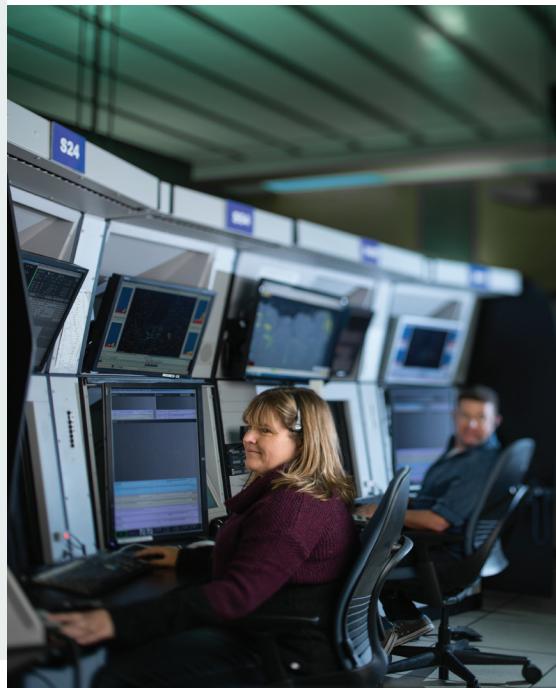
ATS units also have a designated call sign and associated frequency. This call sign is comprised of geographic location, followed by the type of service provided.

ATS Unit	Function	Call Sign
Airport Control	Clearance Delivery	(unit name) CLEARANCE DELIVERY
	Ground Control	(unit name) GROUND
	Tower Control	(unit name) TOWER
Terminal Control	Arrival Control	(unit name) ARRIVAL
	Departure Control	(unit name) DEPARTURE
	Terminal Control	(unit name) TERMINAL
Area Control		(unit name) CENTRE
Flight Service Station (FSS)	Aerodrome Advisory Service (AAS)	(unit name) RADIO
Flight Information Centre (FIC)	Flight Information Service Enroute-FISE (FIC)	(unit name) RADIO
Community Airport Radio Station (CARS)	WX Service, Information	(unit name) AIRPORT RADIO

Example: Ottawa Clearance Delivery Montreal Arrival Vancouver Terminal
 Toronto Ground Calgary Departure Edmonton Radio



Call signs for remote communications outlets (RCOs) and peripheral stations (PALs) correspond to the ATS unit responsible for the radio frequency, not the physical location of the frequency. Call sign information for RCOs and PALs is displayed on associated aeronautical publications. To facilitate the operator who could be doing multiple RCOs it would be appropriate to state which airport you are near when communicating an initial contact.



What to Expect From Different ATS Units

The Importance of Phraseology

The use of proper phraseology on the airfield benefits not only the communication between ATS, pilots, and ground vehicle operators, but proper phraseology also ensures the safety of the customer. Phraseology gives the opportunity for fast, effective, and clear communication. With safety being a number one priority in aviation, the frequencies used in radio communication need to remain free from congestion by maintaining an even rate of speed and using concise wording. The use of easily understood phraseology allows for ATS, pilots and ground vehicle operators to communicate precise information without taking up too much time on the frequency. Proper phraseology may take some time to absorb, but once it is understood and put into practice, it makes the communication process simple and easy for all.

Area Control Centres (Terminal/Centre)

Area Control Centres (ACC) provide control, advisory and alerting services for IFR and controlled VFR aircraft. Air traffic controllers located at these centres across the country coordinate the safe, efficient and orderly flow of air traffic as it travels across Canada.

Each ACC is responsible for air traffic in a large section of Canadian airspace known as a Flight Information Region (FIR). Each FIR is divided into smaller “sectors” and assigned to controllers who know that airspace. Using surveillance equipment and advanced flight data management systems, controllers track all flights within a sector, give pilots enroute instructions and provide terminal clearances at certain airports.



Control Towers (Tower, Ground, Clearance Delivery)

Control towers provide air traffic control and information services within a defined control zone around busy airports.

Controllers at these locations provide pilots approaching and departing the airport with clearances and instructions to help them maintain separation from other aircraft. They also provide flight information to aircraft operating in airspace around their airports and issue clearances and instructions to aircraft as well as vehicles on the ground.

Aerodrome Advisory Services (Flight Service Stations, Mandatory Frequency)

When an aerodrome has been determined not to require on-site air traffic control services, aerodrome advisory services (AAS) may be provided based on density and complexity of traffic. They assist in maintaining aviation safety within and in the vicinity of mandatory frequency areas (MF). These services include:

- Runway information
- Air and ground traffic information,
- Assisting pilots with traffic resolution
- Weather and aerodrome conditions
- Control of ground vehicle movement
- Additional information regarding aviation safety

Remote Aerodrome Advisory Services are provided at identified sites using a Remote Communications Outlet (RCO) by FS Specialists working at FSS. These services are very similar in nature to AAS but can be provided in a non-visual environment using position reports to confirm aircraft and vehicle movement when required.

Flight Information Services (FIC, WXBRIEF, Enroute Services)

Flight Information Centres (FIC) are centralized Air Traffic Services units responsible for providing pre-flight, enroute flight information and VFR alerting service.

Flight Service Specialists working at these centres are trained to interpret meteorological information and use this information to provide in-depth interpretive weather briefings and NOTAM information to pilots operating anywhere in Canadian airspace. They are also responsible for managing VFR flight plans and for providing alerting service and coordination with search and rescue.

Community Aerodrome Radio Stations

NAV CANADA provides specified flight information services in northern and remote areas, utilizing Community Aerodrome Radio Station (CARS) facilities to provide aviation weather and communication service at designated sites in the Yukon, Northwest Territories, Nunavut and Northern Quebec along James Bay Coast.

CARS facilities consist of meteorological equipment for producing aviation surface weather observations (METARs) and office space equipped with a communications console for providing operational information to pilots. CARS operators provide aviation support in the form of air/ground communication, flight planning, aviation weather observation, and emergency response.



 Taking time to visit your local Air Traffic Service Unit is recommended.

Frequency Coupling

When frequencies are coupled together, any transmission received on a frequency is automatically re-broadcast on all other frequencies that are coupled within that group. This allows for all users on all frequencies within a coupled group to hear all transmissions regardless of which frequency they originate on. The main advantages of this are a reduction/elimination of two users transmitting on two separate frequencies at the same time and thereby stepping on each other on the receiving (ATS) end, as well as an increased situational awareness of all users. This may occur at both FSS and ATC units.

Language

CARs 602.133, 602.134, 602.135

All ATS units in Canada provide service in English. However, Canada is unique in that within the boundaries of Quebec, as well as at Ottawa–Macdonald Cartier International Airport, a pilot may choose to communicate in either English or French.

The initial contact sets the language for the entire communication. You must initiate contact in the desired language of communication and continue communicating in that language for the duration of your contact.

 Note: A French version of this document is available [here](#).



“Communication is of paramount importance in aviation. If a communication is misunderstood, incorrect, or garbled, even the simplest message can lead to a lapse in safety. The goal of all communications is to provide unambiguous, correct, and current information and clearances to aircrews and controllers.”

—National Aeronautics and Space Administration

Radio Operation

Familiarize yourself with the VHF radio in your aircraft prior to initiating communications. Set volume and squelch accordingly, and listen briefly to the desired frequency. Ensure microphone or boom is positioned so that speech is clear and continuous. When ready to transmit, press the “push-to-talk” (PTT) button firmly and hold down with constant pressure. Once finished your transmission, release the PTT button and wait for a response.

Recommended Practices

CARs 602.136

Maintain a continuous listening watch on the appropriate frequency. This ensures you do not miss any transmissions directed to or affecting you, and helps you maintain situational awareness.

Remember, your voice is a tool. Speaking calmly and clearly indicates you are calm and in control in the cockpit, whereas quick, frenzied or excessively loud communications are more difficult to understand and may indicate urgency, or even panic.

The following practices are recommended to make communications easier for yourself as well as the receiver:

- Listen on frequency before speaking to avoid making a call while another aircraft is also transmitting
- Think about and plan what you are going to say before beginning transmission
- After pressing the push-to-talk button, a slight pause before beginning to speak (and again when you are finished) ensures that your entire transmission is heard and not cut off
- Use a normal, conversational tone and volume of speech
- Keep calls brief using concise, standard phraseology
- Remember that the information being relayed may need to be written down, speak slightly slower than during normal conversation, and transmit no more than three ideas (phrases, information, instructions) at once
- Only operational transmissions should be made (i.e. avoid general conversation)
- Keep all transmissions professional (bear in mind that frequencies are public domain)

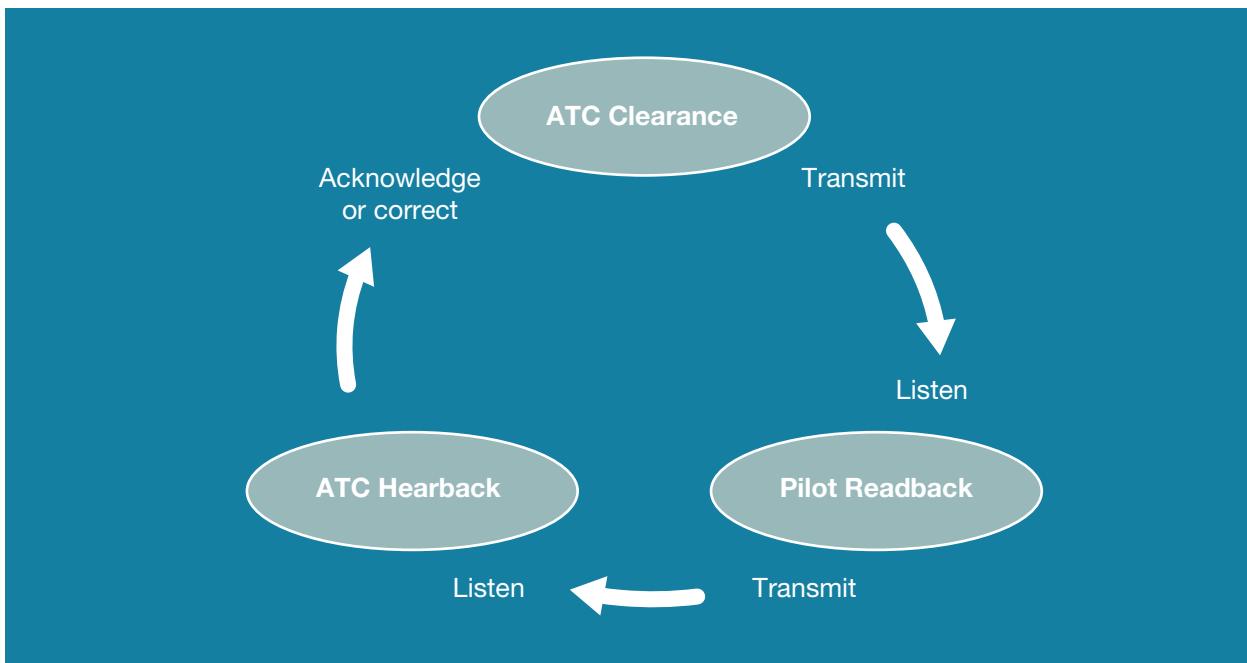


Writing down long, complex or unfamiliar instructions will aid in your recall of the instruction and may mitigate incorrect readbacks and miscommunication.

General Format of Radio Communication

A complete radio transmission is made up of a number of parts and is cyclical in nature. Both persons involved must state their request/intentions, listen for readback/feedback and acknowledge the other person's response.

The listening portion of the cycle is just as important as the speaking portion. Careful listening (hearback) may prevent errors from occurring.



State your call sign in each transmission. This allows ATS to confirm that the message/instruction/clearance was received and acknowledged by the intended aircraft.

If you do not understand, ask.



If the frequency is busy, ATS will ensure the highest priority calls are made first. If you have contacted ATS and they do not respond immediately, wait. They may be attending to a higher priority task such as an emergency call or attending to internal coordination. If you think your call may have been missed or forgotten, try again.

Readback/Hearback

CARs 602.31



While in flight, pilots are required to read back all IFR clearances and instructions.

ATS personnel are required to confirm that the readbacks of all IFR clearances are correct; this is known as the hearback. As a pilot you can assist in this process by promptly reading back all IFR clearances and instructions using standard phraseology and as much as possible in the same order/format as issued.

Readback/hearback errors are frequently identified as contributing to the occurrence of aviation safety events. Eliminating unnecessary radio calls and using only clear and concise phraseology can help reduce the occurrence of readback/hearback errors.

Be aware of the dangers of expectation bias. For example, if you flight-planned 15,000 feet, you may not get clearance to that altitude immediately.



If you are unsure, if something is unclear, or not what you expected, it is important that you ask for clarification.

Initial Contact

Initial Contact with a Telephony Designator

On initial contact with ATS, state your altitude and assigned heading if being vectored. If you are climbing or descending, state your passing altitude and the altitude you are cleared to.

	Vancouver Centre, Air Canada one-two-three leaving one-six thousand for one-seven thousand.
	Air Canada one-two-three, Vancouver Centre, identified, climb flight level two-seven-zero.



In instances where the ATIS requires pilots to advise ATC of their requested approach on initial contact include that information also.

	Ottawa Terminal, Westjet five-three-eight leaving one-two thousand for eight thousand, with ATIS Charlie, requesting RNAV ZULU Runway three-two.
	Westjet five-three-eight, Ottawa Terminal, roger, expect RNAV ZULU Runway three-two, descend four thousand.



It is important that pilots request an approach for the landing runway broadcasted on the ATIS. If requesting a different landing runway ensure that your message is clear.



" Is runway two-five available for landing? "

Initial Contact with a Civil Canadian Ident

On initial contact with ATS, use the last four characters of your registration, and state your altitude and assigned heading if being vectored. If you are climbing or descending, state your passing altitude and the altitude you are cleared to. Pilots are required to state either the aircraft manufacturer or type on initial contact. It is preferable for ATC purposes that the aircraft type be stated to avoid any confusion regarding performance. In addition, if the ATIS message requires you to inform ATC of your requested approach on initial contact follow the instructions as described above for aircraft with a telephony designator.

For example, a Cessna 172 and a Cessna Citation have very different flight capabilities and characteristics



Vancouver Centre, Cessna one-seven-two Golf Alfa Bravo Charlie leaving four thousand for five thousand, assigned heading one-zero-zero.



In general, you should avoid using superfluous words like "this is" and only transmit the most important information.

Superfluous example: Hello Montreal Terminal, this is Piper Aztec Foxtrot Romeo Juliett Delta with you at four thousand feet.

Appropriate example: Montreal Terminal, Piper Aztec Foxtrot Romeo Juliett Delta at four thousand.

Stand By

"Stand By" is generally used when there is time needed between transmissions. This may be to verify or gather information, or because there is another task being performed. "Stand by" means wait, the individual (ATS unit or pilot) who initiated the stand by will re-establish contact when they are ready to do so.



Vancouver Centre, WestJet eight-eight-six, leaving four thousand for seven thousand.



WestJet eight-eight-six, Vancouver Centre, standby.

Radio Check

ATS may ask you to verify the readability of their radio transmission. Conversely, you may ask ATS to verify the readability of your radio transmissions.

Aircraft: (ATS unit identification) (aircraft call sign) RADIO CHECK (frequency)/HOW DO YOU READ?

ATS: (aircraft call sign) READ YOU (readability number)

Readability	Meaning
1	Unreadable
2	Readable now and then
3	Readable but with difficulty
4	Readable
5	Perfectly readable

IFR Clearance Format

Expect to hear the clearance in this format:

1. Prefix/aircraft ID
2. Clearance limit
3. SID
4. Route
5. Altitude
6. Speed
7. Departure, enroute, approach, or holding instructions
8. Special instructions or information
9. Traffic information

Advise ATS when ready to receive the clearance with initial contact:
[unit identification] (aircraft identification) IFR CLEARANCE.

Stating your destination when requesting a clearance may help ATS in the case of aircraft with more than one flight plan filed.

	Charlottetown Radio, Jazz three-three-one, IFR clearance for Moncton.
	Jazz three-three-one, Charlottetown Radio, roger, standby for clearance.
	ATC clears Jazz three-three-one...

When the clearance is received on the ground, before departing a controlled aerodrome, and a SID is included in the clearance, the pilot only needs to acknowledge receipt of the clearance by repeating the aircraft call sign and the transponder Code that was assigned. If there is an amendment to the altitude contained in the SID, that altitude must also be read back. At any time that the controller requests a full readback, the pilot must comply. Also, the pilot may, at any time, read back a clearance in full to seek clarification.

Pre-Departure Clearance (PDC)

PDC is an initial IFR clearance delivered electronically via air-ground data link (AGDL) to airline companies with an on-site computer capable of interfacing with ATC and the data link service provider.

To ensure the accuracy of a PDC, controllers compare the pilot-provided flight plan unique identifier (FPUI) with the one on the tower's EXCDS display. If an FPUI is incorrect, they will deliver the clearance via direct communication.

If PDC 623 protocol is followed, the pilot sends an electronic response, which EXCDS confirms as accurate. If an error is detected, both the controller and pilot are notified and verbal confirmation is required.



In all cases where there are changes or an incorrect FPUI a full readback is required. Some ATC units will require readbacks as noted in the *Canada Flight Supplement* (CFS). For example, Vancouver Tower, Toronto Pearson, Montreal/Trudeau and Ottawa MacDonald-Cartier require pilots to readback the assigned SID.



ATC clears WestJet three-three-one, to Moncton, Romeo-Leblanc airport, via the Charlottetown three departure, flight planned route. SQUAWK five-two-two-seven.



WestJet three-three-one, SQUAWK five two two seven.

When the clearance is issued by an FSS the prefix is always: ATC CLEARS (aircraft identification) TO.



Montreal clearance Air Canada four-zero-one, IFR clearance.



Air Canada four-zero-one, Montreal clearance, cleared to Toronto Pearson, Montreal one departure, SQUAWK one-five-two-two.



Air Canada four-zero-one, roger, Montreal One departure, SQUAWK one-five-two-two.

When ATC provides a clearance, the prefix is: (aircraft identification) CLEARED.



The SIDS are used to base initial IFR separation, establish noise abatement or ensure obstacle clearance. Flying the incorrect SID can result in an unsafe situation, a loss of separation, or wake turbulence.

If you are unsure of the SID, say something!

Initial IFR Clearance Route Change

When there is a change in the clearance, ATC advises the pilot: (aircraft identification) ROUTING CHANGE/AMENDMENT TO YOUR ROUTE.



Air Canada one-seven-three, routing change, advise ready to copy.



Air Canada one-seven-three, roger, go ahead.



Air Canada one-seven-three is cleared to the Edmonton Airport via Ottawa two departure, flight planned route Thunder Bay V-O-R, direct Prince Albert V-O-R, direct Wainwright V-O-R, Victor three-five-zero Ryley, direct.



Air Canada one-seven-three, roger. Cleared to the Edmonton Airport via Ottawa two departure. Flight planned route Thunder Bay V-O-R, direct Prince Albert V-O-R, direct Wainwright V-O-R, Victor three-five zero Ryley, direct.



Departure Instructions

When a tower controller is able to allow a departing aircraft to enter the runway the following instruction(s) are issued:

(aircraft identification) LINE UP (runway identification)

(aircraft identification) LINE UP AT (runway identification) INTERSECTION

If another entry point for the same runway is in use by another aircraft controllers will specify the aircraft to line up at the threshold.

(aircraft identification) LINE UP AT THRESHOLD (runway identification)

If a controller instructs an aircraft to line up but must delay the takeoff clearance for a reason that is not apparent expect the following phraseology:

(aircraft identification) LINE UP AND WAIT (runway identification) [AT (taxiway id)] [reason, if not apparent].



Jazz two-five-one line up and wait Runway two-four right, vehicle inspecting the runway.

Controllers may provide detailed departure instructions when required. Expect to receive departure instructions in the following format:

Takeoff Clearance Format

- (aircraft identification) [unit identification]
- (special information) Includes details such as hazards or obstructions
- (control instructions) Includes information such as a turn or heading after takeoff
- [wind information] If the wind speed is 15 knots or more, the direction and speed are issued in the take-off clearance
- FROM (intersection/ threshold)] Controllers state the position from which the take-off roll commences if you are taking off from any of the following:
 - A taxiway intersection
 - A runway intersection
 - The threshold when another entry point for the same runway is also in use
- CLEARED FOR TAKEOFF (runway identification).

ATC: (aircraft identification), [departure instruction], CLEARED FOR TAKEOFF, RUNWAY (runway identification).



Jazz two-five-one, turn right heading two-eight-zero, cleared for takeoff runway two-four right.



**Right turn heading two-eight-zero, cleared for takeoff runway two-four right,
Jazz two-five-one.**



ATC may issue specific departure instructions prior to the actual takeoff clearance. This is NOT a take-off clearance. Read back the instructions and wait for the takeoff clearance.

Takeoff at Your Discretion

“At your discretion” is used in uncontrolled areas of an airport. This is frequently used for helicopters and seaplanes. Generally, this is used for VFR aircraft, however, it is possible for an IFR aircraft to receive such an instruction.

You are responsible for safety and separation. ATC has given you the instruction with the intent that you comply as soon as safely able and may be instructing surrounding traffic based on this assumption.

Frequency Change

Pilots should acknowledge the receipt of all clearances and instructions directed to them, including frequency changes.

Advise if unable to comply with a frequency assignment having 2 or 7 as the fifth digit; an alternate frequency will be assigned.

	Air Canada four-two-three, contact Toronto Departure on one-two-four decimal six-seven.
	One-two-four decimal six-seven, Air Canada four-two-three.

ATC: (aircraft identification) (CONTACT/MONITOR) (unit to be transferred to) ON (frequency of new unit) AT (time)/OVER (unit name) note: it is optional for controllers to say 'ON'.

Aircraft: (new frequency) (aircraft call sign)

	Air Canada four-two-three in three minutes, contact Toronto centre on one-two-four decimal six-seven
	Toronto centre on one-two-four decimal six-seven in three minutes, Air Canada four-two-three.
	Air Canada four-two-three, over Quebec N-D-B, contact Quebec tower on one-one-eight decimal six-five.
	Roger Quebec tower on one-one-eight-six-five over Quebec N-D-B , Air Canada four-two-three.

Vectors

Aircraft headings are given in groups of three digits prefixed by the word "heading." If operating within the Southern Domestic Airspace (SDA), degrees are expressed in "magnetic." If operating within the Northern Domestic Airspace (NDA), degrees are expressed in "true."

ATC will provide a reason for the initiated vector

ATC: (aircraft identification) TURN RIGHT/LEFT or FLY HEADING (degree), (reason for vectors).

	Alfa Foxtrot Foxtrot, fly heading three-one-zero, vectors for traffic, expect direct OKREV in two-zero miles.
	Alfa Foxtrot Foxtrot, roger, heading three-one-zero.



Air Transat five-three-seven, turn left heading two-one-zero, vectors for sequencing.



Left heading two-one-zero, Air Transat five-three-seven



Porter four-two-three, STAR cancelled, fly heading one-four-zero, vectors to intercept the localizer, expect a one-zero mile final.



Porter four-two-three, roger, check the STAR is cancelled, heading one-four-zero.



Air Canada six-six-one, maintain present heading, expect a one-zero mile final.



WestJet eight-four-four, maintain present heading, expect base leg in six miles.



Terminating Vectors

ATC: (aircraft identification) [instruction to intercept IFR routing] (e.g. airway, fix, approach course).

	Rouge six-four-three, proceed direct VERKO on course.
	Direct VERKO on course, Rouge six-four-three.

Altitude Assignment

The use of altitudes is a primary means of separation for ATC. It is the form of separation that puts aircraft the closest to each other. Only 1,000 feet between two aircraft is adequate vertical separation, as compared to two aircraft at the same altitude where a minimum of 3 miles (15,840 feet) in a Terminal, or five miles (26 400 feet) in an enroute sector could exist. Hence adherence to altitude assignment is critical for ensuring flight safety.

ATC: (aircraft identification) CLIMB to/DESCEND to (altitude)

	WestJet eight-one-one, climb to flight level three-three-zero.
--	--

Altitude Assignment with Restrictions

The altitude at which a climbing or descending aircraft is to cross a fix:

ATC: (aircraft identification) CROSS (fix) AT (altitude). (aircraft identification) CROSS (fix) AT OR ABOVE/BELOW (altitude).

ATC: (aircraft identification) NOT ABOVE/BELOW (altitude) UNTIL (time/fix).

	Air Canada five-zero-six, climb to one-five thousand, cross KATSY at six thousand or below.
	Climb to one-five thousand, cross KATSY at six thousand or below, Air Canada five-zero-six.

The place or time to start/stop climb or descent.

ATC: (aircraft identification) CLIMB/DESCEND TO (altitude) IMMEDIATELY/AFTER PASSING (fix).

ATC: (aircraft identification) CLIMB/DESCEND TO (altitude) AT (time).

ATC: (aircraft identification) STOP CLIMB/DESCENT AT (altitude).

ATC: (aircraft identification) CONTINUE/WHEN READY CLIMB/DESCEND TO (altitude).



WHEN READY means the pilot may commence altitude change when convenient. When flying a STAR, an RNAV approach or an RNAV SID, the pilot is expected to comply with all published restrictions, unless specifically cancelled by the controller.

The primary goal of using the term WHEN READY, is to provide pilots the opportunity to program the FMS so the aircraft may commence descent at the optimal point. The term 'when ready' replaced the old reference of 'at pilot's discretion.' A key difference from the old reference is that once a pilot has commenced a descent after 'when ready', no interim levelling-off is permitted without another clearance from ATC.



The place or time an altitude is to be reached.

ATC: (aircraft identification) EXPEDITE CLIMB/DESCENT UNTIL PASSING/REACHING (altitude).

While in Controlled Airspace

This applies to aircraft entering or leaving controlled airspace.

ATC: (aircraft identification) MAINTAIN (altitude) WHILE IN CONTROLLED AIRSPACE.



Cree five-five-one, maintain niner thousand while in controlled airspace.



Maintain niner thousand while in controlled airspace, Cree five-five-one.

Amending Climb or Descent

ATC: (aircraft identification) CONTINUE CLIMB/DESCENT TO (altitude).

ATC: (aircraft identification) STOP CLIMB/DESCENT AT (altitude).

Altitude Block

Pilots often request a block of altitudes in order to avoid turbulence or perform certain flight manoeuvres.

ATC: (aircraft identification) MAINTAIN BLOCK (altitude) TO (altitude).

	Canadair five-one, maintain block one-four thousand to one-six thousand.
	Maintain block one-four thousand to one-six thousand, Canadair five-one.

Speed Assignment

State the aircraft's indicated air speed or Mach number when ATC says: SAY AIRSPEED or SAY MACH NUMBER.

	Speedbird nine-four, say Mach number.
	Speedbird nine-four, Mach decimal eight-four.



Controllers may instruct you to adjust your speed in several different manners.

Maintain a Specific Speed or Mach Number

ATC: (aircraft identification) MAINTAIN PRESENT SPEED/MACH NUMBER.

ATC: (aircraft identification) MAINTAIN SPEED (number) KNOTS/MACH (Mach number).

ATC: (aircraft identification) MAINTAIN SPEED (number) KNOTS OR GREATER/LESS.

ATC: (aircraft identification) MAINTAIN MACH (Mach number) OR GREATER/LESS.

Increase or Decrease the Aircraft's Speed

Controllers use numerous methods to provide speed assignment to aircraft.

ATC: (aircraft identification) INCREASE/REDUCE SPEED BY (number) KNOTS/MACH (Mach number).

ATC: (aircraft identification) INCREASE/REDUCE SPEED TO (number) KNOTS/MACH (Mach number).

	WestJet one-one-zero, reduce speed to two-five-zero knots.
	Roger, reducing speed to two-five-zero knots, WestJet one-one-zero.

Speed reductions

ATC: (aircraft identification) REDUCE TO MINIMUM APPROACH SPEED.

Speed reduction prior to descent

ATC: (aircraft identification) REDUCE SPEED TO (number) KNOTS, THEN DESCEND TO (altitude).

Speed reduction following descent

ATC: (aircraft identification) DESCEND TO (altitude), THEN REDUCE SPEED TO (number) KNOTS/MACH (Mach number).

ATC: (aircraft identification) DESCEND TO (altitude), THEN REDUCE SPEED BY (number) KNOTS/MACH (Mach number).

Avoid exceeding a specified speed

ATC: (aircraft identification) DO NOT EXCEED SPEED (number) KNOTS.

ATC: (aircraft identification) DO NOT EXCEED MACH (Mach number).



When assigned a speed on final approach, controllers expect pilots to comply to maintain separation with preceding and successive traffic. Since spacing is often at the minimum to maintain airport capacity, speed compliance is crucial.



Heightened situational awareness and attention to cockpit management is crucial to aviation safety.



STAR

Although an aircraft is expected to follow the charted lateral track of the cleared STAR without further ATC clearance, such is not the case with the vertical profile. ATC issues descent clearance, and once a lower altitude is issued by ATC, the pilot must descend on the STAR profile to the assigned altitude. The pilot complies with all charted altitude and speed restrictions above or at the ATC-assigned altitude, unless specifically cancelled by ATC. Under no circumstances should an aircraft descend below the last assigned altitude by ATC.

Examples of ATC cancelled restrictions:

ATC: (aircraft identification) DESCEND TO (altitude), ALL STAR ALTITUDE RESTRICTIONS CANCELLED.

ATC: (aircraft identification) DESCEND TO (altitude), ALTITUDE RESTRICTION AT (fix) CANCELLED.



Air Canada four-two-three descend to three thousand, altitude restriction at TIDAS cancelled.



Descend to three thousand, TIDAS altitude restriction cancelled, Air Canada four-two-three.



If unable to link the STAR to the approach, pilots should advise ATC and vectors to the FACF will be issued.

Cancelling an RNAV STAR

An RNAV STAR may be cancelled by ATC, if required.

Receipt of a visual approach clearance automatically cancels the STAR procedure.

ATC: (aircraft identification) STAR CANCELLED, (control instructions).



United six-thirty-seven, STAR cancelled, fly heading zero-six-zero for vectors to final.



Roger, STAR cancelled, fly heading zero-six-zero for vectors to final, United six-thirty-seven.

Hold



Holding clearances are often issued with short notice and can be somewhat complex. Special attention should be paid to the holding instructions and ensure an accurate readback is provided. Make sure you have a pen and paper handy before taking the clearance.

Holding Clearance Types

Standard holding clearance

Below are the formats that ATC uses to instruct different holding clearances. If a change in altitude is required, it is normally assigned in the sequence just prior to the expect further clearance time.

ATC: (aircraft identification) CLEARED TO THE (fix), HOLD (direction) ON (specified) RADIAL/COURSE/INBOUND TRACK, EXPECT FURTHER CLEARANCE AT (time).

Non-standard holding clearance

ATC: (aircraft identification) CLEARED TO THE (fix), HOLD (direction) ON (specified) RADIAL/ COURSE/INBOUND TRACK, LEFT TURNS, EXPECT FURTHER CLEARANCE AT (time).



Porter three-four-four, cleared to the Wellington N-D-B, hold east inbound on the localizer, expect further clearance at two-zero-three-zero.



Roger, Porter three-four-four, cleared to the Wellington N-D-B, hold east inbound on the localizer, expect further clearance at two-zero-three-zero.



A complete readback is required for a holding clearance. At times, ATC will issue holding clearances in situations that were not foreseen, such as an unexpected runway closure. A prompt and complete readback accelerates the ATC's work and allows them to move on to other traffic that also might require a hold. The use of published holds is generally the preferred method of holding aircraft, however, it is not always suitable or available for use.

Published Holding Clearance

ATC: (aircraft identification) CLEARED TO THE (fix specified in holding pattern) HOLD (direction) AS PUBLISHED, EXPECT FURTHER CLEARANCE AT (time).

In lieu of an expected further clearance time, it is possible that ATC will assign a time to leave the hold/fix. This is often used when flow metering is in effect.

ATC: (aircraft identification) DEPART/LEAVE (fix) AT (time).



Jazz three-seven, cleared to LINNG, hold South as published, expect further clearance at two-zero-one-zero Zulu.



Jazz three-seven, cleared to LINNG, hold South as published, leave LINNG at two-zero-one-zero Zulu.

Detailed Holding Clearance

ATC: (aircraft identification) CLEARED TO THE (fix), HOLD ON (specified) RADIAL/COURSE/INBOUND TRACK, BETWEEN (unit name) AND A POINT (number) MINUTES (direction) LEFT/RIGHT TURNS, EXPECT FURTHER CLEARANCE AT (time).

DME Holding Clearance

ATC: (aircraft identification) CLEARED TO THE (name) TACAN/VOR/NDB (specified) RADIAL/BEARING (number) DME FIX, HOLD BETWEEN (number) AND (number) DME, EXPECT FURTHER CLEARANCE AT (time)

When issuing a holding clearance, ATC will issue an expect-approach-clearance time, an expect-further-clearance time, or the time to depart the fix, and revise it as necessary. Pilots should receive a revised time or further clearance at least five minutes prior to the expiration of the current expected time.

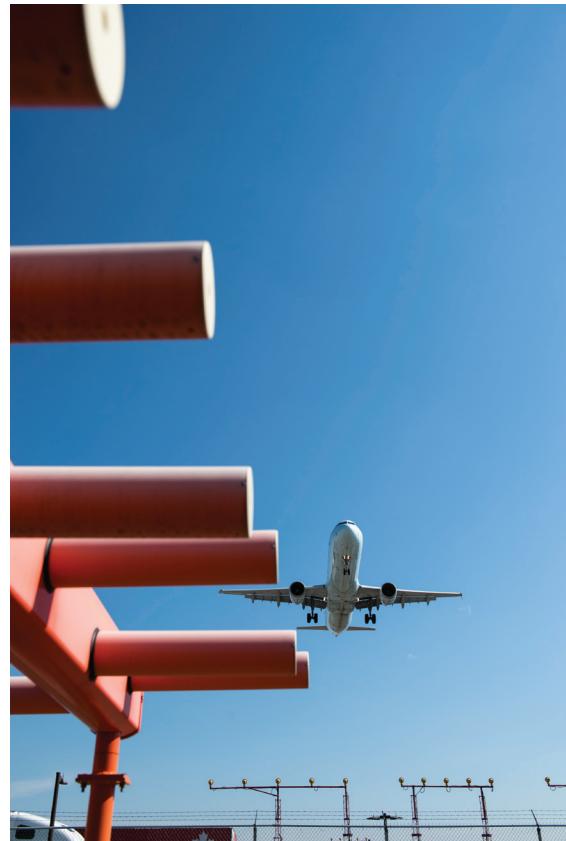
ATC: EXPECT APPROACH CLEARANCE AT (time).
EXPECT FURTHER CLEARANCE AT (time).
DEPART/LEAVE (fix) AT (time).

Approach Clearances

There are numerous different approaches that aircraft can carry out. Controllers provide clearances in the following formats.

Specific Approach

ATC: (aircraft identification) CLEARED TO THE (name) AIRPORT (type of approach) RUNWAY (number) APPROACH.



Jazz one-two-two cleared to the Kelowna Airport R-NAV Zulu runway three-four approach.



Roger, cleared to the Kelowna Airport R-NAV Zulu runway three-four approach, Jazz one-two-two.

Approach with Circling

ATC: (aircraft identification) CLEARED TO THE (name) AIRPORT (type of approach) RUNWAY (number) APPROACH CIRCLING FOR RUNWAY (number).

	Juliett Foxtrot Echo cleared to Ottawa Airport ILS runway two-five approach circling for runway three-two.
	Roger, cleared to Ottawa Airport ILS runway two-five approach circling for runway three-two, Juliett Foxtrot Echo.

Approach with Restrictions

ATC: (aircraft identification) CLEARED TO THE (name) AIRPORT (type of approach) RUNWAY (number) APPROACH. (Restriction, if any).

	Porter six-seven-five, cleared to the Timmins Airport ILS runway zero-three approach, descend from five thousand to three thousand established in the hold.
	Roger, cleared to the Timmins Airport ILS runway zero-three approach, make descent five thousand to three thousand established in the hold, Porter six-seven-five.

Non-Specific Approach

ATC: (aircraft identification) CLEARED TO (name) AIRPORT FOR AN APPROACH.

	Air Inuit five-eight-two cleared to Val-d'Or for an approach.
---	--

A non-specific approach clearance does not include permission to fly a visual or contact approach. You may request a visual or contact approach after receiving an approach clearance to the airport and if able the controller issues the clearance:

ATC: (aircraft identification) ROGER, VISUAL APPROACH APPROVED.

ATC: (aircraft identification) ROGER, CONTACT APPROACH APPROVED.



Requesting a contact approach can be considered as confirmation that Contact Approach conditions exist.

In a Terminal Airspace

When you request a visual approach, ATC must ensure the weather is appropriate, you are surveillance identified, you have confirmed sighting the airport and in multiple approaching aircraft situations, and one of the following conditions applies:

- A. You have reported sighting the leading IFR traffic and confirmed the type and position of the aircraft to be followed (You will then be instructed to follow the traffic to the same runway at a controlled airport);
- B. You have reported sighting the airport but not the leading IFR traffic. ATC will then ensure that separation is maintained from leading traffic.

Visual Approach at Controlled Airports

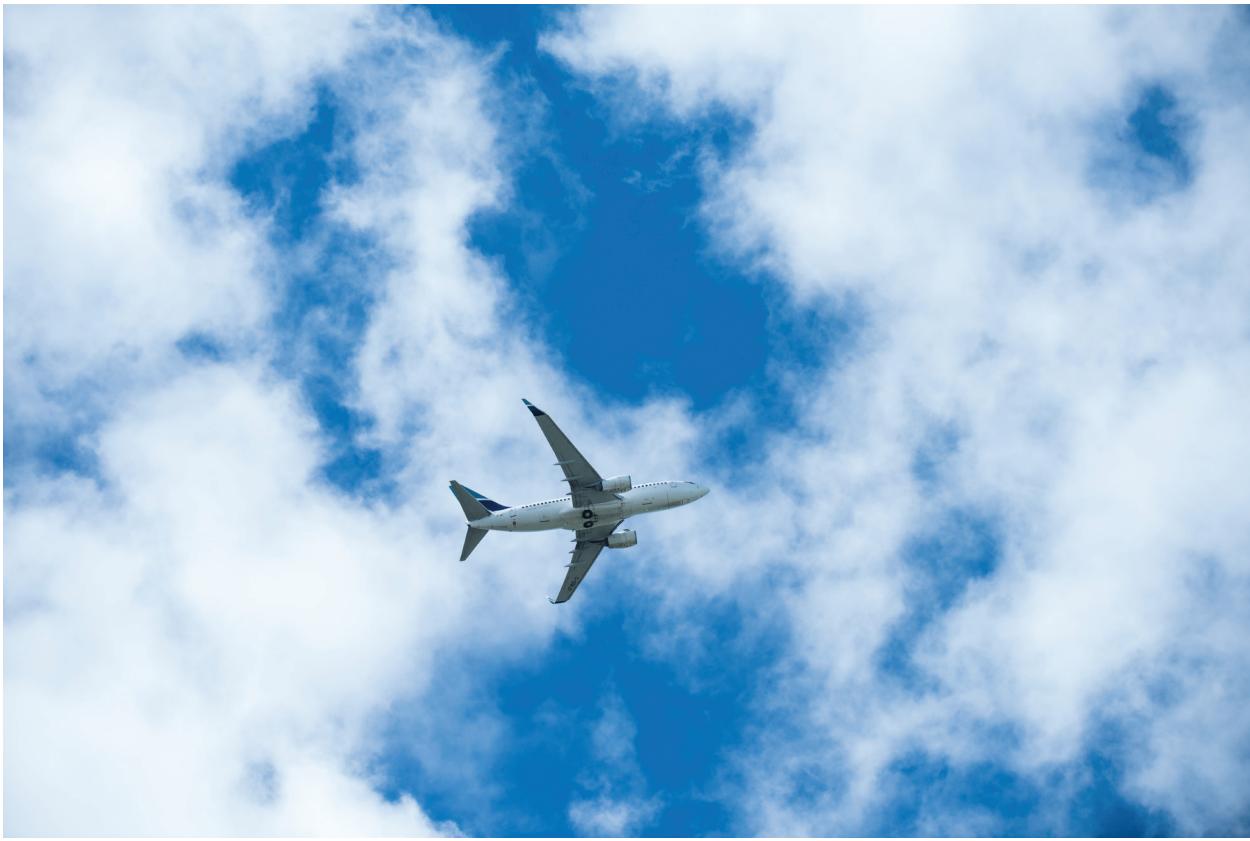
When you report the airport in sight and there is no leading traffic expect: CLEARED VISUAL APPROACH (runway identification).

When you report the traffic ahead in sight expect: CLEARED VISUAL APPROACH (runway identification) FOLLOW (aircraft type).



Controllers endeavour to be as accurate as possible in pointing out the traffic to follow (e.g. NINE O'CLOCK AND THREE MILES SAME ALTITUDE). Special attention should be paid to ensuring that the traffic described matches the traffic intended for following, particularly in high density environments.





ATC: (aircraft identification) NUMBER (placement in sequence) TO FOLLOW (aircraft type and position).

Aircraft would then report TRAFFIC IN SIGHT.

ATC: (aircraft identification) CLEARED VISUAL APPROACH RUNWAY (runway number) FOLLOW (aircraft type).

 ATC	EVAS one-two-two, number three, to follow Dash-eight three o'clock, three miles at three thousand feet.
	EVAS one-two-two roger, Dash-eight in sight.
 ATC	EVAS one-two-two roger, cleared visual approach runway three-three follow the Dash-eight.

Visual Approaches to Multiple Runways

ATC: (aircraft identification) MAINTAIN VISUAL SEPARATION FROM (aircraft type) ON APPROACH TO (runway identification).

	EVAS one-two-two, cleared visual approach runway three-three, maintain visual separation from Dash-eight on approach to runway zero-seven.
	Evas one-two-two roger, cleared visual approach runway three-three, maintaining visual separation with the Dash-eight on approach for runway zero-seven.

Missed Approaches

Planned Missed Approach

ATC: (aircraft identification) ON MISSED APPROACH, CLEARED TO (airport/location/fix) VIA (routing) CLIMB TO (altitude) (control instructions).

	Bravo Sierra Delta, on missed approach, cleared to the North Bay V-O-R via Victor three-seven, climb to one-seven thousand. Leaving three thousand, turn left direct Muskoka N-D-B on course.
	On the missed approach cleared to the North Bay V-O-R via Victor three-seven, climb one-seven thousand. Leaving three thousand left turn direct Muskoka N-D-B on course, Bravo Sierra Delta

Possible Missed Approach

ATC: (aircraft identification) IN THE EVENT OF MISSED APPROACH, CLEARED TO (airport/location/fix) VIA (routing) CLIMB TO (altitude).

	Air Canada two-four-two, in the event of missed approach, cleared to the Yellowknife V-O-R via Victor two-one, climb to eight thousand.
	Air Canada two-four-two roger, in case of missed approach cleared to the Yellowknife V-O-R via Victor two-one, climb to eight thousand feet.

ATC: (aircraft identification) IN THE EVENT OF MISSED APPROACH, CLEARED TO (airport/location/fix) VIA (routing) CLIMB TO (altitude) (control instructions).



Air Canada two-four-two, in the event of missed approach, cleared to climb to..., climb from fife to niner thousand on the Fort St. John zero-eight-nine degree radial before proceeding on course.



Air Canada two-four-two, in the event of missed approach, climb runway heading to three thousand and expect vectors for the ILS runway three-two.



It is important to note that if cleared for an approach with a circling procedure, in the event of a missed approach the procedure to follow is the missed approach procedure for the cleared approach and NOT the circling runway.

Unplanned Missed Approach

ATC may instruct you in the following manner:

ATC: (aircraft identification) PULL UP AND GO AROUND, (reason).



First Air eight-zero-one, pull up and go around, traffic on runway.



First Air eight-zero-one, roger, on the go-around.



If you are instructed to PULL UP AND GO AROUND or to COMMENCE A MISSED APPROACH, you are expected to execute the published missed approach procedure, unless otherwise instructed.



If you initiate the pullup, inform ATS as soon as practicable.

Block Airspace

For training purposes and for performing certain types of flights such as certification, aircraft may request to work within a block of airspace.

ATC: (aircraft identification) CLEARED TO WORK (description of location), MAINTAIN (altitude), EXPECT FURTHER CLEARANCE AT (time).



Golf Alfa Bravo Charlie, cleared to work between the Watcom V-O-R two-eight-zero degree and the two-two-zero degree radial between one-zero and two-zero DME, maintain four thousand, expect further clearance at two-three-three-zero.



Roger, Alfa Bravo Charlie is cleared to work between the Watcom V-O-R two-eight-zero degree and the two-two-zero degree radial between one-zero and two-zero DME, maintain four thousand, expect further clearance at time two-three-three-zero.

Airspace and Block Altitude

ATC: (aircraft identification) CLEARED TO WORK (description of location), MAINTAIN BLOCK (altitude) TO (altitude), EXPECT FURTHER CLEARANCE AT (time).



Alfa Bravo Charlie, cleared to Ottawa VOR to work within one-five DME, maintain block flight level two-four-zero to flight level two-eight-zero, expect further clearance at two-zero-zero-zero Zulu.



Roger, cleared to Ottawa VOR to work within one-five DME, maintain block flight level two-four-zero to flight level two-eight-zero, expect further clearance at two-zero-zero-zero Zulu, Alfa Bravo Charlie.



Enroute aircraft may request and receive clearance for a block of altitudes for flight safety due to icing or turbulence conditions for example. It is important to advise ATC when the block of altitudes is no longer required, and a normal altitude assignment is acceptable.

Cancellation of IFR

Advise ATC or FSS if cancelling IFR. ATC should then acknowledge the cancellation and query you on whether you are closing your flight plan and search and rescue.

A pilot may cancel IFR, or close the IFR flight plan, provided the aircraft is operating in VMC, is outside Class A or B airspace, and it is expected that the flight will not return to IMC. If the pilot closes the IFR flight plan or cancels IFR, ATC discontinues the provision of IFR control service.

If the aircraft is still within Class C airspace, ATC continues to provide conflict resolution.

A pilot may opt to close the IFR flight plan, in such a case Alerting Services would also be cancelled.

	Toronto Centre, Alfa Charlie Charlie is cancelling IFR.
	Alfa Charlie Charlie, roger, are you closing your flight plan?
	Alfa Charlie Charlie, affirmative, we are closing our flight plan.
	Alfa Charlie Charlie, roger, IFR flight plan is closed and alerting service terminated.

When queried upon cancelling IFR whether the pilot wishes to keep alerting service...

If yes, expect:

ATC: (aircraft identification) ROGER, [AN] ARRIVAL REPORT [IS] REQUIRED AFTER LANDING.

	Affirmative, we are keeping alerting service.
	Alfa Charlie Charlie, roger, an arrival report is required after landing.

Traffic Information

Traffic information may be based on:

- Visual observation
- Observation of surveillance targets (unidentified or identified)
- Reports from pilots or other ATS facilities

Surveillance-observed traffic issued to identified aircraft:

ATC: (aircraft identification) TRAFFIC (direction and distance) (direction of flight, type if known)
DESCENDING/CLIMBING/AT (altitude)

	Jazz seven-eight-three, traffic, eleven o'clock three miles, southbound Boeing seven-thirty-seven, three thousand five hundred feet descending.
	Jazz seven-eight-three, traffic in sight.

	Jazz seven-eight-three, traffic, one o'clock five miles, westbound, slow moving, type and altitude unknown.
	Jazz seven-eight-three, looking for traffic.

Surveillance-observed traffic issued to non-identified aircraft:

ATC: (aircraft identification) TRAFFIC (position) (direction of flight, type if known) (altitude)

	Porter four-four-two, traffic, one-five miles west of Sydney VOR, eastbound, type unknown, slow moving, five thousand five hundred unverified.
	Porter four-four-two looking for traffic.



"Unverified" – When ATS states unverified after the altitude it indicates that the Mode C is showing that altitude however it has not been confirmed.

Position Report Non-Surveillance

Aircraft: (ATS unit identification) (aircraft call sign) (position) (time over reporting point in UTC) (altitude) (type of flight plan filed) (name of next fix and estimate) (name of next reporting point) (any other information requested by ATC or deemed necessary by the pilot)

	Montreal Centre, Golf Alfa Bravo Charlie, over La Tuque NDB at one-six-two-five Zulu, six thousand feet, estimating Val-d'Or VOR at one-seven-zero-seven, Rouyn next.
	Alfa Bravo Charlie, Montreal Centre, roger, Val D'Or altimeter two-niner-niner-four, report four-zero D-M-E east of Val-d'Or V-O-R.
	Two-niner-niner-four, we'll report four-zero D-M-E east of Val-d'Or V-O-R, Alfa Bravo Charlie.

Arrival Report

CARs 602.77, 602.78

If you intend to land at an aerodrome without an operating ATS unit, an arrival report is required after landing. This may be accomplished via radio (RCO, DRCO or PAL) or if no radio coverage exists contacting ATC/FSS/FIC via telephone promptly is an excellent alternative.

	Montreal Centre, WestJet one-one-three, on the ground and clear at Trois Rivières Airport at two-zero-zero-two Zulu.
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Entering/Exiting Controlled Airspace

Leaving or Entering Controlled Airspace

ATC: (aircraft identification) LEAVE/ENTER CONTROLLED AIRSPACE (number) MILES (direction) OF (fix) AT (altitude).

 When ATC instructs you to descend out of controlled low-level airspace, ATC will also provide the minimum IFR altitude applicable to the airspace. If visual conditions might not be encountered at the minimum IFR altitude, the pilot is responsible for arranging for protection of an altitude in controlled airspace for up to 30 minutes. This period permits descent to the minimum IFR altitude, and then a climb, if necessary, to the protected altitude.

ATC: (aircraft identification) CLEARED TO DESCEND OUT OF CONTROLLED AIRSPACE VICINITY OF (unit name) THE MINIMUM IFR ALTITUDE IS (altitude) REPORT LEAVING (altitude).

ATC may instruct you to descend out of controlled airspace via a published instrument approach procedure:



Cree seven-three-five, cleared out of controlled airspace via the R-NAV runway zero-seven-approach at Rimouski.



Roger, Cree seven-three-five cleared out of controlled airspace via the R-NAV runway zero-seven approach at Rimouski.

ATC may instruct you to leave controlled high-level airspace:



Canforce four-two-six, cleared out of the Northern Control Area.

ATC may issue you instructions for flight in controlled airspace:



Golf Alfa Bravo Charlie maintain one-four thousand while in controlled airspace.



Maintain one-four thousand while in controlled airspace, Alfa Bravo Charlie.



Special Situations

Communication Failure

STAR

If the aircraft is following a STAR and has a communication failure in IMC, the pilot is expected to squawk 7600, fly the STAR as published, including the altitude and speed restrictions as depicted in the procedure, intercept the final approach, fly inbound, and land as soon as possible.

In the event of an in-flight radio communications failure, and only after normal communications failure procedures have been followed (see TC AIM RAC 6.3.2.1), the pilot-in-command may attempt to contact the appropriate NAV CANADA ATS unit by means of a conventional cell or satellite phone. Before placing the call, transponder-equipped aircraft should squawk Code 7600 (see TC AIM RAC 1.9.7).

Telephone numbers to be used in the event of a communication failure are published in the CFS.

Emergency Communications



It is important to make detailed and correct emergency calls. If you are in an emergency situation, the sooner you are able to make your MAYDAY call, the sooner Emergency Services can be deployed to help you. If you are in an urgent situation that does not require immediate assistance, making a PAN PAN call will ensure that ATS are aware you may need assistance.

Mayday

To be used when the aircraft is threatened by serious and/or imminent danger and requires immediate assistance. Mayday signifies a distress situation for the aircraft, but which could also be in reference to a situation observed by the aircraft crew (for example: capsized boat)

Aircraft: MAYDAY MAYDAY MAYDAY (aircraft call sign) (situation/location/request/intentions) (number of persons on board) (fuel/endurance).



The requirement for number of souls on board and fuel are generally requested from the controller or specialist when it is determined that the crew has time to respond. It is common knowledge among controllers and specialists that the priority for pilots is Aviate-Navigate-Communicate.



Regardless of the nature of the emergency it is always a good idea to squawk the appropriate emergency SSR code. These codes traverse all filters and ensure instant awareness on the part of ATS personnel.



Mayday, Mayday, Mayday, Air Canada four-zero-two, four-zero miles west of HABBS at flight level three-one-zero. We just experienced an explosive decompression and are in an emergency descent.

Pan Pan

To be used when there is concern for the safety of an aircraft, vehicle or person on board or within sight, and does not require immediate assistance. Pan Pan signifies an urgency message. (Some companies have a SOP which requires crews to declare a Pan Pan for certain situations.)



PAN PAN, PAN PAN, PAN PAN, Transat three-two-one, we have a partial flap failure, requesting emergency vehicles on standby.

Minimum Fuel

This call alerts ATC that you have enough fuel to reach destination, however not enough fuel to endure any delays. Like a Pan Pan, if a pilot notifies ATC of having minimum fuel, it is not an emergency. ATC endeavors to provide any information concerning potential delays in such a case and will pass on the information to the next unit, but in essence, will continue to treat the aircraft with the same priority as any other aircraft

Aircraft: (ATC unit identification) (aircraft call sign) MINIMUM FUEL



Moncton Centre, Air Canada six-six-one, minimum fuel.



Air Canada six-six-one roger, are you declaring an emergency?



Air Canada six-six-one negative.



Air Canada six-six-one roger, no delay expected.

Safety Alerts

Traffic conflict

If ATC detects a valid conflict alert advisory or in response to a loss or imminent loss of separation between identified aircraft in controlled airspace.

ATC: (aircraft identification), TRAFFIC ALERT, TURN RIGHT/LEFT HEADING (direction), IMMEDIATELY

Low Altitude Warning

ATC: (aircraft identification), LOW ALTITUDE ALERT, VERIFY YOUR ALTITUDE IMMEDIATELY, (unit name) ALTIMETER (reading), THE MINIMUM IFR ALTITUDE IS (altitude).

Airspace Warning

ATC: (aircraft identification), AIRSPACE ALERT, CLIMB/DESCEND/TURN (altitude/direction) IMMEDIATELY TO AVOID RESTRICTED AIRSPACE.

Terrain Warning

ATC may request that you confirm having the terrain in sight.

ATC: (aircraft identification), TERRAIN WARNING, IMMEDIATE SAFE ALTITUDE (altitude), ALTIMETER (altimeter reading).

TCAS Resolution Advisory

Pilots should notify, as soon as possible, the appropriate ATS unit of the deviation and of when the deviation has ended. Generally, TCAS RAs provide vertical resolution manoeuvres however new generation TCAS equipment can also provide horizontal resolution advice.

Aircraft: (ATS unit identification) (aircraft identification) TCAS RA.

ATC: (aircraft identification), ROGER, TRAFFIC (traffic description if deemed appropriate).



ATC will not modify the aircraft flight path until the pilot reports returning to the terms of the current ATC clearance or instruction and will provide relevant traffic and collision avoidance information, as appropriate.

Aircraft: (ATS unit identification) (aircraft identification), CLEAR OF CONFLICT, RETURNING TO (altitude/location).

ATC: (aircraft identification), ROGER, RESUME NORMAL NAVIGATION.



Winnipeg Centre, WestJet five-seven-three, clear of conflict, returning to eight thousand feet.



WestJet five-seven-three roger, resume normal navigation.

PIREPs (Pilot Report)

PIREPs should be relayed in the following format:

- Position
- Time
- Altitude
- Type of aircraft
- Meteorological conditions observed

Urgent PIREPs contain information on hazardous or potentially hazardous flight conditions and timely relay is of the utmost importance.

Advise ATS units when you have a PIREP, as they need to be ready to copy.

	Edmonton Centre, Sunwing three-four-four with a PIREP.
	Sunwing three-four-four, Edmonton Centre, go ahead.



PIREPs enhance weather briefings, as they supplement aviation weather reports. In addition, they are used by meteorological personnel when preparing forecasts.

For timely distribution, PIREPs should be filed with a flight information centre (FIC) via an enroute frequency or a toll-free call to a FIC after landing. For more information on PIREPs, see *Transport Canada Aeronautical Information Manual* (TC AIM 2.0 Pilot Weather Reports (PIREPs))



PIREP over Calgary VOR at one-six-five-zero Zulu, at flight level two-two-zero, a Boeing seven-thirty-seven reported moderate turbulence and moderate rime icing.

Wildlife-Bird Activity

Wildlife or bird activity information can be based on any of the following:

- A visual observation by ATS personnel
- A pilot report
- A report from other reliable sources
- Observation of targets on a situation display

ATC: SMALL/MEDIUM/LARGE/NUMEROUS FLOCK[S] OF BIRDS/species (unit name) (direction) (altitude).

Use the same format when reporting wildlife or bird activity to ATS personnel.

Examples:

	Large flock of ravens over Pelican Lake, southbound at eight hundred feet.
	Flock of geese one o'clock, one-zero miles, northbound, altitude unknown.



Weather Deviations

Route Deviation

Route deviations are often issued by ATC with a direct “when able” point. If ATC does not provide a point, remain on your deviation heading and advise ATC when able to rejoin your route. If you are deviating, other aircraft may be deviating as well, increasing ATC’s workload and complexity, therefore clear and concise communications are even more important here.

	Vancouver Centre, Encore three-four-zero-four, requesting deviation, three-zero degrees to the right for weather.
	Encore three-four-zero-four, Vancouver Centre, deviation three-zero degrees to the right is approved, when able proceed direct Princeton V-O-R on course.
	Vancouver Centre, Encore three-four-zero-four is turning direct Princeton V-O-R.

Altitude Deviation

By ATC standards a Mode C altitude readout within 200 feet of the assigned altitude is considered acceptable. If a deviation of 300 feet or more is observed, ATC intervenes.

	Lima Echo Mike, Centre, your altitude readout is eight thousand four hundred feet, altimeter two-niner-niner-three, verify your altitude.
	Centre, Lima Echo Mike correcting, altimeter two-niner-niner-three.
	Lima Echo Mike, your altitude readout is eight thousand.



Remember, if you are uncertain if you have understood an instruction correctly ask for it to be repeated. Communication and the use of standard phraseology are essential ingredients in keeping the sky safe.

Remember

If you have not clearly heard a transmission, reply "say again."
The transmission will be repeated.

If you did not understand a transmission, reply "I do not understand."
The transmission will be explained.

Questions, comments and feedback can be directed to:
service@navcanada.ca



