

VANCOUVER FIR

TOWER/GROUND/DELIVERY QUICK REFERENCE GUIDE

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ISSUING IFR CLEARANCES

The first point of contact with an aircraft is to issue an IFR clearance. The pilot will call up your station, they shouldn't say much – short and concise:

“ACA123 at the gate requesting IFR to Calgary”

Learning how to issue a clearance properly is a fundamental procedure that must be learned correctly in order for the pilot to understand his routing. The following four steps must be included in a takeoff clearance:

1. CLEARANCE LIMIT
2. ROUTE OF FLIGHT
3. DEPARTURE RUNWAY
4. SQUAWK CODE

1. A Pilot files Vancouver to Calgary on the following flight plan: CYVR YVR3 V342 YDC J504 OPALE OPALE 5 CYYC. So we issue his IFR clearance in four parts starting with the CLEARANCE LIMIT:

"ACA123, Cleared to the Calgary airport .."

2. Now the ROUTE OF FLIGHT:

"..via the Vancouver three departure flight plan route.."

Often pilots do not file the Vancouver departure because they do not have it, in this situation you should assign the aircraft runway heading and an initial altitude:

"..via runway heading, maintain 7000 , expect radar vectors to flight plan route.."

3. Now the DEPARTURE RUNWAY:

"..depart runway 08R.."

4. Now the SQUAWK code

"..squawk 6101."

Ok now lets put it all together:

"ACA123, cleared to the Calgary airport via the Vancouver three departure Flight Plan route, depart runway 08R , squawk 6101."

Now we have a legal, binding clearance between the controller and the pilot.

At this point we want to make sure they understand the clearance so we will have them read it back to us. If the "read back" is correct, you answer as follows:

"ACA123, Read back correct, Time now 0145 zulu (always the zulu time, never local), Pushback and start-up approved, Advise ready to taxi."

That's it... no further communications is required until the aircraft calls for taxi instructions.

ISSUING TAXI INSTRUCTIONS

Let's begin with the assumption that clearance has already been taken care of by the clearance delivery controller (which may have been you depending on the staffing level) the aircraft are calling you up ready for taxi:

"GND, ACA123 ready for taxi"

Your job is now to move the aircraft safely and orderly from the terminal area to the hold line adjacent to the departure runway.

Let's start with your area of responsibility. You "own" the entire movement area and any runways that have not been designated by the tower as "ACTIVE".

A good example of this might be when Vancouver is in eastern configuration - landing on runways 08L and 08R, departures on runway 08R. You would "own" anything in the movement area with the exception of runways 08L and 08R. The ACTIVE runways are the responsibility of the TOWER controller.

The Movement Area consists of the runways, taxiways, and other areas used for taxiing, takeoff, and landing of aircraft. It does not include loading ramps and parking areas. ATC is only responsible for and only has control over operations on the Movement Area. Movement of aircraft on non-movement areas is at the discretion of and is the responsibility of the pilot.

Make sure that the aircraft taxiing have the necessary departure information. This includes things such as winds, altimeter, and the measured ceiling and visibility if the field is below VFR minimums. There are a few ways you can make sure they have this information:

1) If they check in with the information - then there is no need to give them any departure information, they already have it.

"GND, ACA123 ready for taxi with Info Juliet"

"GND, CVA345 for taxi and we have the numbers"

2) If they do not call in with the information you can simply read it to them.

"ACA123, Vancouver wind 090 at 14, visibility 8 miles, ceiling 800 broken, altimeter 2998.."

"ACA123 Vancouver reporting calm winds, VFR skies, altimeter 2987.."

Just issue the winds and altimeter, unless it's really IMC and nasty weather. Also,

if the winds are less than 5kts there's no requirement to issue it.

"ACA123, altimeter 3002.."

There are a lot of little pieces of phraseology to use in ground control - and the sooner you master them, the better you will be at controlling the ground.

Proper instructions to taxi an aircraft are:

" .. Runway 08R, Taxi via Lima, cross runway 12, number one for departure."

NB - There is NO NEED TO SAY "Hold Short runway 08R" - the hold short is implied in the taxi instructions.

Now you have restricted the aircraft to taxiway Lima - ensuring that he won't taxi all over the field on his way to 08R.

Now, what if we wanted to taxi someone to a specific runway, but ALSO needed him to hold short of a runway on the way there? Let's say you wanted an aircraft at the main terminal to taxi to 08R and there is aircraft landing runway 12.

".. Runway 08R, Taxi via Lima hold short runway 12"

In this case we say the assigned runway first, followed by the route and finally the hold short point. EVERY TIME you issue a "hold short" instruction, you must get a read back from the pilot. If they say "Roger" - insist on a read back of the hold short instructions for their safety, and the safety of others.

Now lets put it all together:

"ACA123, wind 080 at 12 altimeter 3002 Runway 08R, Taxi via Lima, cross runway 12, number one for departure."

Notice how we have not once "cleared" an aircraft to taxi anywhere, or cross anything. The word "cleared" is a special one. Use for issuing IFR clearance limits, taking off, and landings.

Please do NOT "CLEAR" anyone to taxi or cross a runway.

ISSUING TAKEOFF CLEARANCES

Let's begin by assuming the aircraft has been taxied by Ground Control and is waiting at the hold short line.

"Tower, ACA123 holding short 08R ready for departure"

Remember, you (tower) are in control of the active runways and have to anticipate arriving aircraft and thus, must ensure that there is sufficient time for the aircraft to depart when you issue a takeoff clearance. A good rule to start is ensure that an aircraft is on an 8 mile final or greater before issuing a takeoff clearance for the same runway.

Phraseology is extremely important in this situation. First you issue the winds (only if greater than 5 kts), then the clearance, and then the runway.

"ACA123, Winds 090 at 14 cleared for takeoff Runway 08R "

For departures that will be handed off to a radar facility, radio transfer should be issued when the aircraft is rolling on the runway or when you see the aircraft has achieved a positive rate of climb.

"ACA123, Contact Vancouver Approach on 128.60 good day"

Then, handoff the aircraft to Approach. Once Approach has accepted the aircraft, he is no longer your responsibility.

If there is no Approach or Centre controller online then the aircraft is required to change to UNICOM frequency.

"ACA123, Centre and Approach not online, change to UNICOM frequency 122.80 good day"

ISSUING LANDING CLEARANCES

Landing clearances are just like takeoff clearances and the phraseology is very similar. The Approach controller will clear the aircraft for an approach to a specific runway. If time permits the Approach controller will advise you which runway the aircraft has been cleared to do the approach on, but it is usually evident whether they are going for the right or the left side. The approach controller will then handoff the aircraft to you, and the aircraft will contact you. Be patient, this is a very busy time in the cockpit and sometimes it takes 30 seconds or so before the pilot calls you up on your frequency.

"Tower, ACA123 is on final 08R"

Giving an aircraft landing clearance tells the aircraft that the runway is available to them and clear of other aircraft. Just like with the takeoff clearance issue the winds, then the clearance to land, then the runway .

"ACA123, Winds 070 at 6, Cleared to land Runway 08R"

Again, wind only if greater than 5 kts.

After the aircraft has landed, the aircraft will need to exit the runway. If it is necessary to have the aircraft exit on a specific taxiway inform the aircraft of the direction to turn and what taxi way to use. Runway exiting instructions should not be issued to an aircraft immediately prior, or immediately after touchdown, give the pilot a few seconds to slow the aircraft down on the runway.

"ACA123, turn left taxi way Echo, contact Ground 121.7 good day"

If ground is not staffed then:

"ACA123, turn left taxi way Echo, taxi to the apron"

Most of the time the aircraft will exit the runway and call you clear of the active.

"TWR, ACA123 is clear of the active"

Your response.

"ACA123, Roger, taxi Delta, Echo to the apron"

As the apron is the point at which the a/c taxi's onto an uncontrolled area

Usually the aircraft will call you up once they are at the gate:

"GND, ACA123 is at the gate shutting down"

"ACA123 roger Flight Plan is closed, good night"

Use your own style here and remember that the friendlier we are, the more likely the pilot is to come back and visit our airspace again. And also good to remember that the pilot doesn't need permission to shut-down, so we shouldn't lead them on that they do.

"Shutdown your discretion"

MISSED APPROACH

A Missed Approach is an extension of an Instrument Approach Procedure (IAP) that may only be initiated by an IFR aircraft.

A missed approach is the result of the pilot not having the runway in sight, losing sight of the runway after it has been spotted, or just not being in the proper configuration to land. An aircraft has already been cleared to fly the published missed approach when they were cleared for the approach by the approach controller. Before signing on to a Tower position you should be familiar with the missed approach procedures for the airport you are working. Information for missed approach procedures can be found on the approach plates in the charts section:

“Tower, ACA123 is in the missed approach”

Issuing instructions to a missed approach puts all liability on the controller for terrain clearance. Just let the a/c do what he was going to do and switch him to APP asap. Also advise APP of the missed before switching frequency.

"ACA123, fly missed approach procedure as published, contact Vancouver Approach on 128.60"

Then hand them off to the Approach Controller.