

Calgary Clearance / Ground

Clearance Delivery

Introduction

The Calgary Clearance Delivery (CYYC_DEL) controller uses the frequency 120.82 MHz. In order for the Clearance Delivery controller to be able to perform their duties correctly, they must first have a grasp on the airspace of the Terminal and surrounding Enroute sectors. This knowledge is vital for the controller to be able to look at a filed flight plan and quickly determine whether the flight plan is a preferred routing in the terminal airspace. If a flight plan requires modification or amending, the controller must issue the changes to the pilot promptly. Failing to recognize an incorrect routing will cause a conflict with arriving traffic and confusion with a departure controller.

With all the different methods of route generation and variations of a route to the same destination, The Clearance Delivery controller must become familiar with all of the different formats of which flight plans may be filed.

Clearance Format

All IFR clearances should be issued in the same format. This is because pilots will come to expect information provided from one controller to another in similar fashion to provide the greatest service. Remember, this is the #1 fundamental goal. The format of an IFR clearance can be found in MANOPS 412.1. We will review this MANOPS now. !

Clearance Limit

The clearance limit issued to an aircraft departing from Calgary shall be the destination airport. A flight plan containing more than one airport is called a “round robin” flight. The controller is to clear the aircraft to the final destination airport on a round robin flight, which may even be back to Calgary in some cases.

SID (Standard Instrument Departures)

All of the SID procedures in use at Calgary are either a Vector SID or a Pilot Nav SID. In order to assign an aircraft the proper SID, the active runway configuration at Calgary must first be known as there can be more than one SID available which may be assigned for any given runway. By knowing the current runway configuration and the aircraft type (Jet or Non-Jet), only then can the proper SID be assigned.

Calgary has four (4) Vector SIDs and 2 RANV SIDs, as follows:

- Vector SIDs
 - o Non-Jet Aircraft:
 - Calgary Six (YYC6):
 - Can be assigned for ALL Runways in CYYC.
 - Have the Aircraft flying Runway heading for all Runways

- Rodeo Two (RODEO2):
 - Can be assigned for Runways 35L-17R and 35R-17L ONLY.
 - Runway 35L-17R: Have the Aircraft flying Runway heading
 - Runway 35R: Have the Aircraft flying Heading 360
 - Runway 17L: Have the Aircraft flying Heading 155

- Both SIDs have the same following waypoints. One of these waypoints needs to be in the Flight Plan depending of the direction of flight.
 - North Departures:
 - PEVLU
 - SAXOL
 - South Departures:
 - DUMRA
 - OTARA
 - UBVAL
 - GADKI
 - East Departures:
 - VETBI
 - NOSIV
 - West Departures:
 - AGMAK
 - ROVMA

- Jet Aircraft
 - Stampede Eight (STAMP8) :
 - Can be assigned for ALL Runways in CYYC.
 - Have the Aircraft flying Runway heading for all Runways

 - Banff Two (BANFF2):
 - Can be assigned for Runways 35L-17R and 35R-17L ONLY.
 - Runway 35L-17R: Have the Aircraft flying Runway heading
 - Runway 35R: Have the Aircraft flying Heading 360
 - Runway 17L: Have the Aircraft flying Heading 155

 - Both SIDs have the same following waypoints. One of these waypoints needs to be in the Flight Plan depending of the direction of flight.
 - North Departures:
 - BITGA
 - AVROM
 - South Departures:
 - DUMRA
 - OTARA
 - UBVAL
 - GADKI
 - East Departures:
 - LOMLO
 - NOSIV
 - West Departures:

- IPSIT
 - BOTAG
- Pilot NAV SIDs
 - Non-Jet Aircraft:
 - Pigeon Two (PIGEN2)
 - Can be assigned for Runways 29 and 35L ONLY.
 - Uksap One (UKSAP1)
 - Can be assigned for Runways 29 and 35L ONLY.
 - Both Pilot NAV SIDs are for Westbound departures only.
 - Jet Aircraft:
 - There are no Pilot NAV SIDs for Jet Aircraft departing from Calgary at present.
- Note that ALL SIDs (Vector SIDs and Pilot NAV SIDs) for Calgary have aircraft Climbing to 7,000 ft.

Note that not all pilots have access to, or the ability to fly a SID. When this situation arises, the controller must issue full, detailed departure instructions to the aircraft, which may simulate the appropriate SID procedure that they would normally be assigned. For example, instead of providing a clearance in the following manner:

“ACA225 Cleared to Vancouver via BANFF2 Departure, Flight Plan Route, Depart Runway 35L, Squawk 4135”

The controller will have to provide the clearance as follows:

“ACA225 Cleared to Vancouver. Climb Runway Heading to 7,000ft, Flight Plan Route, Depart Runway 35L, Squawk 4135”

Or for an Eastbound departure:

“ACA225 Cleared to Toronto. Climb Heading 360 to 7,000ft, Flight Plan Route, Depart Runway 35R, Squawk 4135”

Route□

A controller that accepts the route that the pilot has originally filed should use the term “Flight Planned Route” when issuing the clearance. If unable, then once the route amendments have been made, the newly issued portion of the route shall be stated in a detailed and explicit

manner as part of the clearance so as to avoid any confusion. The controller is to refile any route revision on Euroscope/ VRC so that it is updated on the VATSIM system.

Example:

RODEO2/35L CANOP SPRAE J508 YNY LW

RODEO2/35L "ROVMA T602 NOVAR ROBTI EBLEL NORIP NORIP2"

Note that the amended portion of the FP is within "". This is the way the controller needs to reflect the amendment in the routing portion of the FP.

Altitude

The SIDs themselves state the initial altitude an aircraft is authorized to climb to after departure. As indicated previously, all SIDs for Calgary have aircraft to climb to 7,000 ft ASL initially, until cleared higher by a departure controller (or Centre controller in the absence of a Departure controller online).

Departure Instructions

The SIDs themselves detail the specifics of how the aircraft is to be flown after departure.

All aircraft are to be assigned their departure runway as part of their clearance.

If unable to fly a SID, pilots are to be given instructions as how to proceed for their initial climb-out, as indicated previously.

Runway Configurations and Assigning SIDs at Calgary

It is the responsibility of the Calgary Tower controller(s) to decide which runway or runways are active at any time. Criteria for selecting active runways can be found in the Calgary Tower Training Material, which follows the indications per the Noise Abatement Procedures for Calgary.

Once the Delivery controller has been advised of the runway configuration, pilots who have and are able to fly one of the published SIDs are assigned one.

Appropriate Departure Runways

In real life (not a simulation environment like VATSIM) when there are two north-south runways open for arrivals and departures simultaneously like we have in Calgary, the airport functions as two separate airports - a West and an East airport. Under this type of 'dual' configuration more staff is required as there are two tower controllers, two departure controllers and two arrival controllers. Normally due to the size of the airport, number of taxiways, and volume of airport traffic there is usually always two ground controllers on duty at any given time, even when not in a dual configuration.

When 'dualing' one of each type of controller provides service to aircraft using one of the two runways. For example, one controller works the west parallel, while the other provides service to aircraft utilizing the east parallel. At times such as when traffic dictates that a parallel north-south operation be in use, the assigned departure runway depends solely on the initial route of flight of the departing aircraft. What this means is that aircraft are not simply assigned the closest runway to their parking position on the field for departure. For aircraft with this type of

scheme both departure controllers will never have to turn their own aircraft towards the others, thus avoiding a criss-cross situation in the air. Aircraft at the southwest ramps may be given runway 35L for departure given the proper coordination at Ground is completed. This way, the West Departure controller's aircraft will never conflict with the East Departure controller and vice versa. In essence, crossing of aircraft is done on the ground rather than in the air to reduce complexity (at the expense of less than optimal taxi distances for some aircraft).

On VATSIM and in the CZEG FIR, we make an effort to simulate the real life procedures detailed previously. Aircraft Departing West are to Depart from Runway 35L-17R, and Aircraft Departing East are to Depart from Runway 35R-17L.

Waypoints for Dual North/South operations: □

- Runway 35L departures: BITGA, IPSIT, BOTAG, DUMRA, OTARA, PEVLU, AGMAK, ROVMA.
- Runway 35R departures: AVROM, LOMLO, NOSIV, GADKI, UBVAL, SAXOL, VETBI.

Non-Conforming Departures

There are exceptions to the rule of runway assignment based on initial flight planned waypoint or airway. These include MEDEVAC or any other priority flights that need the shortest taxi route to a runway and aircraft that need a longer departure runway due to operational requirements. For example long-range transatlantic flights unable to depart 35L-17R due to insufficient length would have to be assigned a longer departure runway such as 35R-17L. In non-routine cases such as these, co-ordination with the Tower and Ground controller must occur for pre-planning purposes.

When a request is received for a non-conforming departure runway, the Tower controller must be informed and approval granted for Clearance Delivery to assign the runway to the aircraft. The Clearance Delivery controller will then assign the non-conforming runway, issuing the SID which may have changed, and advise the Ground Controller of the aircraft with the change.

On VATSIM when a dual operation is in use and with typical traffic levels, there may not be the need to enforce the runway assignment structure based on outbound airway. If there will not be steady departure traffic it may be possible to grant each aircraft the closest runway to them to reduce taxi times. Before issuing aircraft the closest runway, Clearance Delivery must obtain a blanket approval from Tower. Tower may rescind this approval at any time.

The following table shows the departure direction, preferred runway and transitions for the departures airways. These should be used in amending all aircraft going in the respective direction unless the aircraft is not RNAV equipped.

Note: the transitions listed below are the first intersections on the airway outbound from Calgary, aircraft may file the second or third intersection on these airways due to proximity of the terminal airspace.

Departure Direction	Preferred Runway	Transition
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North	35L-17R	PEVLU (non-jet) BITGA (jet)
Northwest		AGMAK (non-jet) IPSIT (jet)
West		ROVMA (non-jet) BOTAG (jet)
Southwest		DUMRA, OTARA (jet and non-jet)
South	35R-17L	UBVAL, GADKI (jet and non-jet)
Southeast		NOSIV (jet and non-jet)
East		VETBI (prop) LOMLO (jet)
Northeast		SAXOL (prop) AVROM (jet)

Approving and Amending of Flight Plans

The most important aspect of the Clearance Delivery position is being able to quickly recognize an appropriate versus an inappropriate flight plan, and be able to provide an alternate routing to the pilot.

Amending Waypoints

The Clearance Delivery controller must become familiar with the different formats that pilots file flight plans with. Some appear with FIXEs, VORs and NDBs only while others may be comprised of a combination of Victor (Low Level) and Jet (High Level) Routes. It is important to become familiar with the preferred routes from Calgary to the most popular destinations, as they provide the most ideal routings for the aircraft to exit the Calgary terminal airspace and continue.

The most problematic routes filed are ones that would put the departing aircraft on a route that conflicts with any of the Standard Terminal Arrivals (STAR) for Calgary. It is important to identify a problem route and have it changed before the aircraft departs, as confusion will occur when the Departure or Centre Controller denies the aircraft it's originally filed flight planned route.

The RNAV STAR charts for Calgary depict the four arrival points that aircraft fly towards when inbound to Calgary for landing, as follows:

- Inbound to IGVEP on the IGVEP or VESGA arrival
- Inbound to EBGAL on the EBGAL or TIDUK arrival
- Inbound to BIRKO on the BIRKO or TOTUB arrival
- Inbound to ADVOK on the ADVOK or FLAAM arrival

The departure controller will not put a departing aircraft on a route that would put them in direct conflict with arriving aircraft on any of the above routes. Therefore the clearance delivery controller must not approve a route that is planned via any of the above inbound routes. □

For example: MADYN YRM YQU CYQU

□

In the above, the requested route would take the departing, climbing aircraft overhead MADYN Intersection, which would put it in direct conflict with any aircraft descending for Calgary via the ADVOX or FLAAM arrival route. A more appropriate routing which could be issued would be one that takes the aircraft initially west of Calgary and away from arrivals inbound to ADVOX. The reroute should be done through ROVMA or BITGA intersections or outbound on a specified radial from the YYC VOR as designated on the SID chart.

□

It is important to realize that when a route amendment is issued to a pilot, the clearance delivery controller must link their amendment to the pilot's original route at a common point.

In the above example the controller cannot simply issue "change your route to start with BITGA". The change needs to be issued so there is no doubt as to where the change over to the pilot's original route will begin.

Example: "Your new clearance is (BITGA YRM YQU) flight planned route."

This amendment contains YRM as the location as to where the pilot can continue with their originally filed route.

Also, the reason for any route change from the originally filed flight plan should be explained if possible to the pilot. □

Amending altitudes

In addition to the filed route, the requested cruise altitude must be verified for direction of flight and corrected when necessary.

If the filed altitude is incorrect based on the direction of flight, the clearance delivery controller should negotiate a proper cruise altitude or flight level with the pilot rather than simply assigning one.

The reason for denial of the filed cruise level or altitude should be given.

Once any required changes have been made, only then should they issue a pre-departure clearance to the pilot. The clearance delivery controller should try and minimize the extent to which a filed route is changed. There is a database of routes which are 'preferred' routes and they are the routes which ATC encourages pilots to file for their flight. However the preferred routes are not the only routes which may be filed and approved and it is not an accepted practice for Clearance to issue changes to filed routes based simply on the fact the pilot did not file the preferred route to their destination.

Because pilots on VATSIM are of all different levels, care should be taken when issuing a route revision. It may be assumed that pilots that have filed a flight plan using a combination of Victor airways, Jet routes and a STAR could accept a route revision with Victor airways and/or Jet routes.

Good judgment would say that a pilot that has filed a route simply containing a series of fixes and or VORs would not be able to fly a route revision with Jet Routes or Victor airways. The Clearance Delivery controller must decide on how complicated of a route revision they should issue.

When dealing with someone new to Flight Simulation, unfamiliar with the Calgary area or not strong with the English language it is best to be as simple as possible.

Readback of IFR clearance

At Calgary, a readback on a clearance issued to an aircraft containing a SID must include the transponder code.

It is not mandatory for any other details to be readback to the controller. If a route amendment was issued, it is necessary to obtain a full readback on the new route.

An aircraft that is not able to fly a SID must readback the transponder code and also the initial departure instructions they are cleared to fly to after departure.

Control Transfer

Once all of the flight planning details have been worked out and a proper readback has been obtained, an aircraft is to be handed off to Ground, or the next available controller.

VFR aircraft

The clearance delivery controller may be contacted by aircraft intending to depart Calgary for VFR flight.

As in the case of each departing IFR aircraft, each VFR aircraft must have a unique transponder code assigned to them.

VFR aircraft are to be assigned a transponder code in the standard block assigned to each position.

Local VFR flight within the Calgary control zone or inside the surrounding Class C airspace is at the discretion of the Tower, Terminal, or Centre controllers based on the current or anticipated volume of IFR traffic in the area.

Aircraft may be requested to depart Calgary to Springbank for training exercises due to congestion.

A departing VFR aircraft should be informed of the active at Calgary, the runway they can anticipate for departure, and be assigned an initial climb-out altitude and transponder code.

Jet aircraft are to be assigned runway heading not above 7,000 and non-jet aircraft runway heading not above 4,500 unless the coordination has been completed with Terminal.

The clearance delivery controller must ensure that a VFR aircraft has filed an appropriate cruising altitude for their flight if they intend to fly enroute to another location, and obtain a readback on the initial altitude assigned to them.

If the current weather conditions are such that VFR flight is not permitted, the controller should inform the aircraft of the current weather and ask what the aircraft's intentions are.

Phraseology: Altitudes

M314.1 states Do not use phrases such as “cleared for VFR” or “maintain” with VFR aircraft.

Correct phraseology used with VFR flight are “not above/below” with an altitude restriction.

Clearance Delivery Phraseology

There are 3 standard phraseology formats used at CYYC when issuing an IFR clearance, or VFR departure instructions:

1. IFR WITH A SID□
“ACA123 Cleared to (Destination) airport; (SID) departure; (Flight Planned/Amended Flight Planned) route; Depart runway (Runway); Squawk (SSR code)
2. IFR WITHOUT A SID□
“ACA123 cleared to (Destination) airport; (Flight planned/Amended) route; Maintain (Altitude). Depart runway (Runway); Climb runway heading for vectors; Squawk (SSR code)
3. VFR DEPARTURE INSTRUCTIONS□
“C-GABC, VFR Approved (To Wherever/For Whatever); Depart runway (Runway); Climb runway heading; Not above (Altitude); Squawk (SSR code)

A couple more notes on phraseology

The phraseology “Clearance on request” should not be used by a controller at CYYC who will be issuing a pre-departure clearance to an aircraft.

The term would be used if the person or controller who will be issuing the clearance to the pilot is not the controller who is in fact generating the clearance.

“Clearance on request” is appropriate when used by a Flight Service Specialist when they are required to relay the clearance to the pilot on behalf of an IFR controller. However, at Calgary

there is an agreement in place with the ACC which permits the Tower controllers to issue initial pre-departure clearances on behalf of the ACC to aircraft.

We operate in the same fashion on VATSIM. If a controller wishes to acknowledge a pilot's request for their clearance and requires some time to review the flight plan, they should reply to the pilot with "roger, standby for clearance".

Usually, the review of a filed flight plan should not take more than a few seconds thus the controller should not reply to the aircraft with "I have your clearance, advise ready to copy" since the aircraft is already "standing by" and ready to copy.

Route and altitude changes should be negotiated with the pilot prior to issuing the final IFR clearance or VFR departure instructions. It is normally too much at once for the pilot to copy an altitude change and a required route change in their clearance. Deal with one change at a time then once the route and altitude have been finalized, the final clearance may be given in the standard format.!

Apron

Introduction

The Calgary Apron controller utilizes frequency 121.3 MHz (Calgary Apron I Frequency).

The apron controller has the duties of moving the aircraft into and out of Aprons I & II.

The Calgary Apron Controller does not “control” apron but more provides services to reduce the amounts of conflicts and to move the aircraft to the appropriate gate, or exit point for the Ground Controller.

Phraseology: Pushback:

The correct phraseology to use is as follows:

- XXXXXX, Calgary Apron, pushback (at your discretion) and advise ready for taxi.

Example: “Air Canada 878, pushback at your discretion; Advise ready for taxi.”

In some cases it will be important to state the direction of the push. In these cases tell the pilots the direction you want the aircrafts nose or tail to face.

Example: “Air Canada 878, pushback at your discretion, nose south; Advise when ready for taxi”.

If there is traffic behind the aircraft, you will need to alert the pilot before issuing them the pushback. In these cases, the phraseology would be:

Example: “ACA878, caution the 777. Pushback at your discretion. Advise when ready for taxi”

Phraseology: Taxi

The correct phraseology to use is as follows:

- XXXXXX, manoeuvre apron your discretion to Spot 4, contact ground 125.35 at Spot 4.
!

The CZEG Sector file shows the location of all the holding points for Calgary.

Example: “WestJet 543, manoeuvre apron your dissection to holding Spot 4, contact ground 125.35 at Spot 4.

Ground

Introduction

The ground controller is responsible for separating aircraft on the controlled surfaces for which they have control of. The ground controller has jurisdiction over all of the taxiways at the airport and of the inactive runways. In reality ground operations at Calgary can become complex during non-standard runway configurations, times when aircraft require de-icing and when apron activities cease during thunderstorms or in low-visibility conditions.

Ground Split

On VATSIM normally a single ground controller is sufficient to handle traffic. When working alone, the Calgary Ground controller on VATSIM will use the West Ground frequency 121.9 MHz and whenever in use, a second ground controller will use the East Ground frequency of 125.35 MHz.

Pushback

Unless you are working apron, Guidance in terms of the direction which an aircraft should pushback may be given to facilitate taxi to their planned outbound point on the apron. For example if an aircraft at gate 41 requests pushback and they will be taxied outbound via spot 7 and southbound on Hotel, the pilot should be asked to push back with their “nose facing west” or “tail to the east”.

Taxi Authorization

Once an aircraft has completed pushback and engine start they will call Ground ready for taxi and should state the letter of the last ATIS broadcast they have copied (if available).

Taxi authorization should be given in the format as shown in M334.3 and the associated sub-points.

Call for Taxi with ATIS

If the pilot has the most recent ATIS information they should be issued their departure runway and the Calgary altimeter prior to their taxi route.

Call for Taxi without ATIS

If the pilot has not copied the current ATIS, the controller must ask the pilot if they have the ATIS. This is important to continue to emphasize to VATSIM pilots that they must get the ATIS and advise the controller they have the ATIS, and ready for Taxi.

Call for Taxi – No ATIS posted

If the airport from where aircraft are departing does not have an ATIS posted, the aircraft must be issued their departure runway, the latest winds and altimeter with their taxi instructions.

Because initial taxi usually commences with the aircraft having to transit the apron, the term “maneuver the apron at your discretion” may be stated prior to the taxi instructions.

A pilot should also be given the apron exit point to taxi to prior to entering the taxiway system.

Note that M334.2 requires taxi instructions to explicitly state the word “cross” when an aircraft is instructed to cross any active or inactive runway.

Hold Short

Hold shorts are vital in situations where an aircraft will have to cross an active runway during taxi, or when there is potential for a conflict with another taxiing aircraft.

The most common scenario at Calgary occurs when both Rwy 29 and Rwy 26 are active.

In a 29/26 configuration an aircraft that has just landed is taxied by ground and instructed to ‘hold short’ of runway 35L, where a westbound heavy may be departing 35L.

Intersection Departures

On VATSIM, any request for an intersection departure should first be approved by the Tower controller so that they will be aware the aircraft will not be taxied to the normal location for takeoff.

See Appendix A for runway lengths remaining for several intersections at Calgary.

Typically at Calgary jet aircraft are not offered intersection departures by ATC. The normal departure point on 35L is from taxiway C. However, the table in Appendix B shows C1 may be offered with 6400 runway remaining.

Control of Runways and Taxiing across Actives

During the process of taxiing aircraft either before departure or after arrival, to or from an active runway, at times it may be necessary for an aircraft to cross or taxi along another runway or runways.

These actions require co-ordination between the Tower and Ground controllers. Once the Tower has established the active runways for departure and arrival, control over the inactive runways is relinquished to the Ground Controller. After establishing which runways the Ground controller has control over, the Ground controller may not authorize any aircraft to cross an active runway without prior permission from the Tower controller. Therefore, the Ground controller must instruct aircraft under their control to hold short of an active runway until permission has been granted for the crossing to occur.

An example is when the actives are Rwy 35L/R for landing and departures. Tower has control over runways 35L/R while Ground has control over **all other runways**. Tower will instruct landers to exit 35L and contact Ground.

If an aircraft has exited 17L at D3 going to Fedex, Ground would instruct the aircraft to taxi via Delta, Romeo, Foxtrot, Runway 29 and hold short of runway 35L. Ground would then ask the Tower controller for permission to cross 35L.

Ground should be as specific as possible and ask at an opportune time. A typical query could be as follows:

Ground controller: "Tower, when able one to cross 35L at 29".

Tower should acknowledge the request, and then grant permission when able with:

Tower Controller: "Cross 35L at 29".

Once Tower has granted permission, in effect they have temporarily relinquished control of that runway to Ground in order to facilitate the crossing. Once the aircraft has completed its crossing of the runway, Ground must then inform Tower the crossing is complete and transfer control of the runway back to the Tower controller with:

Ground controller: "Tower, 35L is yours".

Arriving Aircraft

Arriving aircraft will normally be in contact with Ground once they have vacated their landing runway.

Often on VATSIM aircraft will not have a specific destination to park at on the field. In cases where an aircraft does not initially specify their destination on the field, they can either be asked where they would like to park, or simply be taxied to the apron by the most convenient route.

As previously mentioned all apron activities are uncontrolled and at pilot's discretion, therefore requests for engine shutdown are not to be approved.

Some aircraft may request that their flight plan be closed. In these instances the flight plan closure time is deemed to be the aircraft's 'on time', which is the time the aircraft is landed rather than the time it reaches its gate and shuts down.

Taxi Routes at Calgary

Calgary ground can become quite complex in reality and it is not necessary for it to be duplicated to the same degree with the typical traffic loads on VATSIM.

However, to help simulate reality and for consistency the following are some general guidelines:!

- When 35L/R or 17L/R are active, 29/26 belong to ground
- When 35L is active, aircraft leaving main apron will taxi via H,J,G h/s 29.
- Gates 50-38 enter apron via K
- Gates 31-50 exit apron via spot 7 and HB
- K, HB, HD are normally inbound points to the apron
- JS may be used if landing 35R
- HB, G, JT are normally outbound points from the apron
- B is the main taxiway for departing aircraft when 35R/17L is active

- D is the main taxiway for arriving aircraft when 35R/17L is active, until required to cross B

Taxi Routes

These routes need not be issued to traffic on VATSIM, but they can be used as a guide. Taxi routes are available on the website in a separate document as well.

Departures:

To Runway 35L Gates 31-50: H-J-G-C cross 29 cross 26 Gates 16-28: G-C cross 29 cross 26 Gates 1-18: JT-J-G-C cross 29 cross 26 From NCB/ASP: N-Y-C From CNK: A cross 29 cross 26 From NRL/CJT: J2-11-A cross 26	To Runway 17L Gates 31-50: H-J-B-D Gates 16-28: G-J-B-D Gates 1-18: JS-J-B-D From NCB/ASP: M-YB-C-G-J-B-D cross 29 From CNK: A-J-B-D cross 35L From NRL/CJT: J-B-D cross 35L From SW: A-08-C-G-J-B-D cross 35L
To Runway 35R Gates 31-50: H-J-G-F-R-B Gates 16-28: G-F-R-B Gates 1-18: E-B From NCB/ASP: N-M-26-Y-U-F-R-B cross 29 From CNK: A-11-F1-F-R-B cross 35L From NRL/CJT: J2-11-F1-F-R-B cross 35L From SW: P-A-08-Y-U-F-R-B cross 35L/29	To Runway 17R Gates 50-38: K-C Gates 26-49: HB-C Gates 1-25: G-J-C From NCB/ASP: N-M-26-C cross 29 From CNK: A From NRL/CJT: J-A From SW: A cross 26/29

Arrivals:

From Runway 35L Gates 50-38: C2-C-K cross 2 Gates 31-49: C2-C-HB cross 29 Gates 1-28: C2-C-HD cross 29 From NCB/ASP: C2-C-YB-M-N cross 26 From CNK: U-A cross 29 From NRL/CJT: U-A cross 29	From Runway 17L Gates 31-50: D3-D-R-F-G-J-H-HB Gates 16-28: D3-D-R-F-G-J-H-HD Gates 1-18: D3-D-R-F-G-J-JT IFP: D3-E From NCB/ASP: D3-D-R-F-U-Y-08-N cross 29 From CNK: D3-D-R-F-29-A cross 35L From NRL/CJT: D3-D-R-F-29-J2 cross 35L From SW: D3-D-R-F-U-Y-26-A cross 29/35L
From Runway 35R Gates 50-38: D4-B-J-C-K Gates 49-31: D4-B-J-C-HB Gates 16-28: D4-B-J-C-HD Gates 1-18: D4-B-J-JS From NCB/ASP: D4-B-J-G-C-YB-M cross 29/26 From CNK: D4-B-J-A cross 35L From NRL/CJT: D4-B-J-J2 cross 25L	From Runway 17R Gates 31-50: C1-C-HB cross 29 Gates 18-28: C1-C-HD cross 29 Gates 1-25: C1-C-G-J-JT cross 29 From NCB/ASP: C1-Y-M cross 26 From CNK: U-A-cross 29 From NRL/CJT: U-A-29-J2 From SW: A cross A3 A cross 26

Multiplayer on VATSIM

In spite of the fact that pilots on VATSIM have the capability to use Squawk Box with its multiplayer feature to provide a visual representation of other local aircraft, it is not mandatory to do so.

Because of this, the controller must not assume that all aircraft can see each other. In addition, network lag and other factors may result in missing or incorrect positioning of aircraft.

The Ground controller must provide positive control for all ground traffic rather than relying on aircraft being able to see one another.

For example, rather than simply instructing an aircraft to 'give-way' to another taxiing aircraft and/or to follow, appropriate hold short instructions should be issued unless an aircraft has confirmed visual contact with their relevant ground traffic.

Calgary Ground Controller's use ASDE (Airport Surface Detection Equipment). ASDE is used by Ground Controllers as an aid to visual observation of airport traffic during times of poor visibility and at night. A map of the airport, runways and taxiways is overlaid giving the controller the ability to confirm the position of aircraft on the field. Objects detected by the ASDE are depicted as yellow. Aircraft and vehicles appear as moving blobs. Areas can be drawn on the map manually to remind controllers of closed portions of the field.

West and East Ground Splits (Advanced Topic)

During the rare instances on VATSIM when the Calgary Ground position will be split, to ensure traffic conflicts do not occur standardization is required. The Ground controllers will hand off aircraft to one another at or prior to pre-determined positions which will ensure an orderly flow of traffic. There is one standard ground split:

Handoffs from West Ground to East Ground are as follows:

Taxi J, hold short H

Taxi F1, hold short F

Taxi C, hold short 29

Taxi U, hold short 29

Handoffs from East Ground to West Ground are as follows:

Taxi J, hold short Runway 35L

Taxi C, hold short Runway 29

Taxi G, hold short Runway 29! Taxi F, hold short Runway 29

When the above taxi routes are issued, traffic will not enter the other Ground controllers area without clearance, thus allowing aircraft to cross in front of other aircraft, or enter and exit aprons safely. Prior to using a non-standard route, a controller must first coordinate and gain approval from the other controller.!

Appendix A: Runway Intersection Distances

RUNWAY	INTERSECTION	RUNWAY REMAINING (ft)
17L	V Z	13,680 10,450
17R	C6 A1 C2	10,980 8,400 6,800
35L	C1	6,400
35R	Q S	13,860 12,200