

# IFR

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# Clearance

## Initial IFR Departure Clearance

Every flight that is intended to be operated under Instrument Flight Rules has to receive an initial IFR clearance. When receiving your initial clearance, your flight plan is approved and you can perform your flight.

### Clearance Components

Clearances shall contain the following in the order listed:

- **Aircraft identification**
- **Clearance limit**
- **Designator of the assigned SID**, if applicable
- **Cleared level(s)**
- **Allocated SSR code** (squawk/transponder code)
- **Any other necessary instructions or information** not contained in the SID description (e.g., non-standard departure route, instructions relating to change of frequency)

### Construction of the Initial Clearance

“CLEARED TO (destination airfield)  
[VIA (departure SID identifier) DEPARTURE], [RUNWAY (departure runway)],  
CLIMB (initial level),  
SQUAWK (squawk number)  
[AFTER DEPARTURE, (description of the non-standard departure clearance  
maneuvers, and/or change frequency)]

### Example Full Clearance:

☐ ☐ *Scandinavian 845, CLEARED TO Stockholm-Arlanda VIA ROC1H departure, RUNWAY 14, CLIMB 4000 feet, SQUAWK 3456*

### Example of a Vectored Departure:

☐ ☐ *Scandinavian 509, CLEARED to Stockholm Arlanda, CLIMB altitude 4000 feet, SQUAWK 3737, AFTER DEPARTURE maintain runway track, when passing 3000ft turn left direct Nicky VOR.*

*If the clearance for the levels covers only part of the route, it is important for the air traffic control unit to specify a point to which the part of the clearance regarding levels applies.*

## Type of Departure and Selection

As a controller, you may assign a departure based on operational needs. There are several types of departures:

- **Standard departure**
- **Omnidirectional departure**
- **Non-standard departure**

## Types of IFR Flight Plans

There are different types of IFR-related flight plans that impact how clearances are issued:

- **IFR Flight Plan (I):** The entire flight is conducted under IFR.
- **VFR Flight Plan (V):** The entire flight is conducted under VFR, requiring only startup clearance if necessary.
- **Zulu Flight Plan (Z):** The flight departs under VFR and transitions to IFR at a specified waypoint.
- **Yankee Flight Plan (Y):** The flight departs IFR and transitions to VFR at a specified waypoint.

For **IFR and Yankee flight plans**, controllers must issue an IFR enroute clearance. For **VFR and Zulu flight plans**, startup clearance is issued per airport procedures.

## Standard Departure Definition

A **Standard Instrument Departure (SID)** is a designated instrument flight rule (IFR) departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en-route phase of a flight commences.

This SID route is published on charts using graphical and/or text descriptions.

The SID terminates at the first fix/facility/waypoint of the en-route phase following the departure procedure. For standard instrument departures (SIDs), all tracks, points, fixes, and altitudes/heights (including turning altitudes/heights) required in the procedure are published.

In a SID, you do not need to specify the runway if the SID description includes it unambiguously.

**Example Full Clearance:**

☐ *Scandinavian 845, CLEARED TO Stockholm-Arlanda VIA ROC1H departure, RUNWAY 14, CLIMB 4000 feet, SQUAWK 3456*

Example Clearance with SID Only (SID description provides runway):

☐ *Air France 4422, CLEARED to London-Gatwick VIA ANG1N, CLIMB FL110, SQUAWK 5352*

## Omnidirectional Departure Definition

Omnidirectional departures normally allow departures in any direction where the aircraft will fly to a fix when passing a defined altitude.

- No track guidance is provided or no suitable navigation aid is available.
- The controller must give the departure runway and the initial level/altitude cleared.
- Departure assumes that a turn at **120m (394 feet)** above the aerodrome elevation is not initiated sooner than **600m from the beginning of the runway**.
- Restrictions can be expressed as **sectors to be avoided** or **minimum gradients/altitudes**.

Example:

☐ *Scandinavian 845, startup approved to Stockholm-Arlanda, omnidirectional departure direct SALVI, runway 14, initial climb 5000 feet, squawk 6521*

## Non-Standard Departure Definition

Non-standard departures are used mainly for:

- **Separation reasons**
- **Time-saving**
- **Noise abatement**
- **Aircraft unable to fly a SID**

Types of non-standard departures:

- **Vectored departure:** The controller provides a full trajectory description.
- **Visual departure:** The pilot navigates to the initial fix using visual terrain monitoring under VMC conditions.

These must be coordinated with the departure controller before clearance is issued.

### Example of a Vectored Departure:

☐ *Scandinavian 509, CLEARED to Stockholm Arlanda, CLIMB altitude 4000 feet, AFTER DEPARTURE maintain runway track, when passing 3000ft turn left direct Nicky VOR, SQUAWK 3737*

# Controller Responsibilities and Considerations

As a controller, you must ensure the selection of the most appropriate departure type based on operational requirements. Before issuing clearance, check the **first waypoint** of the filed route to select the most suitable departure.

## Common Flight Plan Issues:

- First point is outside any available SIDs.
- First point is an **arrival point** instead of a departure point.
- First point is from **outdated charts**.
- First point is **missing or incorrect**.

If no suitable **published departure** exists, you may select:

- An **omnidirectional departure**
- A **non-standard departure**

Approval from **approach or area control** is required if no approach controller is present.

## Controller Decision-Making:

- Assign a SID if appropriate.
- If no SID is applicable, determine whether an omnidirectional or vectored departure is necessary.
- Define vectored departure parameters and ensure coordination with relevant controllers.

Controllers **have the authority** to impose a departure upon a pilot, though pilots may request alternative clearances where feasible. Negotiation is possible but must align with operational constraints.

# Departure Instructions

## Departure Instructions for Controllers

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

### Takeoff Clearance Format

1. **(Aircraft Identification) [Unit Identification]**
2. **(Special Information)** – Includes details such as hazards or obstructions.
3. **(Control Instructions)** – Includes information such as a turn or heading after takeoff.
4. **[Wind Information]** – If the wind speed is 15 knots or more, the direction and speed are issued in the takeoff clearance.
5. **FROM (Intersection/Threshold)** – Controllers state the position from which the takeoff 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
6. **CLEARED FOR TAKEOFF (Runway Identification)**

### 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 applies to **VFR aircraft**, though an **IFR aircraft** may also receive such an instruction.

### Key Considerations:

- You are responsible for **safety and separation**.
- ATC issues this instruction with the intent that you comply **as soon as safely able**.
- ATC may be instructing surrounding traffic based on the assumption that you will take off without delay.

## Standard Instrument Departures (SIDs)

To connect airports with the airway system for IFR flights, predefined departure routes, known as **Standard Instrument Departures (SIDs)**, are used. These routes guide aircraft from the departure runway via waypoints and/or conventional navigation aids such as NDBs and VORs to the first waypoint in the flight plan.

With modern airspace complexities, many SIDs no longer rely solely on traditional radio navigation. Instead, most waypoints exist as **virtual coordinates**, requiring **RNAV (Area Navigation)**

**equipment**, which is standard in modern airliners.

## SID Naming Structure

Each SID follows a standardized naming convention, which consists of:

- **Basic Indicator** – The last waypoint of the SID or the first waypoint in the flight plan.
- **Validity Indicator** – A number that is incremented when minor changes are made to the SID (e.g., variations in magnetic deviation).
- **Route Indicator** – A letter that differentiates SIDs leading to the same waypoint. These differences may be based on factors such as runway assignment, routing variations, altitude restrictions, or other operational constraints.

Example:

☐ *MABAP3D departure from Runway 10 in Marrakech*

## Route and Clearance Components

When clearing a flight via a SID, controllers must ensure that pilots are aware of the following key instructions:

- **Assigned departure runway**, which should match the ATIS information.
- **Initial climb clearance**, specifying the first altitude to be maintained.
- **SID routing details**, including any altitude or speed restrictions.
- **Frequency change instructions** after takeoff.

## Frequency Change Procedures

In some regions, such as Tunisia, frequency changes after takeoff are explicitly part of the SID procedure at many airports. Pilots should always verify whether they are expected to **change frequency autonomously** before departure. In such cases, the tower will not provide an explicit handoff, as frequency change instructions will be published in the **SID charts and/or ATIS**.

Controllers should ensure pilots understand these procedures to facilitate efficient airspace transitions.

# Instrument Approach

## Classification of Instrument Approaches

### Segments of an Instrument Approach:

#### Arrival Segment

This segment represents the transition from the enroute phase to the approach phase of the flight.

#### Initial Approach Segment

This segment begins at the **Initial Approach Fix (IAF)** and ends at the **Intermediate Fix (IF)**.

#### Intermediate Approach Segment

This segment usually begins at the **Intermediate Fix (IF)** and ends at the **Final Approach Fix (FAF)** (for non-precision approaches) or the **Final Approach Point (FAP)** (for precision approaches).

#### Final Approach Segment

This segment normally starts at the **FAF/FAP** and ends at the **Missed Approach Point (MAPt)**.

#### Missed Approach Segment

This segment begins at the **MAPt** and typically ends in the **published holding procedure** at the IAF. This segment provides obstacle protection during the missed approach procedure.

### Final Approach Fix or Point?

- **Precision Approach:** Called a **Final Approach Point (FAP)**
- **Non-Precision Approach:** Called a **Final Approach Fix (FAF)**

## Approach Classifications

There are several ways to conduct instrument approaches. The goal of these procedures is to guide traffic to the runway as efficiently and safely as possible, considering local conditions and weather constraints.

Approaches require specific ground or aircraft equipment, and all available procedures are published in airport charts.

Instrument approaches are classified into:



- **Two-Dimensional (2D) Approaches** – Provide **lateral guidance only**.
- **Three-Dimensional (3D) Approaches** – Provide **both lateral and vertical guidance**.

## Guidance Sources:

- **Ground-based radio navigation aids**
- **Computer-generated navigation data** from ground-based, space-based, or autonomous navigation aids (or a combination of these)

### Examples of 2D Approach Procedures (Lateral Guidance Only):

- **LOC Approach** (*Non-Precision Approach - NPA*)
- **VOR Approach** (*NPA*)
- **NDB Approach** (*NPA*)
- **RNP Approach** (*RNAV(GPS) without vertical guidance - NPA*)

### Examples of 3D Approach Procedures (Lateral and Vertical Guidance):

- **RNP Approach** (*RNAV(GPS) with Baro VNAV or SBAS - APV*)
- **ILS Approach** (*Precision Approach - PA*)
- **GLS Approach** (*PA*)
- **PAR Approach** (*PA*)
- **RNP Approach augmented with SBAS CAT I** (*PA*)

*Visual approaches are not included in these categories.*

## Common Instrument Approach Procedures

### ILS Approach

The **Instrument Landing System (ILS)** is one of the most widely used approach procedures. It provides both **lateral guidance** (via the **localizer - LOC**) and **vertical guidance** (via the **glide slope - GS**). This enables precise landings even in poor weather conditions and can support fully automated landings.

### RNP/RNAV Approach

The **RNAV(GPS)** approach, also called an **RNP approach**, relies on GPS for navigation. Unlike ILS, this is a **non-precision approach (NPA)** unless equipped with **vertical guidance (APV)**.

#### Common RNP Approach Variants:

- **LNAV Only** (*Lateral Navigation Only - NPA*)
- **LNAV + VNAV** (*Lateral and Vertical Navigation - APV*)
- **LPV** (*Localizer Performance with Vertical Guidance - APV*)

## VOR Approach

If **ILS** or **RNAV** is unavailable, a **VOR (DME) approach** may be used. This **non-precision approach** relies on a ground-based **VOR station**. The approach follows a radial from the station, and due to the lack of vertical guidance, decision heights are relatively high, making it less suitable in poor weather conditions.

## NDB Approach

The **NDB approach** is one of the least precise methods. Unlike VOR, which transmits radials, an **NDB** transmits signals in all directions. Pilots align to a **QDR (magnetic bearing from the station)** instead of a radial, making alignment more challenging.

# Vectoring to Final

## Precision Approaches

- The aircraft should fly **straight and level** for **1 NM** before intercepting the glide slope.
- Example: **Final Approach Point (FAP) at 10 NM → Glide slope intercept at 11 NM**

## RNP/RNAV Approaches

- The aircraft should fly **straight and level** for **2 NM** before the **Final Approach Fix (FAF)**.
- Example: **FAF at 12 NM → Intercept at 14 NM**
- If a course change occurs at the FAF, the aircraft should be cleared **directly to an initial approach waypoint**.

## Non-Precision Approaches (NPA)

- If an aircraft is vectored onto final, the controller must provide **position information**.
- Example: *"You are 15 NM southwest of (fix), cleared (approach) runway XX"*
- If vectored to an ILS intercept, the pilot must be instructed to **report established**.
- Example: *"Cleared ILS approach Runway XX, report established."*

# Visual Approach

A **visual approach** is often requested in good weather. Although some airports prohibit them due to noise restrictions, they remain a useful tool in **VATSIM** and real-world operations. A visual approach is **not a change in flight rules**; the aircraft remains under **IFR but follows a visual approach procedure**.

## Requirements

- **The pilot must request or accept a visual approach.**
- **The aircraft must be below the cloud ceiling** and in sufficient visibility.

- **The pilot must have the airport and preceding traffic in sight.**
- **The approach must be coordinated with the tower.**

## Visual Approach Clearance

- If conditions are met, the IFR aircraft can be cleared for a **visual approach**.
- The pilot is responsible for **obstacle clearance**, while ATC remains responsible for **separation** unless delegated.
- Since there is **no published missed approach procedure** for a visual approach, controllers must specify this along with the clearance.

Example Clearance:

ATC	Phraseology
ATC	<i>“DTH123, runway is at 2 o’clock, range 8 miles, advise able to accept visual approach Runway 10.”</i>
Pilot	<i>“DTH123, able to accept visual approach Runway 10.”</i>
ATC	<i>“DTH123, cleared visual approach Runway 10, in case of missed approach, fly runway heading and climb to 3000 feet.”</i>

# Cancellation of IFR

## Flight Rule Changes and Procedures

### IFR to VFR Transition

When an aircraft operating under **Instrument Flight Rules (IFR)** enters **Visual Meteorological Conditions (VMC)**, it shall not cancel its IFR flight unless it is expected that VMC will be maintained for a reasonable period.

An aircraft electing to transition from **IFR to Visual Flight Rules (VFR)** must:

- **Notify ATC** that the IFR flight is cancelled.
- **Communicate** the necessary changes to the flight plan.

A pilot may cancel IFR, provided:

- The aircraft is in **VMC**.
- The aircraft is **outside Class A or B airspace**.
- It is expected that the flight will not return to **IMC**.

If IFR is cancelled, **ATC ceases IFR control services**, but if the aircraft is in **Class C airspace**, conflict resolution continues. If the IFR flight plan is closed, **Alerting Services** are also cancelled.

## Y and Z Flight Rules

### Y Flight Rules (IFR to VFR)

A flight that begins **under IFR** and transitions to **VFR**.

### Z Flight Rules (VFR to IFR)

A flight that begins **under VFR** and transitions to **IFR**.

### Flight Rule Codes

- **I** – Entire flight under IFR.
- **V** – Entire flight under VFR.
- **Y** – IFR transitioning to VFR.
- **Z** – VFR transitioning to IFR.

The **transition point** must be specified in the flight plan. If there are multiple transitions, the first rule is used (e.g., VFR/IFR/VFR = "Z").

# Yankee Flight Rule (Y)

When **Y flight rules** are used:

- The **IFR route** is filed up to the last IFR waypoint.
- The **VFR route** follows, with "VFR" added in the plan.
- "DCT" may be used if the VFR plan is not mandatory.

Example Route:

```
FOBAC R722 MABAP VFR DCT
```

This means:

- The flight departs **IFR** and remains IFR **until MABAP**.
- After MABAP, the flight transitions to **VFR**.

Phraseology:

✈ "Request cancelling my IFR flight." ☐ "After MABAP, report VMC to cancel IFR." ✈ "At MABAP, under VMC conditions." ☐ "IFR CANCELLED AT 10:00 UTC, continue under visual flight rules."

# Zulu Flight Rule (Z)

When **Z flight rules** are used:

- The **VFR route** is filed up to the first IFR waypoint.
- "IFR" is added at the first IFR point with **altitude and true airspeed**.
- The detailed IFR route continues to the destination.

Example Route:

```
TUC DCT MON/N0280F130 IFR A411 BSKO
```

This means:

- The flight departs **VFR** and remains VFR **until MON**.
- At MON, the flight transitions to **IFR at FL130 with 280 knots TAS**.

Phraseology:

☐ "At TUC, request IFR at MON." ☐ "Report MON, climb FL140." ☐ "At MON." ☐ "IFR activated at 10:00 UTC, route BSKO."

# Flight Rule Changes in Flight

A pilot can request a **flight rule change** in-flight. This must be coordinated with ATC, who will:

- **Prescribe conditions** for the change.
- **Determine limitations** for the new flight plan submission.

## Changing from IFR to VFR

A pilot changing from **IFR to VFR** must:

- Notify ATC that **IFR is cancelled**.
- Communicate changes to the **current flight plan**.

ATC will acknowledge the cancellation: ☐ "IFR FLIGHT CANCELLED AT 10:00 UTC."

If IMC is expected, ATC may advise: ☐ "Instrument Meteorological Conditions reported/forecast in the vicinity of \_\_\_\_."

ATC will inform the next controller about the IFR cancellation (on VATSIM, only the next controller is informed).

## Changing from VFR to IFR

A pilot switching **from VFR to IFR** must:

- Communicate the necessary **flight plan changes**.
- Submit the **updated flight plan** to ATC.
- Obtain an **IFR clearance** before proceeding in controlled airspace.

This change is typically made when **VFR minima** cannot be maintained due to worsening weather.

# VFR Departure of an IFR Flight

A flight plan may be **IFR**, but if departing from an uncontrolled or non-IFR airfield, the departure may be **VFR under VMC conditions**.

To transition to IFR:

- The pilot **contacts the en-route controller** once airborne.
- The **controller issues IFR clearance** once the aircraft is above **Minimum Radar Vectoring Altitude (MRVA)**.

## Best Practices:

- **Climb to a safe altitude** (e.g., minimum sector altitude).
- **Contact en-route ATC before takeoff** to negotiate the **first contact point and altitude**.

# IFR Outside Controlled Airspace

An IFR flight operating **outside controlled airspace** shall:

- Maintain an **air-ground voice communication watch** on the appropriate frequency.
- Establish two-way communication with the air traffic services unit providing flight information service as necessary.

# Weather Deviations

## General Procedures

Route deviations may be necessary due to weather or other operational constraints. When issuing a route deviation, ATC should provide a **direct “when able” point** for the aircraft to rejoin its original flight plan. If no point is provided, the aircraft shall remain on its deviation heading and advise ATC when able to return to its cleared route.

ATC should be aware that **multiple aircraft may be deviating simultaneously**, increasing workload and airspace complexity. Clear and concise communication is critical to ensure proper separation and coordination.

## Altitude Deviations

ATC shall monitor aircraft altitude compliance using **Mode C altitude readouts**. An altitude deviation within **200 feet of the assigned altitude** is considered acceptable. If an altitude deviation of **300 feet or more** is observed, **ATC must intervene**.

## Weather Deviation Requests

If a pilot requests a weather deviation, ATC shall prioritize response when the pilot states **“WEATHER DEVIATION REQUIRED”** on frequency. This phrase indicates that priority handling is requested.

## Urgency Upgrade

- If the situation escalates, the pilot may upgrade the request to an **urgency status**.
- ATC shall assess the situation and respond accordingly to ensure flight safety.

## Completion of Deviation

- The pilot must notify ATC when:
  - **Weather deviation is no longer required.**
  - **The aircraft has rejoined its cleared route.**

## ATC Response Actions

Upon receiving a weather deviation request, ATC shall take one of the following actions:

### If Separation Can Be Maintained:

- Issue a **clearance** for the aircraft to deviate from its assigned track.

### If There is Conflicting Traffic and Separation Cannot Be Assured:



1. **Deny the requested deviation** and advise the pilot.
2. **Inform the pilot of conflicting traffic.**
3. **Request the pilot's intentions** to determine the best course of action.

ATC shall continue to monitor the situation and ensure the aircraft receives further instructions as necessary to maintain separation and operational efficiency.

# A-CDM

## Airport Collaborative Decision Making (A-CDM) Controller Guide

### What is A-CDM?

A-CDM is a tool that encourages virtual pilots, controllers, and dispatchers to coordinate more effectively in an online flight simulation environment. By sharing essential departure data, planning collaborative push-back times, and adhering to consistent procedures, A-CDM helps to reduce airfield congestion and improve overall traffic flow. The result is a more immersive, realistic, and seamless experience for everyone involved in the virtual aviation community.

It links with the ECFMP and event slots to ensure that pilots who have event slots depart on time and controls departure rates to prevent overloading of runway holding points, enroute sectors, and arrival airfields.

A-CDM can be used by controllers at any time they deem necessary. At certain events, the use of A-CDM may be notified as mandatory. As a general rule, if opening a PLN position at a busy airfield, it is advised to enable the system.

### Timings

There are several key timings associated with an aircraft's departure:

Time	Description
<b>EOBT</b>	Departure time entered by the pilot on the flight plan (not typically useful for online networks as it is often inaccurate).
<b>TOBT</b>	The time the aircraft aims to push back.
<b>TSAT</b>	The time ATC plans to approve start, considering flow restrictions, taxi times, capacity, etc.
<b>ASRT</b>	The time at which the pilot requests start-up.
<b>TTOT</b>	The estimated time the aircraft will be airborne.
<b>CTOT</b>	Also known as a "slot," the aircraft must depart within -5/+10 minutes of this time.

### Enabling The Plugin

The plugin is pre-configured in the controller pack for all SMR profiles. Each airfield must have a **master controller**, with other controllers at the same airfield acting as **slaves**. Normally, the controller providing the PLN (or Planner when rostered) function will be the **master**.

- `.cdm master {airport}` enables you as the **master** for the airfield.
- `.cdm slave {airport}` allows you to **receive A-CDM data** for the airfield.

⚠ **Warning:** Only the master controller at an airfield will be able to edit the A-CDM times.

## Controller Handover

During a controller handover, the existing master should use the command `.cdm slave {airport}`, followed by the incoming controller using `.cdm master {airport}`.

## A-CDM Colours

### TOBT Colour Codes

Colour	Definition
#8fd894 (LIGHT GREEN)	Before TOBT -5
#00c000 (DARK GREEN)	TOBT -5 → -2
#f5ef0d (YELLOW)	Last minute of TOBT

### TSAT Colour Codes

Colour	Definition
#8fd894 (LIGHT GREEN)	TOBT -35 to TSAT -5
#00c000 (DARK GREEN)	TSAT -5 to TSAT +5
#f5ef0d (YELLOW)	From TSAT +5 to TSAT +6
#be0000 (RED)	TSAT > +6 (Expired)

### CTOT/TTOT Colour Codes

Colour	Definition
#00c000 (GREEN)	CDM Server CTOT
#d4852e (ORANGE)	Manual/Event CTOT
#be0000 (RED)	Flow/CAD CTOT

# Controller Responsibilities

## PLN / Planner

### Slotted Events

For events with CTOTs, these will be added to the system before the event. This is linked to the pilots' CID.

- When a pilot with an event booking logs in, the system will automatically show the event CTOT in the **EVNT** column.
- The PLN controller (or Planner when rostered) must **left-click** on the event CTOT to generate the A-CDM times as soon as the aircraft appears in the departure list.
- When the pilot calls for clearance, PLN shall advise the aircraft of the TSAT.

### Example Phraseology

- *ATLAS123, cleared to Tunis, MOGTA2D departure, Squawk 3241, QNH 1017. Expect start at time 1345.*
- *ATLAS123, contact Algiers Planning on 128.875 when ready.*

Pilots without a slot or those who miss their TSAT by more than 5 minutes should be handled accordingly.

“ **Note:** When a dedicated Planner position is rostered, the PLN (Clearance Delivery) controller's primary responsibility is to validate routes and issue clearances.

### Non-Slotted/Overload Events

- When the aircraft calls ready for start, PLN (or Planner when rostered) will **left-click** the **TOBT** & **ASRT** columns to generate the A-CDM system times.
- If the **TSAT is within +/-5 minutes (dark green)**, the aircraft can be passed to **GND for start-up**.
- If the **TSAT is not within +/-5 minutes (light green)**, the aircraft must be advised of the TSAT and instructed to hold position.

“ **Note:** When passing a pilot to GND for start-up, PLN (or Planner when rostered) should mark the status flag in the departure list as "**STUP**".

## GND Responsibilities

- Once an aircraft calls fully ready, the **GND controller must check the TSAT**.
- If the TSAT is **within +/-5 minutes**, start-up clearance can be issued.
- The **TTOT/CTOT columns** in the taxi-out list should be used to determine a reasonable departure sequencing order.
- Final sequencing for departure remains the responsibility of the **TWR controller**.

## TWR Responsibilities

- The **TWR controller** should use **TTOT/CTOT fields** to determine departure order while ensuring normal route/speed/wake separation.
- **CTOTs should be prioritized** to comply with flow restrictions such as MDIs.

## Video Guide

A **video guide** on A-CDM is available to assist controllers in understanding the plugin and its functions: [Watch Here](#).