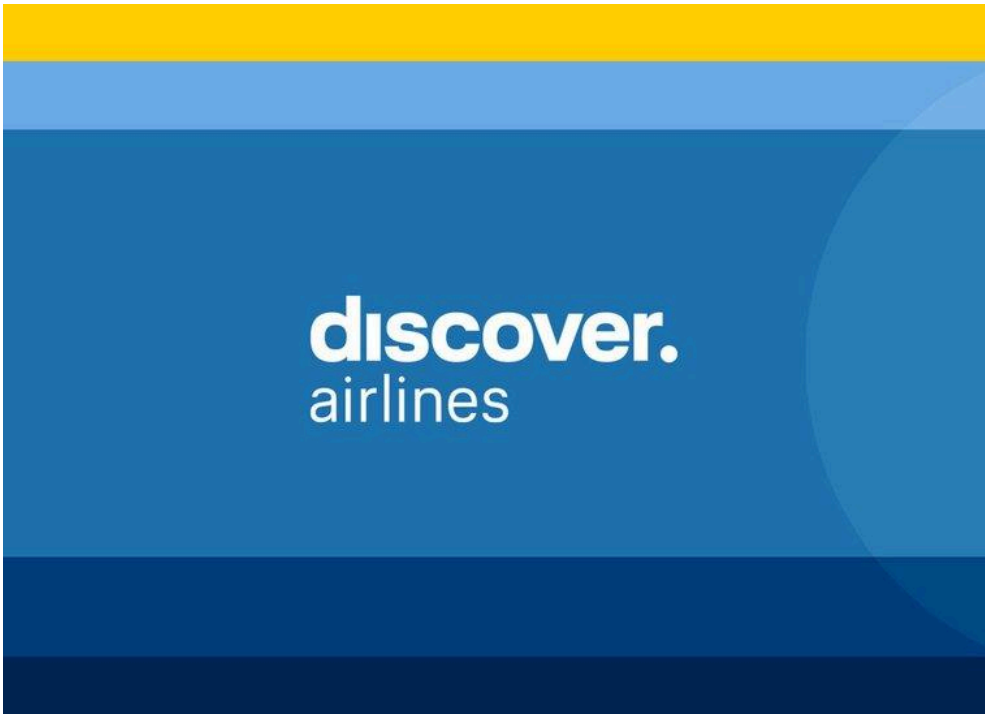
Standard Operating Procedure

Contents



Introduction

WHAT DAV IS ABOUT

Discover Airlines Virtual sets the gold standard within Infinite Flight. We meticulously replicate real-world operations to provide a completely immersive, premium flight experience.

Reading the SOP

a. **Must** - This procedure has to be followed under all conditions **EXCEPT** if ATC instructs otherwise
b. **Must Not** - The pilot cannot do the action that **must not** is applied to **EXCEPT** if ATC instructs otherwise
c. Should - The pilot is strongly recommend to follow this procedure, but it is not mandatory
d. Should Not - The pilot is strongly recommended not to do this action, but it is not mandatory.
e. ATC Communications - Communication with ATC will be marked and will use the same language as above, this is only applicable when ATC is present

Failure to follow the SOP

At DAV, we try to be lenient, so we operate on a 3 strike policy for SOP disregard before you get an official warning. After that, it is another 3 strikes till a suspension.

Materials & Resources

This is not supposed to be a rulebook, but rather a guide to be a better pilot and to represent DAV to the best of your ability. If you have any questions or concerns, feel free to open a ticket in the discord channel, and the staff will be happy to help!

Assessment

DAV staff retain the right to pull PIREPs (and replays) until the PIREP has been approved, which should be within a week of the flight.

Pre Flight

1. Pilots **must** check the **crew center** for routes available, and only fly aircraft that are under their rank
2. Once a route as been chosen, the pilot **must** choose the correct livery and variant of the aircraft they plan to fly
3. Pilots **must** fly on the Expert Server with their DAV callsign (**Ocean** XX **VA**). For codeshares, pilots **must** fly the route using the codeshare livery, and use the callsign (**CODESHARE** XX **VA**)
4. Pilots can use suffixes to their callsign, such as “heavy” or “super”, but they **must** be used appropriately
5. Pilots **must** check nearby active TFR/NOTAMS and comply with them.
6. Pilots **must** turn on the **APU, Master Battery, Navigation Lights**, and the **No Smoking Sign** immediately after spawning in (on aircraft where this is applicable)
7. Pilots **should** use simbrief for creating flight plans
8. Pilots **should** include **SID + STAR** into flightplan if the airport has the procedures
9. **ATC CONTACT** - The pilot **must** tune into the **ATIS** frequency before requesting pushback, and alter flight plans as per the ATIS
10. Pilots **should** use automatic pushback where it is available, but **must not** “pull” their aircraft out of the ramp area using a pushback tug
11. The seatbelt signs **must** be turned on before pushback is started
12. Pilots **must** turn on **beacon lights** when pushback begins, before the engine start process is begun

Engine Start & Taxi

1. Pilots **must** wait until aircraft is clear of the gate during pushback to begin the engine start process
2. Engine Start Process **must** be followed:
    a. Propeller Planes: **Mixture - 100%**, **Ignition** on **start, Engine start, Ignition** on **both**
    b. Twin jets, **engine 2** (right side engine) **must** be started first, and **must** be completely stabilized before **engine 1** is started **(2 → 1)**
    c. Tri Jets: **(2 → 1 → 3)**
    d. B747: **(4→ 3 → 2 → 1)**
    e. A380/A340: **Engine 1** and **engine 2** simultaneously, **must** stabilize, then **engine 3** and **engine 4** simultaneously **(1&2 → 3&4)**
3. Once the pushback finishes, the pilot **should** do a control check of all control surfaces (**rudder**, **elevator**, and **ailerons**)
4. Pilots **must** turn off the **APU** (if applicable)
5. Pilots **must** set the appropriate take off **flaps** after the control check, and **should** set the **autobrake to max (in case of a rejected TO),** they **should** also set TO **trim.**
6. **ATC CONTACT** - Only after all of these steps are completed may a pilot request taxi/announce taxi to **RWY**
7. Pilots **must not** exceed more than 40% N1 during **taxi,** even for their breakaway thrust
8. Pilots **must not** exceed **25 knots** on a straight way, **12 knots** in the **ramp**, and **10 knots** during a **90° turn,** pilots **must not** use the **park brake** to slow down
9. When crossing a runway, pilots **must** turn on their **strobe lights**, and if the runway has active traffic, **landing lights** **should** also be turned on - when holding short of a RWY, pilots **must** make sure that no part of their aircraft is ahead of the hold short line
10. When on a taxiway, pilots **must not** turn on their **strobe lights**, but may use their **landing lights** as **taxi lights**

Takeoff & Climb

1. **ATC CONTACT:**
    a. When no ATC is present, and no aircraft on runway, pilots **must** announce TO, and their direction. Pilots **must not** use “remaining in the pattern” unless they plan to do pattern work.
    b. When there is ATC, pilots **should** announce ready for departure with direction once ready.
    c. If there is someone on the runway taking off, pilots **should** LUAW by announcing “crossing RWY XX” when no ATC.
2. **Landing & Strobe lights must** be turned on when entering the runway, the **landing lights must not** be turned off until at least above 10,000 ft **MSL**, the **strobe lights must** stay on until landing
3. When taking off, pilots **must not** exceed 100%N1, and **should** refer to the takeoff profiles that are located in the Aircraft Profiles document.
4. Once reaching the **specified rotate speed**, the pilot **should** pitch up to 12°- 15° at around 3° per second. Once a climb rate has been established, the gear **must** be raised on aircraft that have retractable gear.
5. Pilots **must** hold this pitch until they reach **1000 ft AGL**
6. At 1000ft AGL, pilots **must** lower their nose down to 10°**,** and allow their aircraft to slowly accelerate. Pilots **must** also turn off the **autobreak**, and set the **spoilers** to **off**.
7. Once the aircraft starts accelerating quickly, pilots **should** reduce their N1 by 5-7%, unless airport procedures dictate otherwise
8. Once a steady rate of climb (no more than +2700 FPM) has been established, pilots **should** turn on A/P (Altitude and LNAV). Pilots **must** not turn on speed until their aircraft has accelerated to the appropriate <10k MSL speed
9. Pilots **must** adhere to flap speed restrictions
10. Once the aircraft has passed 10k MSL, pilots **must** slowly lower the FPM to no more than +2200 FPM, and allow the aircraft to accelerate to its **climb** speed. **(Cruise speed minus Mach 0.02/15 knots)** Pilots **should not** touch the throttle, which **must not** have been touched since the aircraft reduced its thrust from takeoff thrust.
11. After 10k MSL, pilots **should** turn off the landing lights, and if the flight plan is steady, they **should** turn off the seatbelt signs.

12. Once the aircraft has reached its **climb** speed**(above)**, the speed control **should** be activated. The throttle **should** be increased by 5% once the aircraft has passed **Flight Level 200** (FL200) in order to accelerate to **climb speed**.
13. After the aircraft reaches FL250, pilots **must not** have a climb rate of more than +1500 FPM. They can also allow the aircraft to accelerate to **cruise speed** (see Aircraft Profiles)
14. Once the initial cruising altitude has been reached, AP+ may be engaged
15. Step climbs **should** be used during long flights, and **should** use simbrief to plan for them

Descent & Landing

1. Pilots **must** be active at least 2 minutes before the top of descent and **must** be active all the way till the aircraft is safely parked at the stand
2. Seatbelts signs **should** be turned on before the aircraft starts descending
3. During descent, pilots **must** use VNAV (vertical guidance), unless ATC gives vectoring instructions
4. Pilots **must** follow flap speed restrictions, and **must** not have a greater airspeed than 250 knots below FL100.
5. Below 10,000 ft **MSL**, the landing lights **must** be turned on (**AGL** can differ in high altitude airports. Higher airports **should** use around FL180 to turn on landing lights.)
6. ATC CONTACT: Pilots **should** request an **approach type** and runway if a radar controller is present and **must** not ask for **flight following** or **radar vectors** as DAV does not utilize **VFR** operations
7. Autopilot **must** not be turned off till the runway is in sight, APPR landings are allowed but **should not** be used if visibility allows. Pilots **should** correctly trim the aircraft before turning off the A/P.
8. ATC CONTACT: Different scenarios are covered in the User Guide:
    a. Tower + Approach - After cleared for approach, pilots **must** announce to the tower controller that they are inbound on the **(ILS/GPS/VIS)** for **runway XX.** Pilots **should** not **send a report position message** unless no clearance is given and the aircraft is within a **4nm final**
    b. Tower - Pilots **must** state that they are **inbound**, and **must** not **report their position** UNLESS no clearance is given within a **6 nm final.** Pilots **should** not say they are inbound on the **ILS/GPS/VIS** if no approach controller is present.
    c. Approach - After handoff, **must report their position relative to the runway**, but do not need an **inbound message** (Ocean XXVA is on —- runway XX)
    d. No ATC - Pilots **must** send an inbound message as well as reporting their position - **downwind** and **base should** be reported, **final must** be reported

9. The approach speed **should** be followed (check profiles). The use of autobreak **should** be used, and spoilers **must** be armed before landing.

10. The landing gear **must** go down in whichever condition comes first:

    a. 2500' call out if the pilot is descending (if constant at 2500 AGL pilots **must** not yet lower landing gear)

    b. **7 nm distance to the runway**, when the aircraft is on final (not on downwind)

11. A pilot **must** initiate a **go around** if they are not stable at the minimums:

    a. **ILS:** The diamond is no more than 1 dot away on both the LOC and GS at the 1000' feet call out

    b. **GPS:** If the pilot does not feel comfortable with the approach with the AP turned off at 1000'

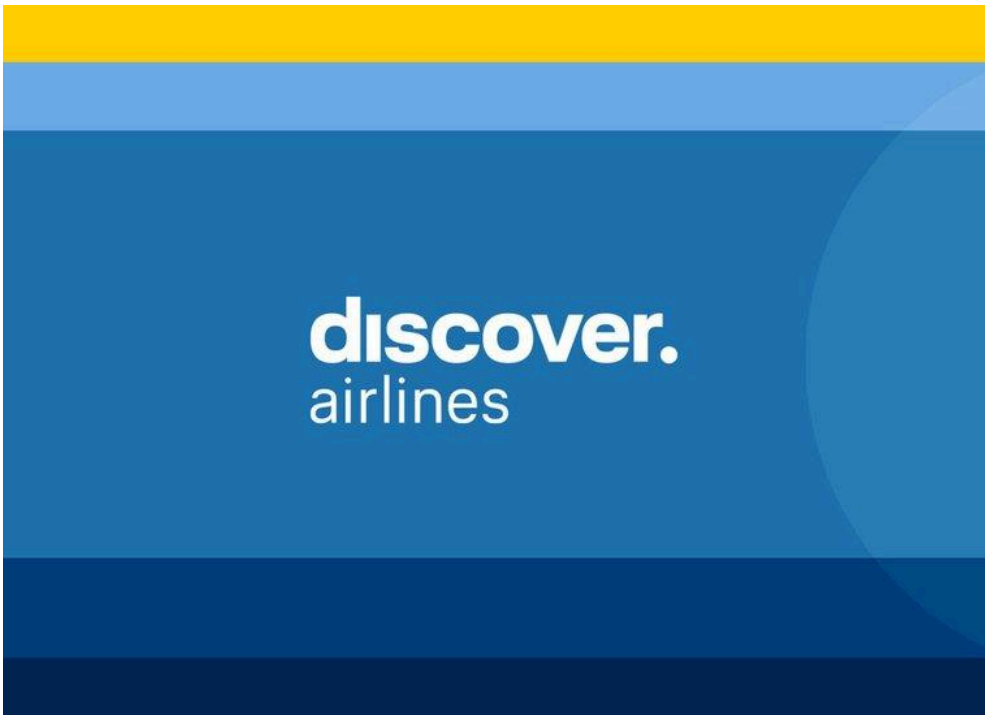
    c. **VIS:** If the pilot does not feel comfortable with the approach at any altitude, OR loses visual contact with the runway. (If visual is lost, pilots **must** GA)

12. Pilots **must** use no more than 80% N1 during reverse thrust, and **should not** use 100% rudder breaks. Pilots **must not** use the park break during landing

13. When able, pilots **should** exit the runway, and **must** completely clean up **flaps, spoilers, lights, and trim** before entering the ramp. **High speed exits** **should** be utilized, and exiting aircraft may be up to 40 knots. Pilots **should** also turn on the **APU** (when applicable).

Post Flight

1. Pilots **must not** park into a gate that is not big enough for their aircraft (red on the map)
2. Pilots **should** utilize the parking guidance system that is visible, when applicable
3. Pilots **must** wait until the N1 is below 10% during shutdown before turning off the **seatbelt signs + beacon lights**
4. Pilots **must** keep a replay of the flight till the PIREP is approved



Summary

Phase	Must/Must not	Should/Should not
Pre Flight	• Appropriate route, aircraft, livery, and call sign • APU, Master Battery, Navigation Lights, No Smoking Sign ON • SID + STAR • Check & Follow ATIS • Check Active TFRs ——————————————————— • Seatbelts ON, Beacon lights ON • **Not** pull out of ramp area	• Simbrief for FPLs

Engine Start & Taxi	• Engine start only after clear of gate
	• Engine start process
	  ○ Propeller Planes: Mixture to 100%, Ignition on START, Engine START, Ignition on BOTH
	  ○ Twin jets: **(2 → 1)**
	  ○ Tri Jets: **(2 → 1 → 3)**
	  ○ B747: **(4→ 3 → 2 → 1)**
	  ○ A380/A340: **(1&2 → 3&4)**
	• APU **OFF**, flaps **SET**, autobreak **MAX**
	• **Not** 40% max N1 during taxi
	• Speed limits: 25 knots straight way, 12 knots ramp & 90° turn
	• Not use **park break** during taxi
	• Strobe lights ON for runway crossing, OFF during taxi
	• No part of the aircraft ahead of hold short line when holding short
		• Control check of the aircraft surfaces
		• Use takeoff trim
		• Landing lights ON if crossing an active runway

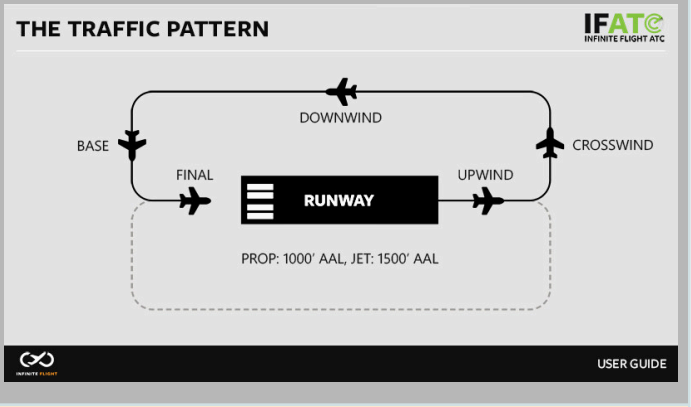
Takeoff & Climb	• Landing & Strobe lights ON • TO thrust below 100% N1 ——————————————————— • Autobreak OFF, spoilers OFF, gear UP • 1000 ft AGL: Nose down to 10°, aircraft accelerates, thrust reduction is allowed • Adhere to flap speed restrictions • No more than +2200 FPM past 10k AGL, allow aircraft to accelerate to V_{climb} • No speed A/P till climb speed is reached, throttle should not be touched • No more than +1500 FPM past FL250, accelerate to cruise speed	• Rotate speed: pitch up to 12°- 15° till 1000 feet AGL • Refer to TO profiles given • LUAW be utilized • Reduce N1 if aircraft is accelerating quickly • A/P ON once stable • >10K MSL, Landing Lights OFF, Seatbelts OFF • Speed control once aircraft has reached V_{climb} • Throttle increase by 5% past FL200 • Simbrief for step climbs
Descent & Landing	• Active during descent & taxi • VNAV ON, flap speed restrictions followed • Below FL100, no more than 250 knots, landing lights ON • NO radar vectors/flight following approach requests • Landing gear DOWN at appropriate distance/altitude, spoilers ARMED, approach speed SET • AP off only after RWY in sight	• Seatbelts ON before descent • Request approach type from ATC • Not use APPR landings • Trim aircraft correctly • Not use 100% rudder breaks. • **High speed exits** be utilized (<40 knots)

	• Initiate a **go around** if they are not stable below minimums • No park brake during landing, <80% N1 Reverse Thrust • After landing: Flaps UP, Spoilers OFF, Strobe OFF, Landing lights OFF, TRIM 0%, APU ON	
Post Flight	• Not park in gates that cannot fit aircraft • Only after N1 below 10%, seatbelts OFF, beacon lights OFF • Replay kept until PIREP approved	• Use parking guidance system

Glossary

First Location	Term/abbreviation	Meaning
Pre Flight	APU	Auxiliary Power Unit, provides aircraft with power when the engines are turned off
Pre Flight	Simbrief	Flight planner, plans for fuel, route, and time.
Pre Flight	FPL	Flight plan, the route for the aircraft
Pre Flight	ATC	Air Traffic Control, their instructions must be followed.
Pre Flight	SID	Standard Instrument Departure - specific routes that some airports have to organize departures, and also keep them clear of hazardous terrain
Pre Flight	STAR	Standard Terminal Arrival Route - specific routes that some airports have to organize arrivals, and also keep them clear of hazardous terrain
Pre Flight	ATIS	Automatic Terminal Information Service, provides information about the airport at the time, such as the RWYs being used
Pre Flight	Ramp Area	The area around the gate (the terminal area), not the main taxiways
Engine Start & Taxi	N1	Referring to the rotation speed as the inner part of the engine, also can be a percentage of engine thrust available.
Engine Start & Taxi	Stabilized Engines	When the engine is ready to be used. The engine will show up as green in the engines display panel.
Engine Start & Taxi	Elevator	Controls the pitch(direction) of the nose, located at the back of the aircraft, controlled by the yoke (movement of device)
Engine Start & Taxi	Ailerons	Controls the roll of the aircraft, located on the wings, controlled by the yoke (movement of device)
Engine Start & Taxi	Autobrake	Automatically slows down the aircraft if the reverse thrust is applied
Engine Start &	RWY	Runway abbreviated.

Taxi		
Takeoff & Climb	A/P	Autopilot (consists of LNAV, altitude, and speed). Altitude can sometimes be controlled by VNAV.
Takeoff & Climb	TO	Takeoff
Takeoff & Climb	Pattern	Flying circles onto the same runway, consists of five legs in order (upwind, crosswind, downwind, base, final). The right/left is from the pilots perspective to the airport.
Takeoff & Climb	LUAW	Line up and wait, when an aircraft lines up on the RWY but waits for the previous aircraft ahead to depart, helps for aircraft efficiency.
Takeoff & Climb	AGL	Above ground level. This is based on how high the ground is below the aircraft, so the AGL of an aircraft at 9000' taking off from an 8000' airport would only be 1000'.
Takeoff & Climb	Rotate Speed	Speed at which the aircraft begins to lift off the ground.
Takeoff & Climb	Takeoff profiles	The charts that give the speeds and engine power needed for takeoff at different weights
Takeoff & Climb	Climb Speed (V_{Climb})	Speed that the aircraft utilizes for climbing above 10k AGL
Takeoff & Climb	Cruise Speed	Speed that the aircraft operates at during cruise
Takeoff & Climb	FLXX	Flight Level XX, this is 100 times the given number. (FL250 = 25000' MSL)
Takeoff & Climb	MSL	Mean Sea Level, the measure of how high the aircraft is above sea level (this is what is displayed as altitude)
Takeoff & Climb	Step Climbs	Minor altitude changes (1K - 4k) that increase fuel efficiency as the aircraft becomes lighter
Descent & Landing	ILS	Instrument Landing System, includes two parts: The glideslope (G/S) and the localizer (LOC). The combination of both of them guide aircraft down to a RWY.
Descent & Landing	GPS	Global Positioning System, uses a series of waypoints and altitudes to guide aircraft to a RWY.

Descent & Landing	VIS	Visual Approach, a pilot uses their own eyes to guide the aircraft to the runway. These are usually backed up by GPS waypoints.
Descent & Landing	Report Position message	Reporting the positioning of the aircraft relative to the runway.
Descent & Landing	Base	Base is the turn that occurs when the runway is only one turn away from the runway. The base leg is in between downwind and final. Right base means the RWY is to the pilots right side.
Descent & Landing	Final	When the runway is straight in front of the aircraft.
Descent & Landing	Downwind(DW)	The pattern leg that is parallel to the RWY. Right downwind(RDW) means that the RWY is on the pilot's right side, left downwind(LDW) means the opposite. 
Post Flight	PIREP	Pilot Report. This is the way for a pilot to log their flight and collect flight hours.