



# A Hop, Skip and a Jump – Crossing the North Atlantic by Commercial Airliner

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A BEHIND THE SCENES LOOK AT WHAT  
TRANSATLANTIC FLIGHT OPERATIONS AND  
PLANNING

# A Brief Overview of Today's Presentation

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1. The aircraft and constraints
2. Weather – Depart and Dest Locations
3. International Flight Plans
4. The Jetstream
5. The North Atlantic Tracks – Alpha or Foxtrot
6. Molson/Guinness Line – Gander and Shanwick
7. Loading the Aircraft – Fuel, Cargo and Pax
8. The different phases of flight
9. Departure, Enroute and Arrival Procedures
10. After Landing Checklists and Snags
11. Lessons Learned
12. Fifteen Travel Tips for Passengers
13. Q & A – Your Questions Answered

# An International Flight Plan Form

ICAO Laws require airlines to file a flight plan with all the air traffic control centers along the intended flight path. This is filed electronically and must be approved by every member state that the aircraft intends to overfly.

NAV CANADA CANADIAN FLIGHT PLAN AND FLIGHT ITINERARY PLAN DE VOL ET ITINÉRAIRE DE VOL CANADIEN ICAO FLIGHT PLAN PLAN DE VOL OAD

PRIORITY / PRIORITE: << C >> **PP** →

PLANNING TIME / HEURE DE DÉPART: \_\_\_\_\_ ORIGINATOR / ÉMETTEUR: \_\_\_\_\_ << C >>

SPECIFIC IDENTIFICATION OF ADDRESS(S) / INDIC OPERATOR / IDENTIFICATION PRÉCISE DU(S) DESTINATAIRE(S) ET/OU DE L'ÉMETTEUR: \_\_\_\_\_

3 MESSAGE TYPE / TYPE DE MESSAGE: **PP** (PPL) AIRCRAFT IDENTIFICATION / IDENTIFICATION DE L'AVION: \_\_\_\_\_ FLIGHT RULES / RÈGLES DE VOL: \_\_\_\_\_ TYPE OF FLIGHT / TYPE DE VOL: \_\_\_\_\_ << C >>

4 NUMBER / NUMÉRO: \_\_\_\_\_ AIRCRAFT TYPE / TYPE DE L'AVION: \_\_\_\_\_ WT. OR TURBULENCE CRT. / PDS. OU TURBULENCE CRIT.: \_\_\_\_\_ EQUIPMENT / ÉQUIPEMENT: \_\_\_\_\_ << C >>

13 DEPARTURE AERODROME / AÉRODROME DE DÉPART: \_\_\_\_\_ TIME / HEURE: \_\_\_\_\_ << C >>

15 CRUISING SPEED / VITESSE DE CRUISE: \_\_\_\_\_ ALTITUDE / NIVEAU / HAUTEUR: \_\_\_\_\_ ROUTE / ROUTE: \_\_\_\_\_ << C >>

16 DESTINATION / DESTINATION: \_\_\_\_\_ TOTAL SET / BUREAU DESTINÉ: \_\_\_\_\_ NAV: \_\_\_\_\_ ALTN AERODROME / AÉRODROME DE SOUS-ACCÈS: \_\_\_\_\_ << C >>

18 SURVIVAL INFORMATION / ÉQUIPEMENT DE SURVIE: \_\_\_\_\_ EMERGENCY RADIO / FRÉQ. DE SECOURS: \_\_\_\_\_ << C >>

19 CREW / ÉQUIPE: \_\_\_\_\_ << C >>

20 REMARKS / REMARQUES: \_\_\_\_\_ << C >>

21 AS ARRIVAL REPORT WILL BE FILED WITH ICAO / COMPTES RENDUS DÉPOSÉS SOUS NOMBRE À: \_\_\_\_\_ << C >>

22 COMPANY AND ADDRESS OF PERSONNEL TO CONTACT / SOCIÉTÉ, ADRESSE ET PERSONNEL À CONTACTER: \_\_\_\_\_ << C >>

23 PILOTS COMMAND / PILOTS COMMANDANT DE BORD: \_\_\_\_\_ << C >>

FILED BY / DÉPOSÉ PAR: \_\_\_\_\_ SPACE RESERVED FOR ADDITIONAL REQUIREMENTS / ESPACE RÉSERVÉ À DES FINS SUPPLÉMENTAIRES: \_\_\_\_\_

NUMER IN (2000-01)

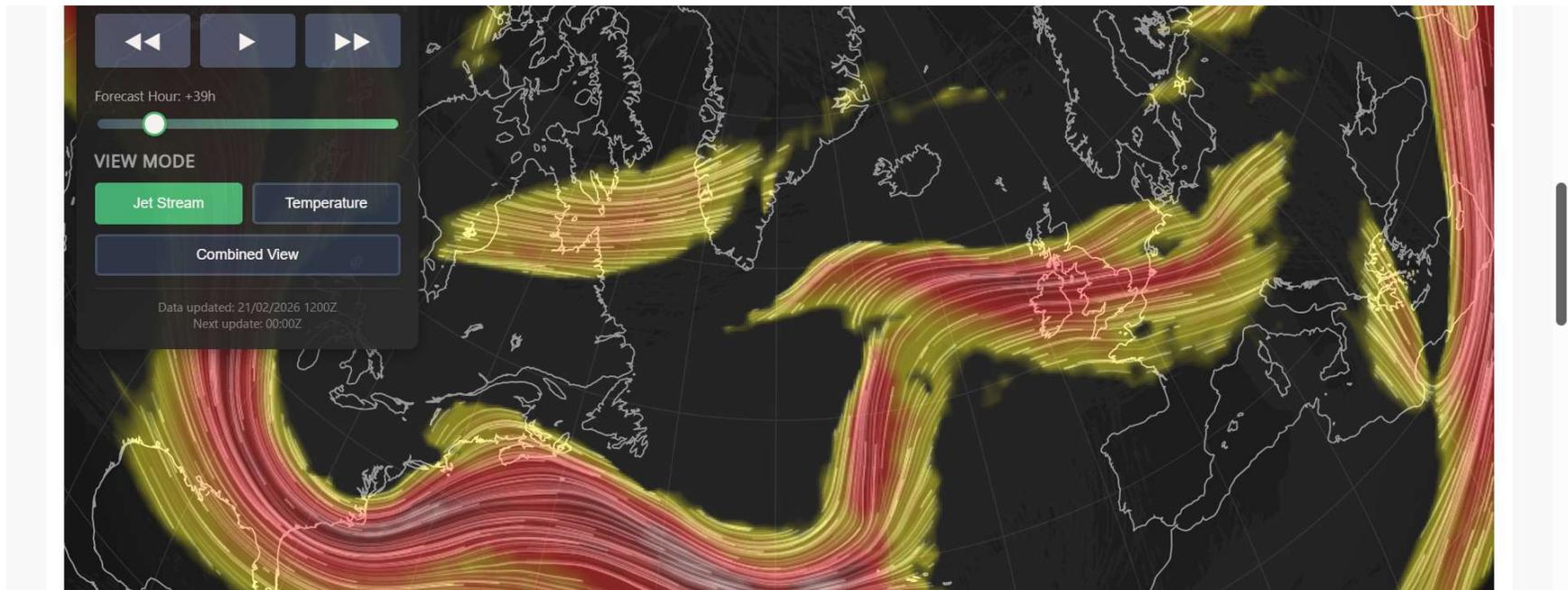


# Toronto, Canada to London, England

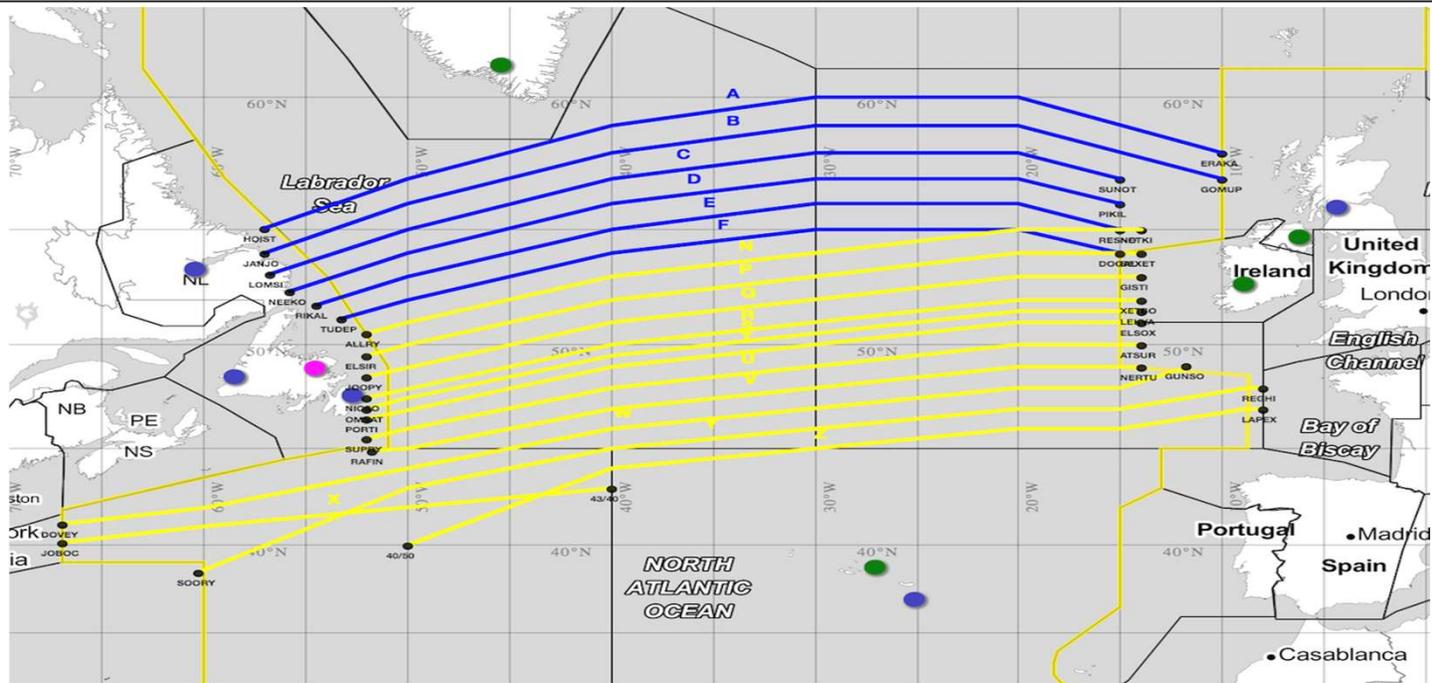
A brief Overview of the work that goes on behind the scenes for a commercial transatlantic flight.

# February 23 2026 – Jet Stream

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# Today's Published NATS



Change Search Parameters

**BOEING 777-300**  
Range: 11140.00 km | 513.00 kts, 950 kmh

**LONDON HEATHROW AIRP...**  
51°28'14"N, 0°27'42"W **EGLL | LHR**

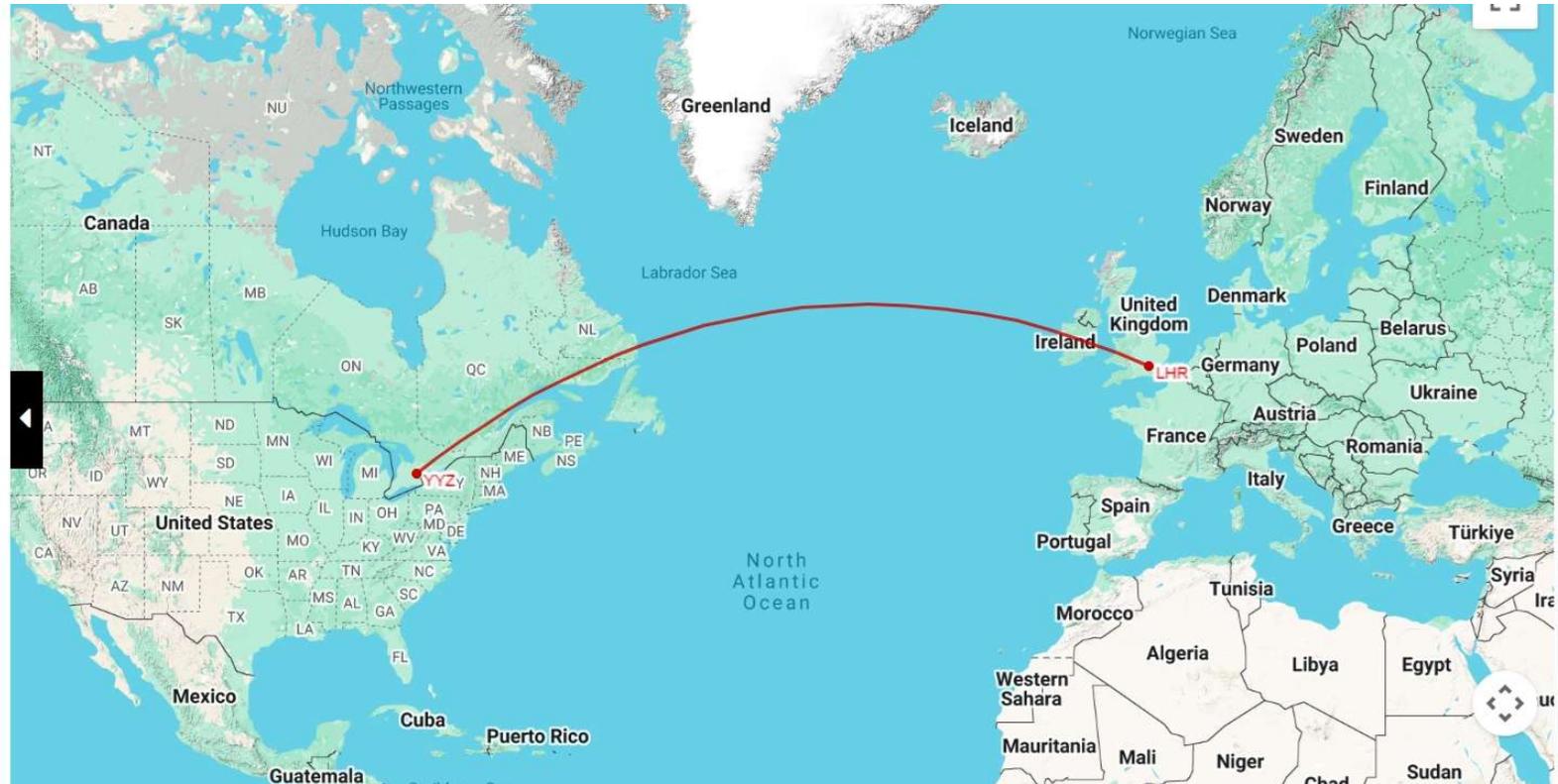
Distance: 3090 nm, 5723 km  
Heading: 295° (WNW)  
Travel Time: 6:21 h

Scheduled Flights: American Airlines, Air Canada, British Airways, bmi, Lufthansa, SriLankan Airlines

**LESTER B. PEARSON IN...** **CYYZ | YYZ**  
43°40'37"N, 79°37'50"W

Distance: **3090 nm, 5723 km**  
Travel Time: **6:21 h**

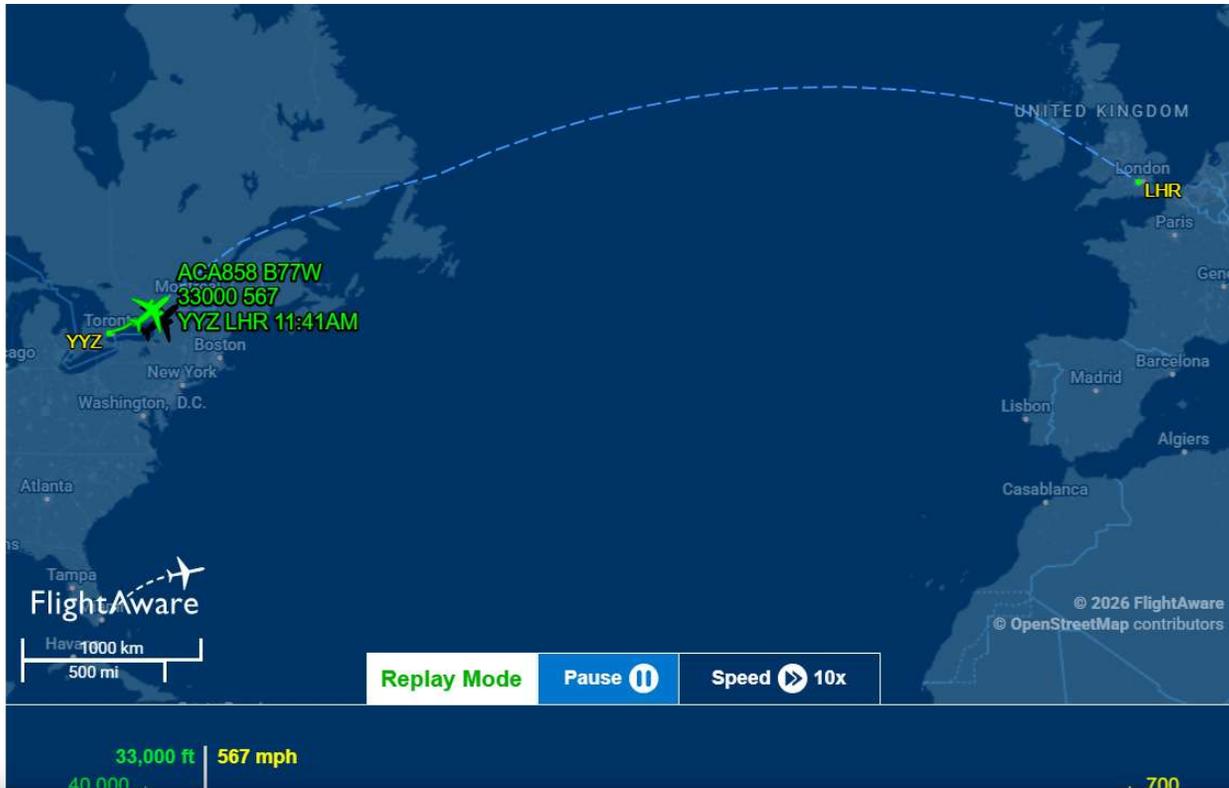
**SUPPORT THE PROJECT!**  
Your premium account comes with [unlimited map views](#) and [no ads](#).



# The Great Circle Flight Path From YYZ-HLR

This is the theoretical shortest distance between Toronto, Canada and London England





**Speed** 568 mph (Planned: 552 mph) [graph](#)

**Altitude** 28,800 ft (Planned: 33,000 ft) [graph](#)

**Distance** Direct: 3,550 mi

**Route** VERDO7 IPTOS Q921 AGLUK AN CER N649B RIKAL NATU PIKIL NATU SOVED NIBOG NIPIT BOFUM Q37 MALUD Q38 NUGRA NUGRA2H [decode](#)

Top BOEING 777-300ER (Twin-Jet) Photos

[view.all.photos](#)

[Report inaccuracies on this page](#)

# February 23, 2026 – ACA Flight 858

N.B. – The Direct Distance is 3550 miles – While the Great Circle Distance is 3090 miles. An additional 460 miles. This results in an additional flight time of an extra 50 minutes. Actual flight time of 6 hours and 15 minutes.

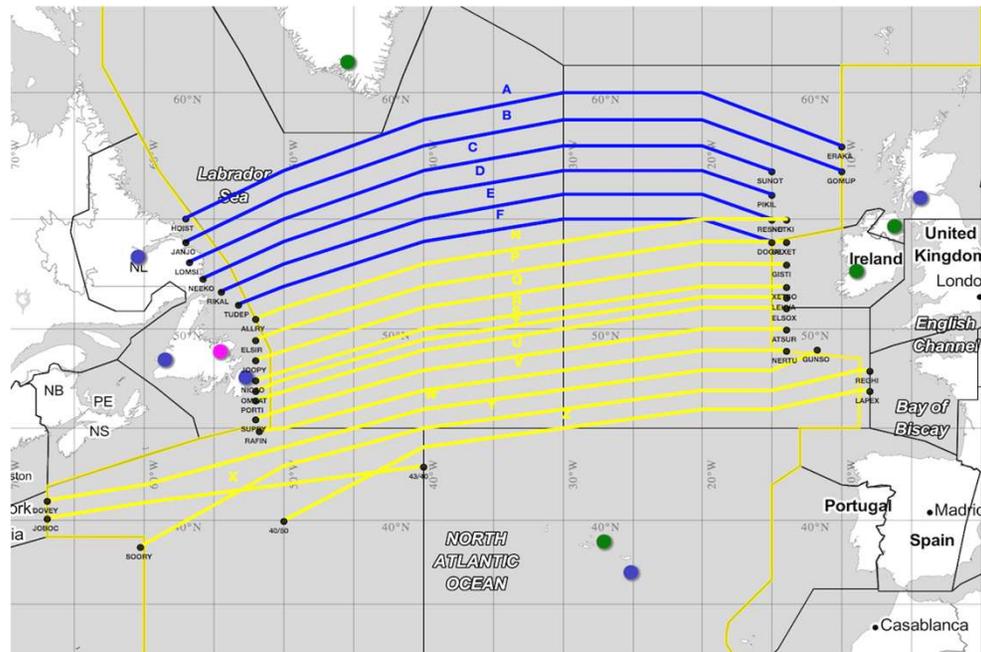
*“ Dans les champs de l’observation le hazard ne favorise que les esprits prepares.”*

*“In the fields of observation, chance favours only the prepared mind.”*

- LOUIS PASTEUR

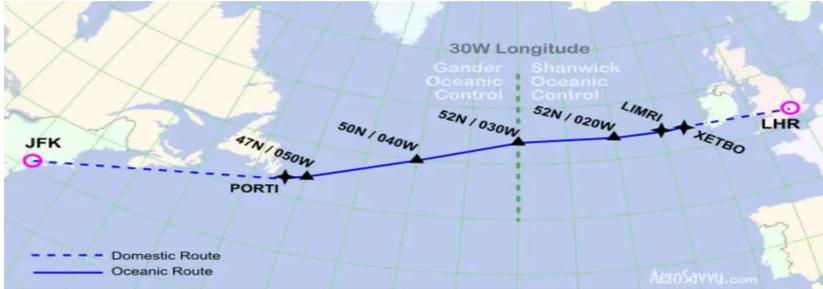
# The North Atlantic Tracks - NATS

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# The Molson/Guinness Line

traffic congestion, we'll be assigned a different track than we requested. If that happens, we'll reprogram our navigation system with the new route and be on our way.



The map displays flight tracks from JFK to LHR. A dashed blue line represents the Domestic Route, and a solid blue line represents the Oceanic Route. The Oceanic Route includes waypoints PORTI, LIMRI, and XETBO. A vertical dashed line at 30W Longitude separates the Gander Oceanic Control area to the west and the Shanwick Oceanic Control area to the east. Altitudes are marked along the Oceanic Route: 47N / 050W, 50N / 040W, 52N / 030W, and 52N / 020W. The Aerovvy.com logo is visible in the bottom right corner of the map.

**Eastbound Track Uniform for 09-Feb-2016**

**Time to Get a (Partial) Route Clearance**

About 30 minutes before a flight departs, the crew contacts air traffic control to receive a route clearance. For most domestic and trans-Pacific flights, ATC issues the crew a complete route from start

**0200z: Aircraft approaching the North Atlantic Track system in an orderly fashion.**



## Traffic Jam in the skies

Hundreds of eastbound flights from North America bound for Europe converge on entry points of the North Atlantic Track System (NATS) every evening.

# Aircraft Fueling

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# How much fuel do we need?

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Calculating the fuel load is a combination of six distinct categories of fuel:

1. Taxi Fuel
2. Trip Fuel
3. Contingency Fuel (5% )
4. Alternate Fuel – Two Alternates
5. Minimum Reserve Fuel
6. Captain's Discretionary Fuel

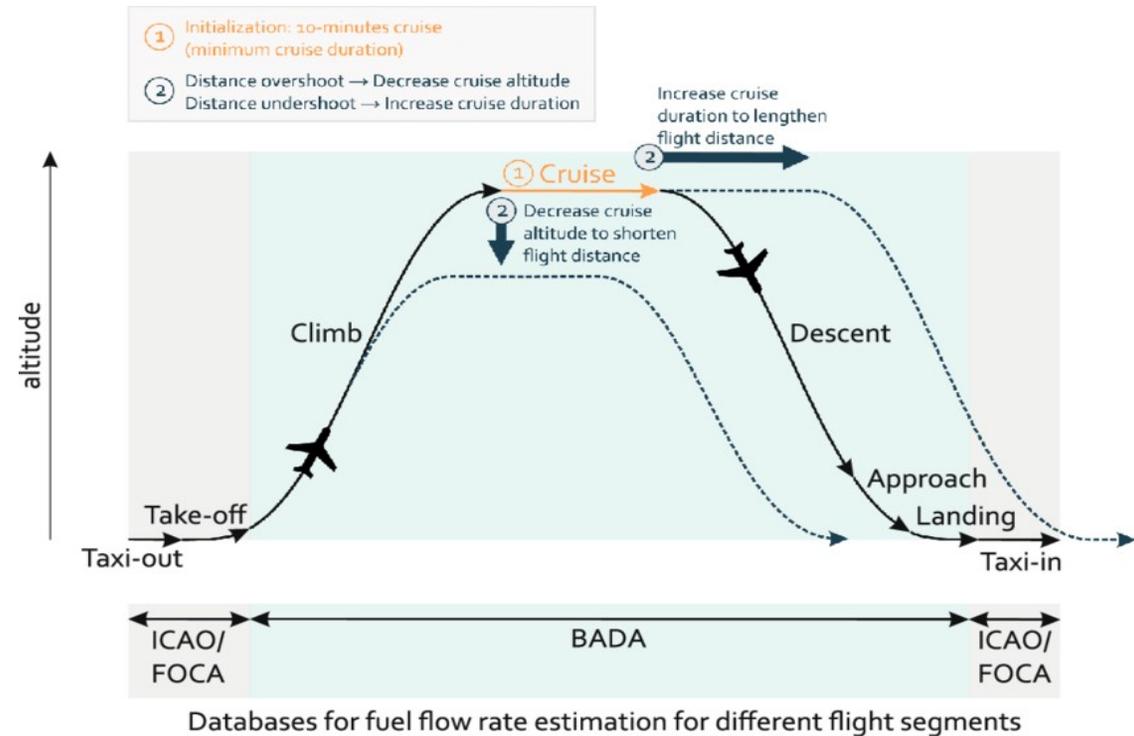
# Luggage and Air Freight

A limited amount of baggage is part of normal civilian flights. Airlines limit your baggage allowances in order to carry more fuel and air freight. There is more profit from an additional 500 pounds of air freight than from selling 15 economy class plane tickets.



# The Phases of Flight

These are the traditional representation of a “Normal” flight but does not include unusual events like go arounds and diversions.



# **Cleared for Takeoff – Not so fast!**

## **Departure, Enroute and Arrival Procedures**

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1. Flight Release – Clearance Delivery
2. Push Back – Give me a Tug/Tow please
3. Permission - Engine Start
4. Ground Controller – Taxi to Active
5. Clearance for takeoff
6. Departure Controller
7. Enroute controllers
8. NATS – Track Assignment - Gander
9. Mid Flight Reporting – HF and ACARS, SLOP's, RVSM, Automated Telemetry via satellite uplink – Air Data Computer
9. Shanwick – Controller
10. Arrival Controller
11. Approach controller – 100 miles
12. Tower Controller

# 15 Travel Tips for Airline Passengers

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1. Stay Hydrated
2. Avoid Alcohol and Coffee/Tea
3. Move around – Avoid DVT's
4. Manage the desert
5. Buckle Up – CAT and rough air
6. Pre-Order your meal
7. Luggage Tethers/Identification
8. Luggage vs \$, Checklists
9. Seat Selection – The Best Seats
10. Air Crew Interference – Air Law
11. Hypoxia – What it is and why it happens
12. Cabin Altitude and Relative Humidity
13. Cabin Carry-Ons
14. What can be onboard and restrictions
15. Normal sounds during flight

# Lessons Learned: After landing reports and snags

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1. Recording Airtime, Flight Time and Block Time.

2. Fuel Burn, Fuel in tanks, Actual vs. Projected

3. Technical Log – MEL reporting and maintenance reports

4. Crew Scheduling and hours of service.

5. Incident Reports – Passenger illness, Passenger interference - diversion, Bird Strikes, FOD etc