



IFR FLIGHT BRIEFING

1. Introduction

This IFR flight briefing presentation has been made concise and simple in order to easily handle the IFR flight preparation.

As IVAO, in a simulated area, is different from real aviation, this briefing is not exactly the real briefing expected in real aviation. The procedure is just simplified using only the major elements.

Pay attention that this document presents the conditions for a domestic IFR flight of about 300NM. Overseas flights and flights to isolated airfields are not covered by this document.

2. Goal

The briefing shall be presented using the same order each time using a logical progress compared to the flight to be flown.

Pay attention that the flight briefing shall answer the question: Is the flight possible? If yes, which conditions can validate or invalidate this flight?

All subjects presented contain some theoretical knowledge and this basis shall be known and understood by the pilot. This basis is the source for creating some questions for the theoretical part of exams, asked by your examiner.

These are the subjects to be considered for a domestic IFR flight:

- Aircraft presentation
- Flight route presentation and procedures expected to be flown
- Full weather report for the prepared flight
- Fuel consumption plan
- Aircraft weight
- Take-off conditions
- Landing conditions
- Other subjects

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3. Briefing

The examples given are just for information. They are not extracted from a realistic flight. You must find your own parameters.

3.1. Aircraft description

This item's goal is to list the aircraft parameters used for this flight:

Aircraft ICAO type	B734
Aircraft manufacturer	Boeing
Aircraft manufacturer type	737-400
Number of engines	2
Type of engines	Jet
Aircraft empty weight	33650 kg or 74185 lbs
Aircraft wake turbulence	Medium
Aircraft landing category letter	C
ICAO defined equipment on board and used	ABCDEFGHIJKLMNOPQRSTUVWXYZ

3.2. Flight Route presentation

This item's goal is to list the flight route planned for this flight:

Departure ICAO airfield	CYUL
Arrival ICAO airfield	KORD
Route to be flown	YUL Q824 FNT
Route validation	PASS
Expected Cruise flight level(s)	FL240
Expected instrument mandatory for the route	WXY
Expected take-off time	13:45UTC
Expected departure runway (pilot plan)	10
Expected departure runway length	2800m
Expected departure procedure	TRUDO2
Expected en-route time	03h23min
Expected arrival procedure	PAITN4 entry FNT
Expected flight level starting arrival procedure	FL200
Expected IAF	ORD
Expected flight level or altitude at IAF	5000ft
Expected IAF time	17:08UTC
Expected MSA in sector	3100ft
Expected landing runway	18R
Expected landing runway length	2600m
Expected Final Approach procedure	ILS-Y RWY 18R
Alternate Final approach procedure	VOR-Z RWY 18R
Expected landing time	17:23UTC

Do not forget to check before the flight:

- Route restrictions (MEA, specific altitude restriction)
- Mix of airway types during the beginning or end of the flight (Upper or lower routes)
- GRID MORA
- Restricted or prohibited areas to avoid

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3.3. Alternate airfield selection

An alternate airfield shall be planned for some unexpected event during the flight.

As pilot in command, you must be prepared for rerouting or proceed with no hesitation to the alternate airfield when facing aircraft pan or distress conditions.

alternate airfield after take off	CYOW after 10NM from CYUL
Procedure to be flown to reach alternate	Climb 7000ft direct ORE VOR
Minimum flight altitude (MEA, MSA)	5000ft until 5DME ORE, then 4000ft
Expected runway at alternate	24
Expected Final approach at alternate	ILS-Z RWY 24
Interception altitude	3000ft

Alternate en-route airfield	KOTT
Procedure to be flown to reach alternate	Descent to FL180 inbound TOT VOR
Expected runway at alternate	12
Expected Final approach at alternate	ILS-Z RWY 12
Interception altitude	2500ft

Alternate arrival airfield	KCGX
Distance from arrival and alternate airfield	25NM
Route to be flown to reach alternate	Direct CGX VOR using radial 135° inbound
Minimum flight altitude (MEA, MSA)	4200ft
Expected Speed	220kt
Expected IAF	CGX
Expected En route time (EET)	22min
Expected runway at alternate	18
Expected Final approach at alternate	ILS-Z RWY 18
Interception altitude	3000ft

You can select two alternate arrival airfields in order to have more options at the arrival phase of the flight. The alternate en-route airfield is optional and taken by the pilot in function of the route strategy.

Pay attention that the aircraft category shall be compatible with the type of approach flown and the aircraft is capable to land at any alternate chosen.

3.4. Weather Report

The pilot shall be always aware of the current weather and forecast along his route.

This is mandatory for each part of the flight:

- During flight preparation
- Before departure at the gate
- Along the cruise flight
- Before arrival procedure

There are different types of weather data:

- METAR or SPECI
- TAF
- TEMSI
- SIGMET
- En-route charts

Other sources can be checked such as:

- Satellite Infra-red charts
- Radar charts

Before departure, you should have:

Weather at departure airfield	Get METAR
Forecast weather at departure airfield	Get TAF
Weather at alternate departure airfield	Get METAR
Forecast weather at alternate departure airfield	Get TAF

Weather at arrival airfield	Get METAR
Forecast weather at arrival airfield	Get TAF
Weather at alternate arrival airfield(s)	Get METAR
Forecast weather at alternate arrival airfield(s)	Get TAF

En-route winds	Check high altitude weather charts
En-route weather	Check high altitude weather charts

The en-route weather is optional for the SPP exam, recommended for the CP exam and mandatory for the ATP exam.

After a weather check, the pilot shall get the minimum take-off and landing parameters for his flight:

Minimum Taking-off parameters	Get value from charts
Minimum Landing parameters for visual approach at destination airfield	Get value from charts in case of visual approach manoeuver expected
Minimum Landing parameters for non-precision approach(es) at destination airfield	Get value from charts
Minimum Landing parameters for precision approach (if available) at destination airfield	Get value from charts
Minimum Landing parameters for visual approach at alternate airfield(s)	Get value from charts in case of visual approach manoeuver expected
Minimum Landing parameters for non-precision approach(es) at alternate airfield(s)	Get value from charts
Minimum Landing parameters for precision approach (if available) at alternate airfield(s)	Get value from charts

The pilot shall now compare these weather data with the minimum landing and take-off parameters taken from charts in order to decide if the planned flight is possible:

- Take-off minima and runway for departure
- Landing minima at destination airfield considering the type of approach chosen and landing runway(s)
- Landing minima at alternate airfield(s) considering the type of approach chosen and landing runway(s)
- Departure and arrival procedure selection
- Route selection (if some weather effect forces to modify the route. Example: thunderstorm)

3.5. Fuel consumption plan

The pilot shall calculate the total fuel consumption for his flight. In function of the flight to be performed (type of aircraft and regulation taken), the pilot shall choose the general aviation regulation or commercial transport regulation.

3.5.1. Fuel management for general aviation

Taxi fuel	Estimate the value in function of taxi route
Trip fuel	Calculate the value in function of route
Destination alternate fuel	Calculate the value in function of route to alternate
45min Additional flight time fuel	Calculate the value in function of route to alternate
Discretionary fuel	Estimate the need yourself

This regulation can be taken for SPP flight examinations with a small turboprop aircraft.

3.5.2. Fuel management for commercial transport

Taxi fuel	Estimate the value in function of taxi route
Trip fuel	Calculate the value in function of route
Contingency fuel	Calculate the value in function of trip fuel
Destination alternate fuel	Calculate the value in function of route to alternate
Final reserve fuel	Estimate the value in function of regulation
Additional fuel	Estimate the need yourself
Discretionary fuel	Estimate the need yourself

This regulation is highly recommended for CP flight examinations with a bi-reactor medium aircraft.
This regulation is mandatory for ATP flight examinations.

3.6. Weight of aircraft

The pilot shall make a weight briefing in order to calculate the different expected weight during his flight especially for take-off and landing:

Manufacturer's Empty Weight (MEW)	36,779 kg	Get value from aircraft specification
+ Operator's Items +	+5,202 kg	Estimate the value
= Operational Empty Weight (OEW)	= 41,981 kg	
+ Payload	+ 13,529 kg	Choose a payload for your flight
= Actual Zero Fuel Weight (AZFW)	= 55,510 kg	
+ Fuel	+ 13,239 kg	Get value from fuel management
= Actual Gross Weight (AGW)	= 68,749 kg	
- Taxi Fuel	- 100 kg	Get value from fuel management
= Actual Take-Off Weight (ATOW)	= 68,649 kg	
- Fuel consumption	-10,900 kg	Get value from fuel management
= Actual Landing Weight (ALW)	= 57,749 kg	

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3.7. Take-off parameters

The pilot shall now present the take-off parameters:

Take-off Speed V_1	Calculate the speed
Take-off Speed V_R	Calculate the speed
Take-off Speed V_2	Calculate the speed
Actual Take-off Weight	Get the value from weight calculation
Maximum Take-off Weight	Get the value from aircraft performance sheets
Runway Minimum Take-off length	Calculate the length for take-off
Take-off Wind expected	Get the value from weather briefing

The calculation of runway minimum take-off length is mandatory only for ATP examinations. The take-off speed calculation is mandatory only for ATP examinations. But for SPP and CP examinations, the knowledge of typical or nominal values without calculation (or use of FMC calculation) is mandatory.

After the take-off parameters presentation, the pilot shall decide and explain if the take-off is possible and in which conditions if necessary.

3.8. Landing parameters

The pilot shall now present the landing parameters:

Landing configuration	Give landing configuration chosen
Reference Speed V_{REF}	Give the reference speed
Actual Landing Weight	Get the value from weight calculation
Maximum Landing Weight	Get the value from aircraft performance sheets
Weather impact	Give weather hazard that may have impact on landing
Landing Wind expected	Get the value from weather briefing
Final approach speed	Give the final approach speed chosen
Runway Minimum Landing length	Calculate the length for landing
Check landing pavement strength	Calculate CAN and compare with PCN

After the landing parameters presentation, the pilot shall decide and explain if the landing is possible and in which conditions if necessary.

The calculation of minimum runway lengths for take-off and landing, and the landing pavement strength check is mandatory only for ATP examinations.

3.9. NOTAM

Any flight can include applicable NOTAM for their flight.

As NOTAM are optional in the IVAO network, the pilot has the choice to apply all, partially or no NOTAM constraints to his flight.

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