

FPL CHANGES (IN FLIGHT)

- **TAS:** Varies by ±5%
- **ETA:** More than 2 mins



SEMI CIRCULAR FLIGHT LEVELS

• Based on Magnetic Track



Aerodrome Reference CodeElement 1Element 2Reference Field Length $A \rightarrow F$ 2 $800 \le x \le 1200$ $a \rightarrow b = 1000$

3

4

800≤x<1200	Categorised by wing
1200≤x<1800	span and outer MLG span.
1800≤x	. Paris



• Water – White or white / yellow



Flashing White

• When **150m AGL** and recognition essential **by day**





AIMING POINT + TOUCHDOWN ZONE

- TDZ markings placed at **150 m intervals**
- Aiming point required when **RWY > 800m**
- Aiming point min distance 150 m

RWY Length	1200 m – 1500 m	1500 m – 2400 m	2400 m +
Aiming Point Distance From Threshold	300 m		400 m
# TDZ Markings	3	4	6



AISPACE CLASSIFICATIONS

	IFR – IFR	IFR – VFR	VFR – IFR	VFR – VFR	2 – WAY	CLEARANCE	SPEED
Α	~	1	\checkmark	~	I + V	I + V	
В	✓	1	\checkmark	✓	I + V	I + V	
С	✓	1	\checkmark	Info	I + V	I + V	V
D	~	Info	Info	Info	I + V	I + V	I + V
Е	~	If Able	If Able	If Able	Ι	Ι	I + V
F	If Able				Ι		I + V
G					Ι		I + V

ATC WEATHER REPORTS

WIND COMPONENT CHANGES

- Mean Headwind 10 KTS
- Mean Crosswind 5 KTS
- Mean Tailwind 2 KTS

RVR

• Reported when falls below **1500 m**

INDENTIFYING AIRCRAFT

IDENTIFICATION TURNS

• Heading changes of **30**° or more

MODE C TOLERANCE

- Non RVSM: ± 300 ft
- RVSM: ± 200 ft

DEPARTURE IDENTIFICATION

• Identified **1 nm after departure** with PSR

ROUTINE AIR REPORTS

CONTENTS

1. Position Report

- 2. Operational Information (ETA + Endurance)
- 3. Meteorological Information

ATC DELAYS & SLOTS

EXPECTED APPROACH TIMES

- **Issued:** 10m mins delay / 30 mins holding
- Expeditious Notification: 30 mins or more
- **Revised:** Further 5 min delay or more

CTOT

• - 5 MIN / + 10 MIN



• Parallel runway less than 760m

Within 4 nm – No more than 5s intervals

Must terminate 4nm from touchdown

Max request: ± 20 KTS

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Terminates 2 nm from touchdown

NAV AID SEPARATION	PROCEDURAL DME SEPARATION	FROM OTHER ARRIVALS (STRAIGHT IN APPROACH)		
NAV AID SEPARATION	SAME LEVEL & SAME / CROSSING TRACK	• Can take off in any direction until:		
 Ensured when the aircraft are 15nm from the NAVAID and on radials that differ by: VOR - 15⁰ 	 20 nm – Default 10 nm – Lead aircraft + 20 kts 	 Arriving aircraft is within 5 mins or being overhead the instrument runway 		
 ○ NDB - 30⁰ ○ DR - 45⁰ 	CLIMBING & DESCENDING	• Can take off in a direction that is at leas 45^o different from reciprocal of approach		
• RNAV requires 15° separation with no	• Min 10 nm	until:		
distance requirement		• Arriving aircraft is within 3 mins o		
PROCEDURAL TIME SEPARATION	DEPARTURE SEPARATION	being overhead the instrument runway OR it passes a designated fix		
	FROM OTHER DEPARTURES	FROM OTHER ARRIVALS		
SAME LEVEL & SAME / CROSSING TRACK	• 5 Min – Same Track	(INSTRUMENT APPROACH)		
 15 Mins – Default 10 Mins – Regular Fixes 	 2 Min – Same Track (Lead + 40 Kts) 1 Min – Diverging tracks (≥45⁰) 	• Can take off in any direction until:		
 5 Min – Lead aircraft + 20 Kts 3 Min – Lead aircraft + 40 Kts 		 Arriving aircraft has started in procedure / base turn leading to fina approach 		
CLIMBING & DESCENDING				
• 15 Mins – Default		• Once the turn has commended, can take of in a direction that is at least 45 ° different		

 \circ Arriving aircraft is within 3 mins of being overhead the instrument runway

- **10 Mins** Regular Fixes
- **5 Min** If second aircraft begins level change with 10min of the other aircraft reporting over an exact reporting point.



CHANGEOVER POINTS

• Should be **60 NM apart or more** under normal circumstances.

AIRWAY RNP

- Y 22.5 NM Radius (≥ FL 200)
- Z 15 NM Radius (≤ FL190)



• Greater than **150 m**

• Bevond **15 km** radius of aerodrome

APPROACH SEGMENTS

Arrival - IAF - Initial - IF – Intermediate – FAP – Final - MAP – Missed Approach

MAP SEGMENTS

• Initial

- MAP → Start of climb (SOC)
- $\circ~$ No turns specified

• Intermediate

 \circ SOC → 50 m obstacle clearance

 \circ Max 15⁰ track changes

- $\circ \ \ 30 \ m \ obstacle \ clearance$
- Final
 - \circ 50 m obstacle clearance → initiation of new approach, hold / return to enroute
 - $\circ~$ Turns can be prescribed
 - \circ 50 m obstacle clearance

PROCEDURE TURNS

- The **45**⁰ leg is flown for:
 - **A & B:** 1 Min
 - **C, D & E:** 1 Min 15 sec

TURN CONSTRUCTION BANK ANGLE

Lowest of the below or that bank angle which gives 3^o / second rate of turn

- Departure 15^o till 1,000 ft
- Departure 20^o from 1,000 ft 3,000 ft
- Departure 25^o above 3,000 ft
- Initial Approach 25⁰
- Missed Approach 15⁰
- Visual Maneuvering 25⁰
- Circling 20⁰

A pilot reaction time of **0** – **3 seconds** is used

WHEELS TO ANTENNA DISTANCE

- Helicopters 3 m
- Aircraft 6 / 7 / 8 m (CAT dependent)

GLIDESLOPE INTERCEPTION

- 3 10 nm
- 1,000 ft -> 3,000 ft

DEAD RECKONING INTERCEPTION

- 45⁰ Intersection
- Max 10 NM

DESCENT GRADIENT

- **Optimum** 5.2%
- **Maximum** 6.5%

ROUTE WIDTHS

- **Airways** ± 10 NM
- **SID / STARS** ± 5 NM



Figure I-6-1-2. Entry sectors



SEEK AME ADVICE (EASA)

- Surgical operation / invasive procedure
- **Regular** use of any medication
- Significant personal injury
- Significant illness
- Pregnant
- Admitted to hospital / medical clinic
- First use of corrective lenses

SEARCH AND RESCUE

DROPABLE PACKAGES

- Red Medical
- Blue Food & Water
- **Yellow** Blankets & Protective Equipment
- Black Miscellaneous

DIVERSION NOTIFICATION

• Advise original destination within 30 MIN of the original ETA.

PHASES

- **INCERFA** Uncertainty
 - No comms for 30 mins
 - $\circ~$ No landing within 30 mins of ETA
- ALERFA Alert
 - Apprehension exists
 - No land + no comms within 5 mins of ETA after being cleared to land
 - Suspected hijack
- **DETRESFA** Distress

No.	Message	Code symbol
1	Require assistance	
2	Require medical assistance	×
3	No or negative	N
4	Yes or Affirmative	Y
5	Proceeding in this direction	1

GROUND - AIR SIGNALS

GROUND - AIR RESCUE UNIT SIGNALS

No.	Message	Code symbol
1	Operation completed	LLL
2	We have found all personnel	
3	We have found only some personnel	++
4	We are unable to continue. Returning to base	$\times \times$
5	Have divided into two groups. Each proceeding in direction indicated	4
6	Information received that aircraft is in this direction	$\rightarrow \rightarrow$
7	Nothing found. Will continue to search	NN







CONVENTIONS

- Montreal Acts of violence
- **Rome** Compensation due damage to third parties on surface by foreign aircraft. 2 years claims limit.
- **Tokyo** Offences again penal law
- Paris Non scheduled ECAC flights
- Warsaw Pax, baggage and freight

- 2 Rules of the Air (2 aircraft colliding)
- 3 Met (Three-zing)
- 4 Aeronautical Charts (4 folds)
- 5 Units of measurement (5 fingers)
- 6 Operation of Aircraft (6 fingers op)
- 7 Registration Marks (7 digit plate)
- 8 Airworthiness (Aint flying)
- 9 Facilitation (Nein = No *entry*)
- 10 Telecommunication (Phone)
- 11 ATS (1-1 Comms)
- 12 Search & Rescue (RAF home time)
- 13 Accident Investigation (Unlucky)
- 14 Aerodromes (One for everyone)
- **15 AIS** (A 1 5)
- 16 Environmental Protection
- 17 Security (Keep car secure)
- 18 Safe Transport of DG (Drinking)