

# Tentative Agenda



	9:00-10:30 (90mins)	10:45-12:00 (90mins)	Lunch	13:20-14:50 (90mins)	15:00-16:30 (90mins)
<b>Day1 Monday</b>	<b>Registration &amp; Introduction</b>	<b>Review of Pre-course Assignment</b>		<b>General Overview -Aircraft Classification -MOC</b>	<b>Speed Conversion* &amp; Turn Calculation*</b>
<b>Day2 Tuesday</b>	<b>Wind Effect &amp; Turn Parameters</b>	<b>Wind Effect* &amp; Turn Parameters*</b>		<b>Fix Tolerance</b>	<b>Fix Tolerance</b>
<b>Day3 Wednesday</b>	<b>NPA -General Criteria Initial Segment</b>	<b>NPA Initial Segment*</b>		<b>NPA Intermediate Segment</b>	<b>NPA Intermediate Segment*</b>
<b>Day4 Thursday</b>	<b>NPA Final Segment</b>	<b>NPA Final Segment* OCA/H*</b>		<b>NPA Final Segment* OCA/H* NPA VSS</b>	<b>NPA Final Segment* OCA/H* NPA VSS</b>
<b>Day5 Friday</b>	<b>Missed Approach -Initial Phase</b>	<b>Missed Approach -Intermediate Phase -Turning MAP</b>		<b>Missed Approach -Intermediate Phase -Turning MAP</b>	<b>Missed Approach -Intermediate Phase* -Turning MAP</b>

**Notes:**

1. All scheduling is in Beijing time(UTC+8).
2. Topics with \* will be followed by a short practical exercise.
3. Each presentation is followed by a 10-minute Q&A session.



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**  
A United Nations Specialized Agency



# Pans-Ops Procedure Design Initial Course

**ICAO APAC FPP Office – Beijing, China**

(15 June ~ 10 July 2026)





# NPA MISSED APPROACH PROCEDURE

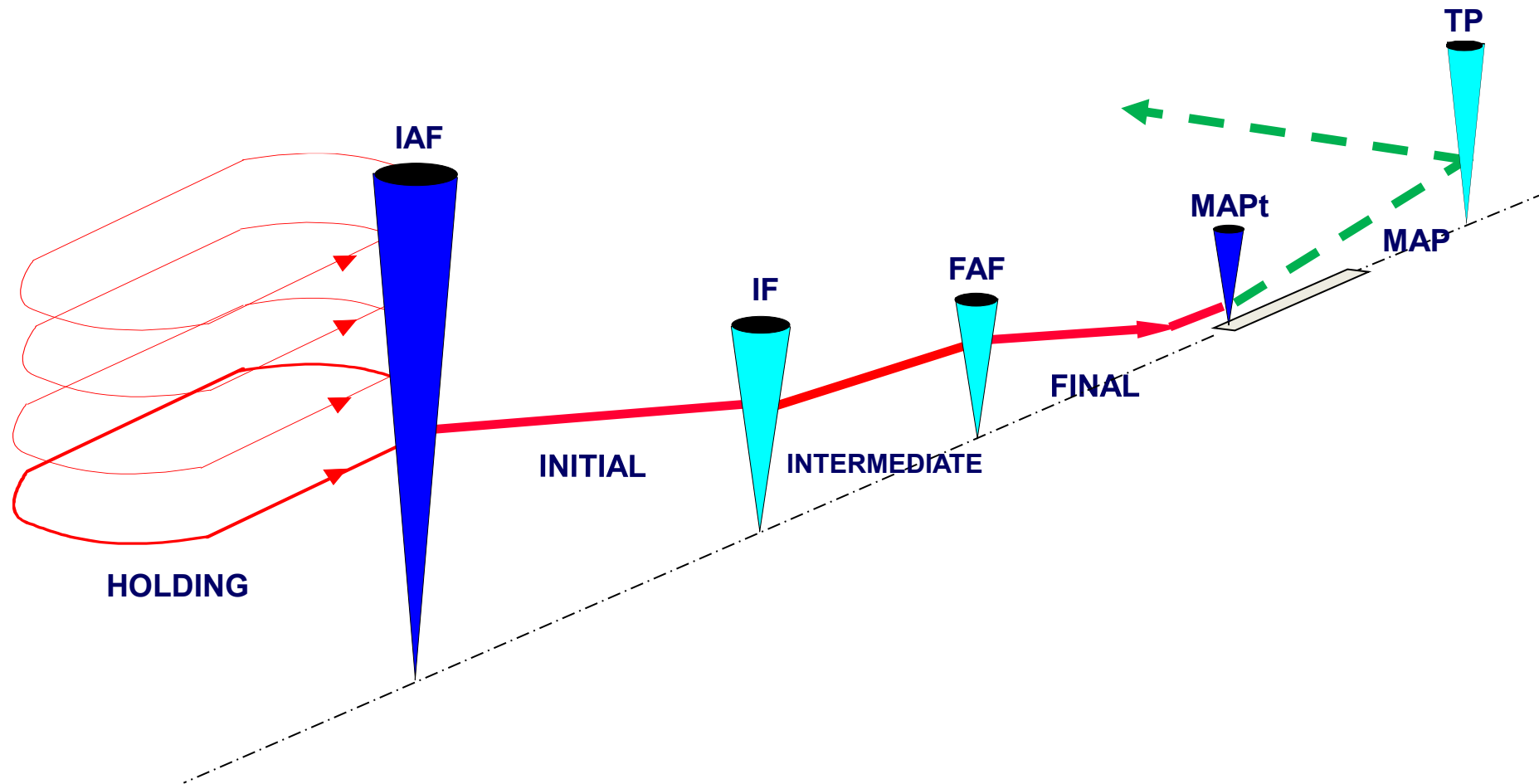
## Initial Phase

# PURPOSE



- To fly along a safe path in case of an unsuccessful attempt for an approach to land and in order to:
  - Join a Holding Pattern
  - Initiate another approach
  - Fly to an en-route point

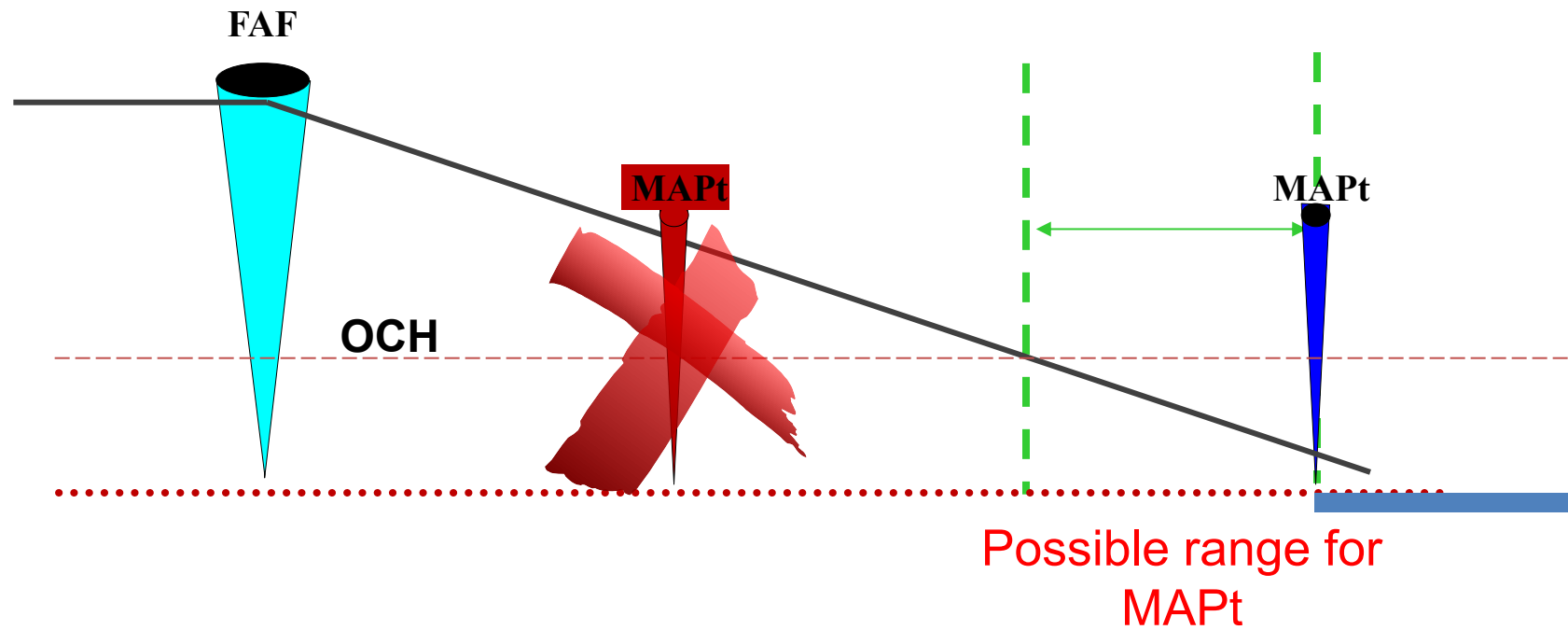
# OVERVIEW



# OVERVIEW



## ➤ MAPt Location



# OVERVIEW



- **Straight** MAP: FAT & MAP track differ by  $\leq 15^\circ$  ←
- **Turning** MAP: FAT & MAP track differ by  $> 15^\circ$

## ◆ 3 Phases:

- ◆ Initial Phase – From the Earliest MAPt to the **Start of Climb (SOC)**
- ◆ Intermediate Phase – Period of **straight** stable climb with 30m/98' MOC
- ◆ Final Phase – Begins when 50m/164' MOC is achieved or a Turn is specified; and ends at e.g. Holding Fix

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## ◆ 3 Phases:

- ◆ Initial Phase

- ◆ Intermediate Phase

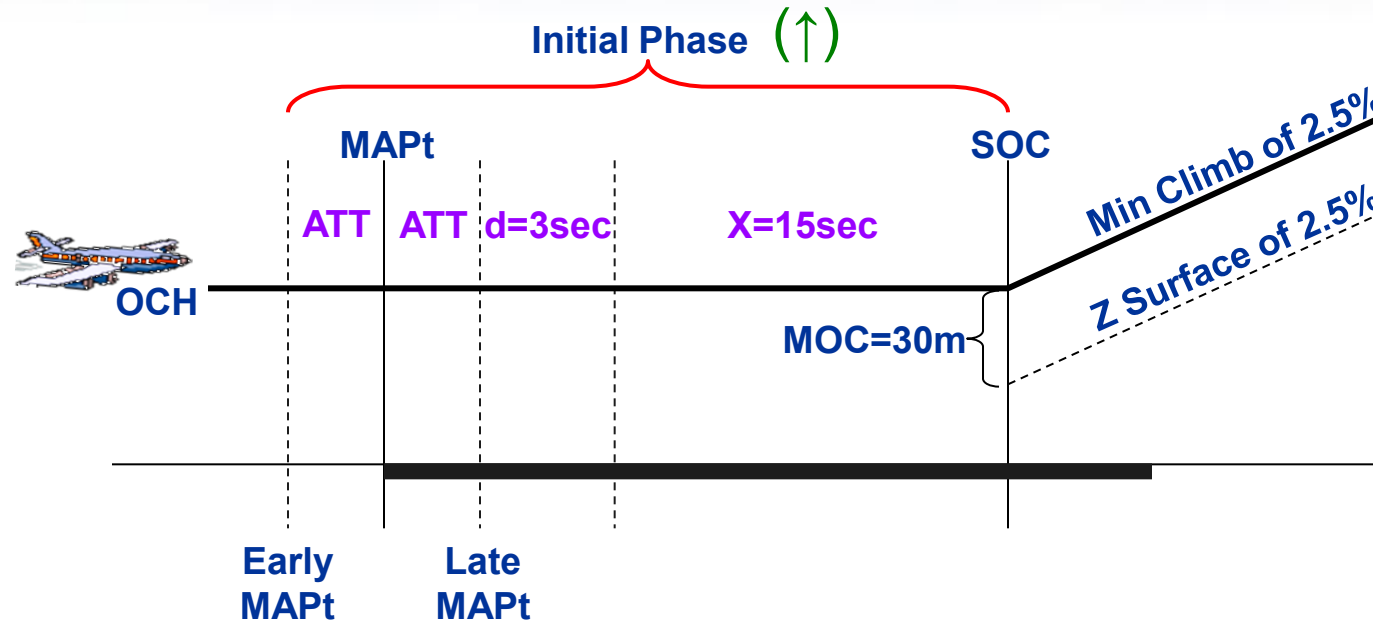
- ◆ Final Phase

# INITIAL PHASE



- It is a **level** transition segment during which the aircraft accelerates and configure to achieve **2.5% climb**
- From: **Early MAPt**
- To: **SOC** (It is **not** a fix and it is **never** displayed on chart)
- 3 Components in the Initial Phase:
  - **Early & Late ATT NAV Tolerance** of the MAPt **(No NAV TOL if the MAPt is over a facility)**
  - Pilot Reaction (d=**3 sec**)
  - Aircraft Transition (x=**15 sec**)

# INITIAL PHASE



- Parameters for Calculation:
  - Final Approach IAS converted to TAS at AD EL
  - Plus 10kts Tail Wind



# INITIAL PHASE — EXERCISE 2



- Calculate **MAPt-SOC** for CAT C aircraft with AD EL of 3000'  
Early ATT=0.75NM and Late ATT = 0.66NM:

For the same MAPt in a procedure, MAPt-SOC is different for different CAT of aircraft. But bear in mind that SOC is not a fix and it is never displayed on chart...

- Protection Area :
  - Continuation from guidance on Final Segment
    - No change in track guidance allowed
  - Continuation of final approach protection area
- MOC: MOC of Final Segment



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Let's **F**ocus/**P**ropose/**P**lan  
Together