Infraestructures del Transport Aeri

IFR holding

Xavier Prats

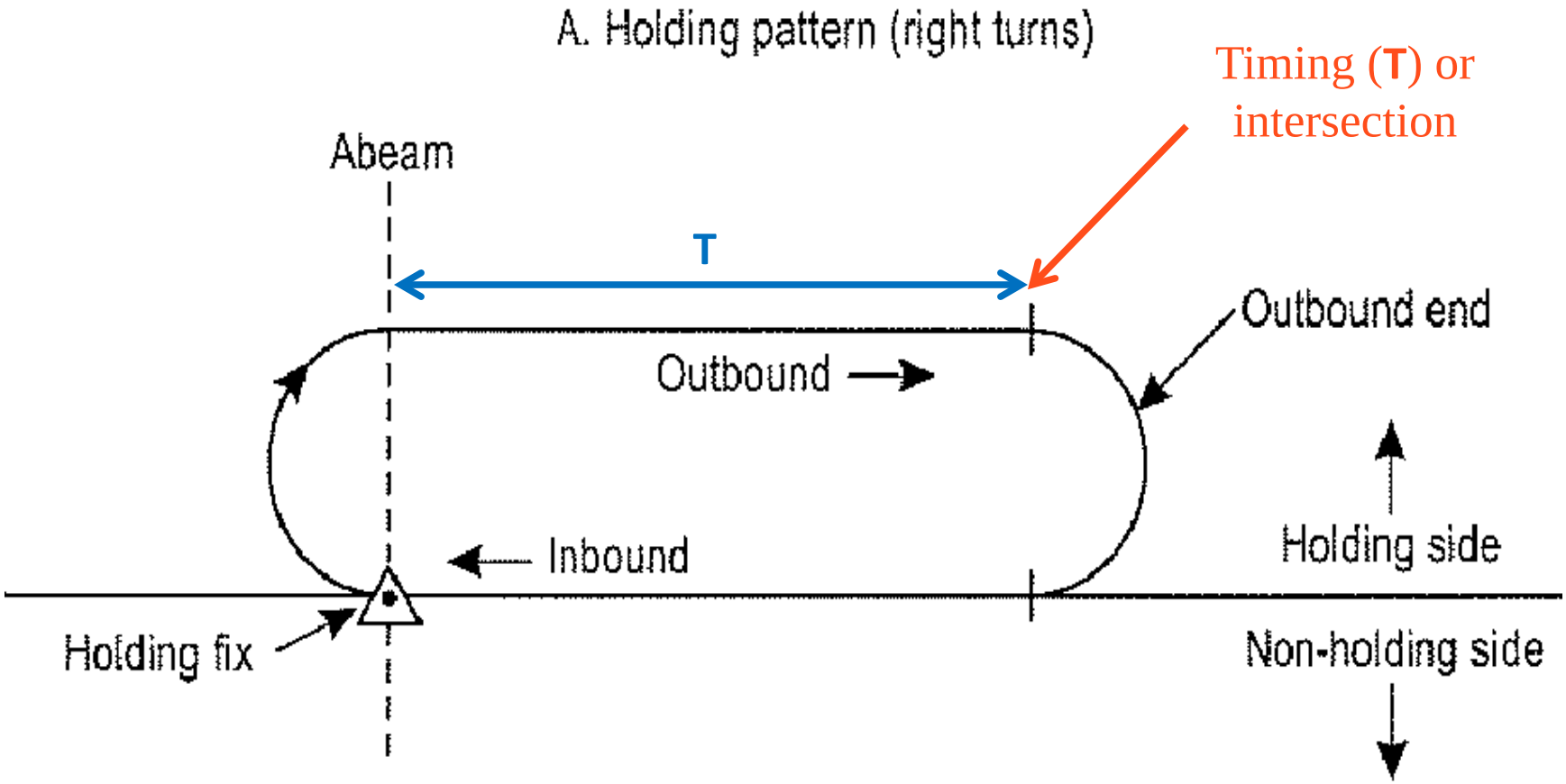
xavier.prats@upc.edu

March 2012 – Version 1.1

Escola d'Enginyeria de Telecomunicació i Aeroespacial de Castelldefels

UNIVERSITAT POLITÈCNICA DE CATALUNYA

Standard Holding Pattern



Standard Holding Pattern

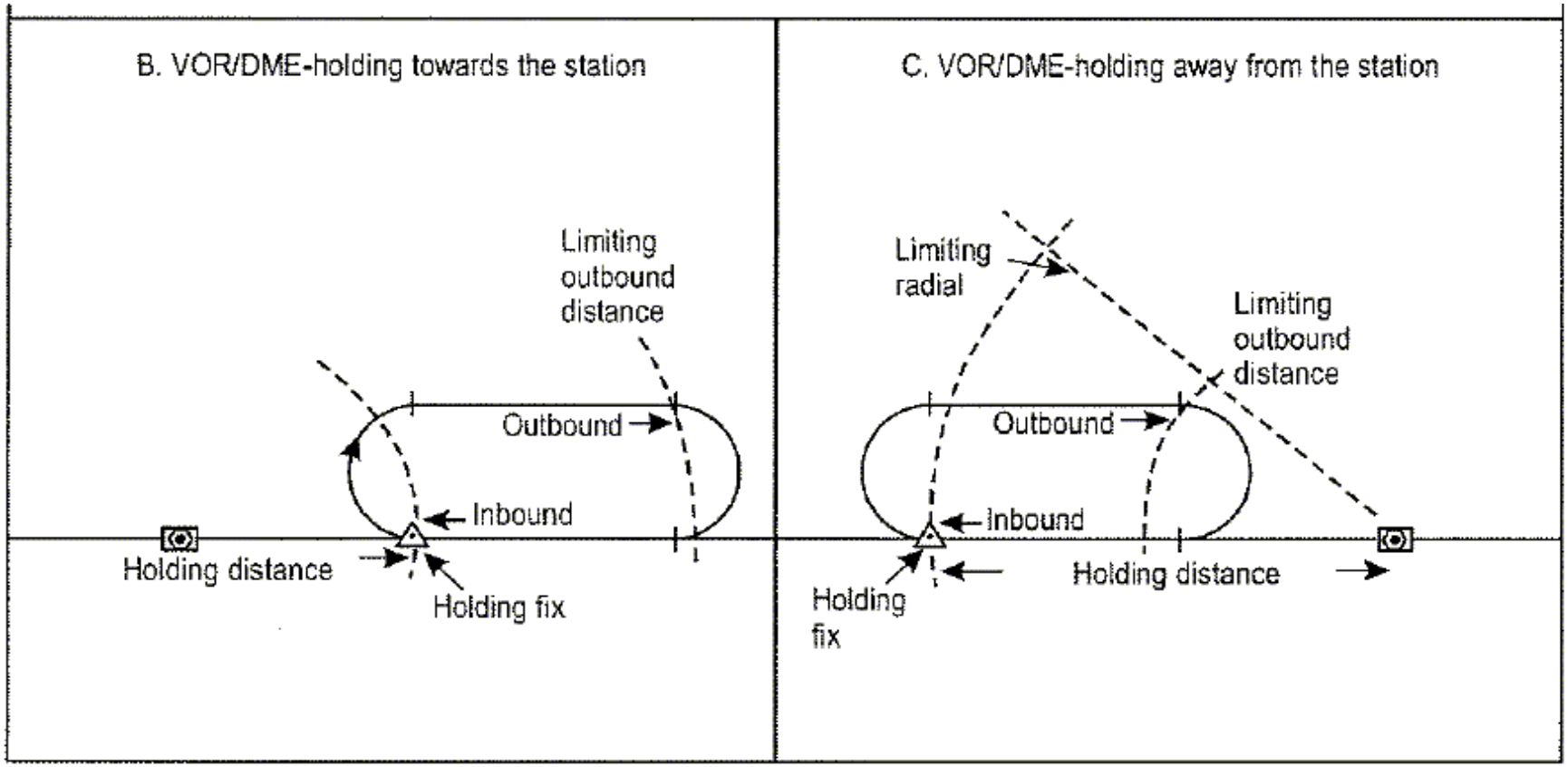


Figure II-4-1-1. Shape and terminology associated with right turns holding pattern

Holding procedure

1- Overfly holding fix with track “close”* to the inbound track

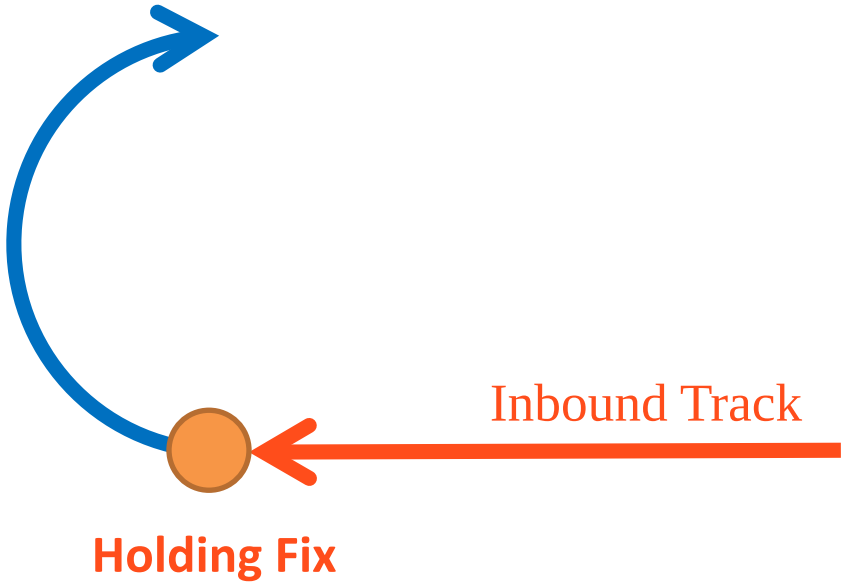
Guided Path

Non-guided Path

* See hold entry procedures at the end of this presentation

Holding procedure

2- Turn* to Outbound Heading at standard turn rate**



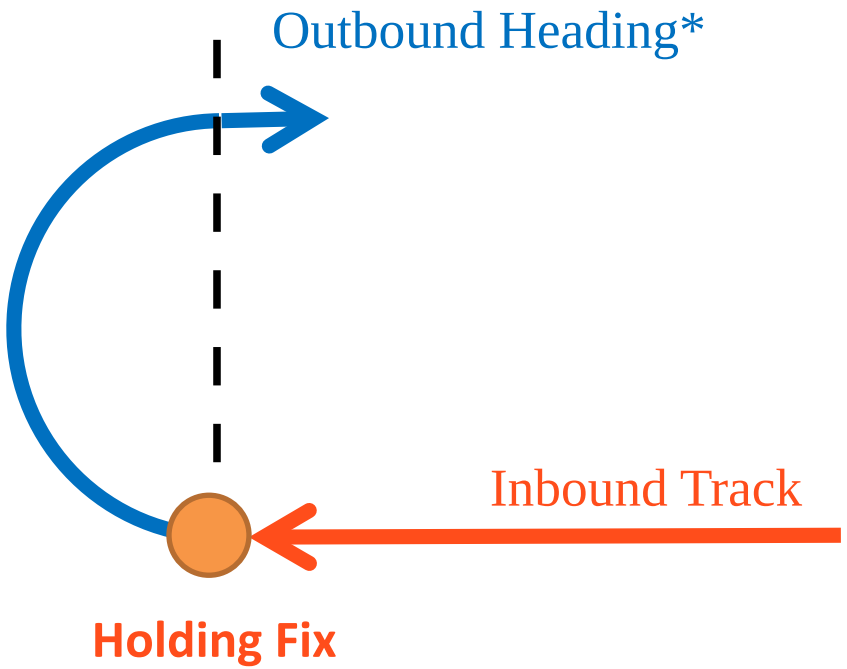
Guided Path

Non-guided Path

* The pilot should estimate appropiate wind corrections when turning
** A 3º/s turn with a maximum bank angle bound of 25º

Holding procedure

3- Outbound timing* (when required) starts **ABEAM the fix** or when reaching the outbound heading (whichever comes later)



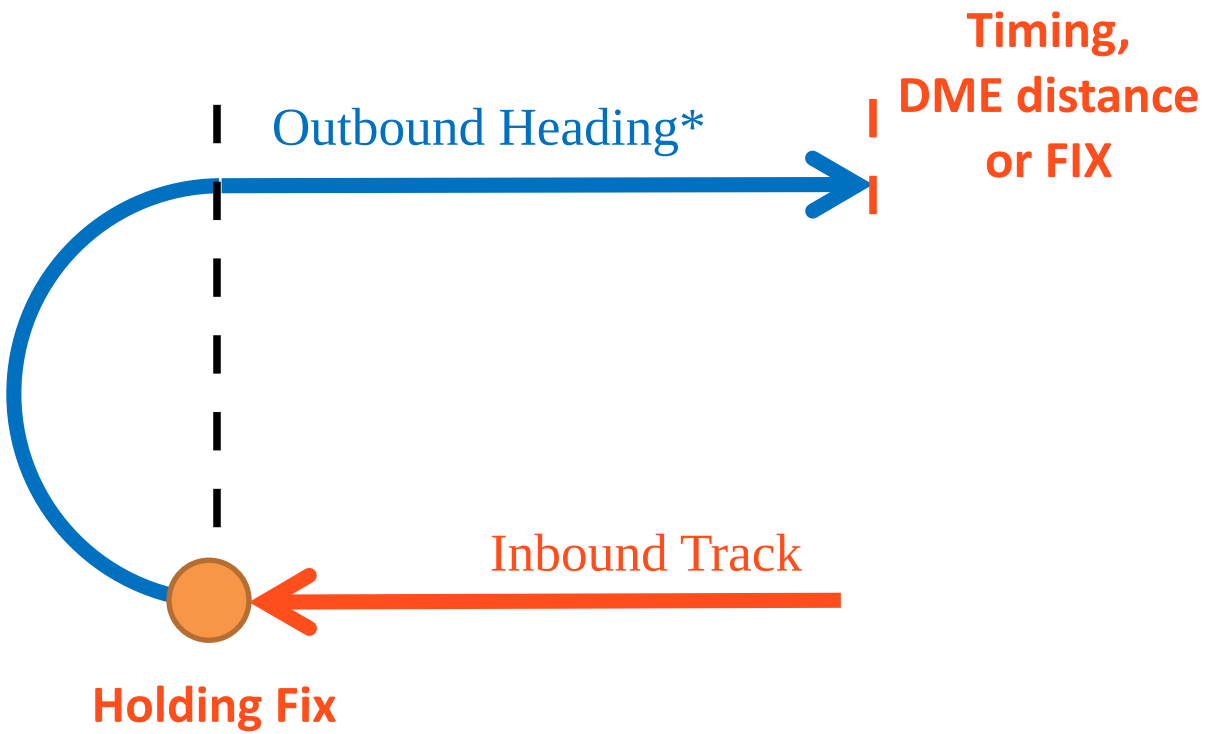
Guided Path

Non-guided Path

* The pilot should estimate appropiate wind corrections in heading and timing

Holding procedure

4- Fly the Outbound Leg*



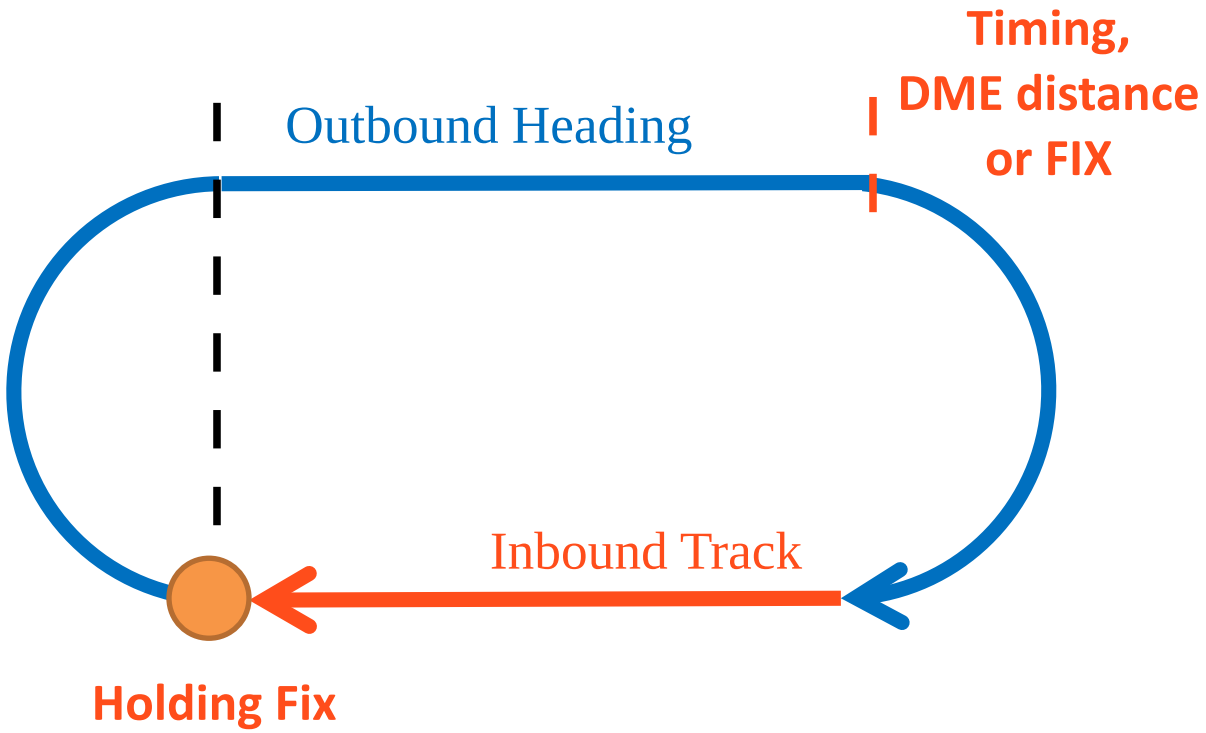
Guided Path

Non-guided Path

* The pilot should estimate appropiate wind corrections in heading

Holding procedure

5- Turn* to intercept Inbound Track at standard turn rate**

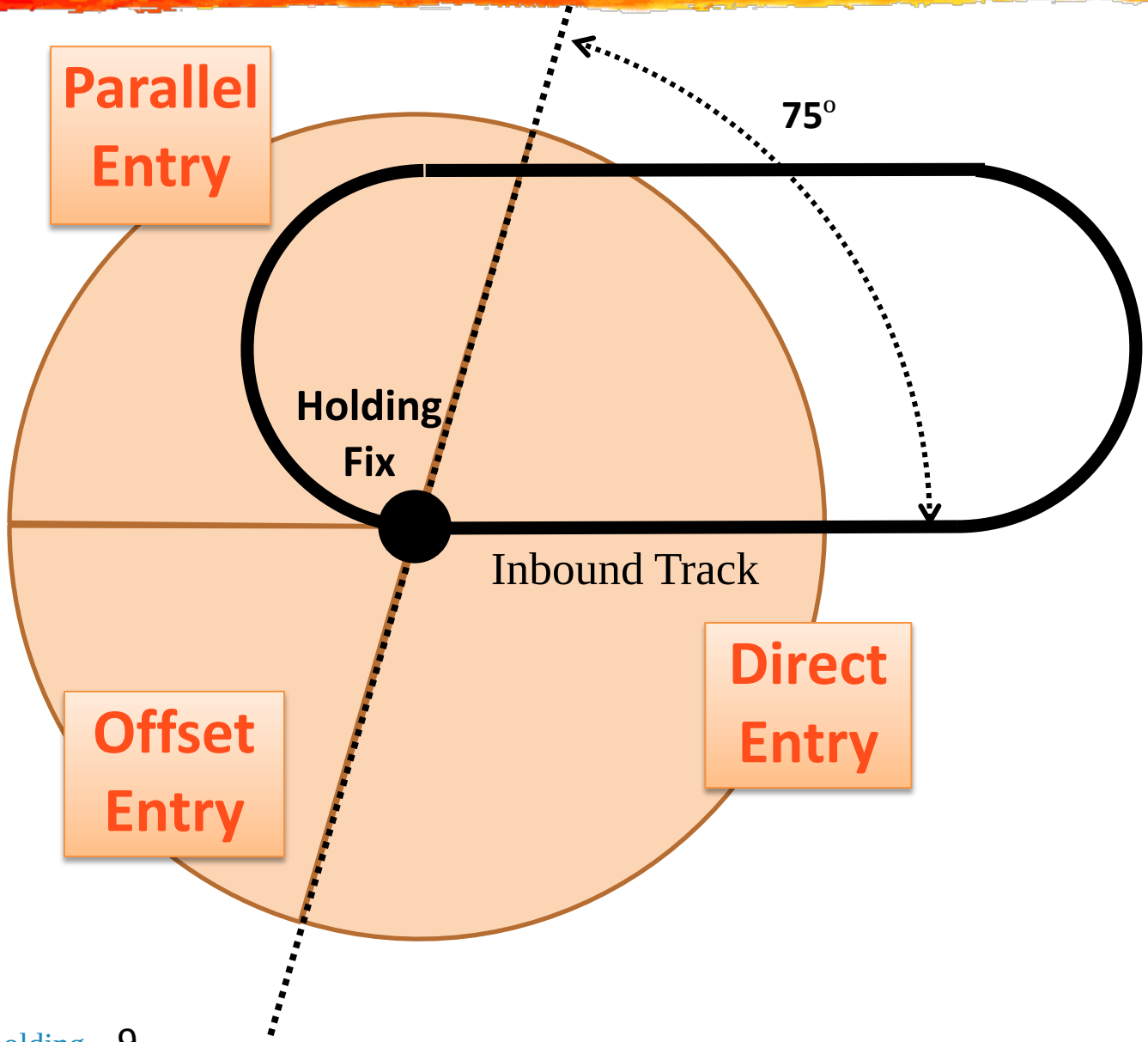


Guided Path

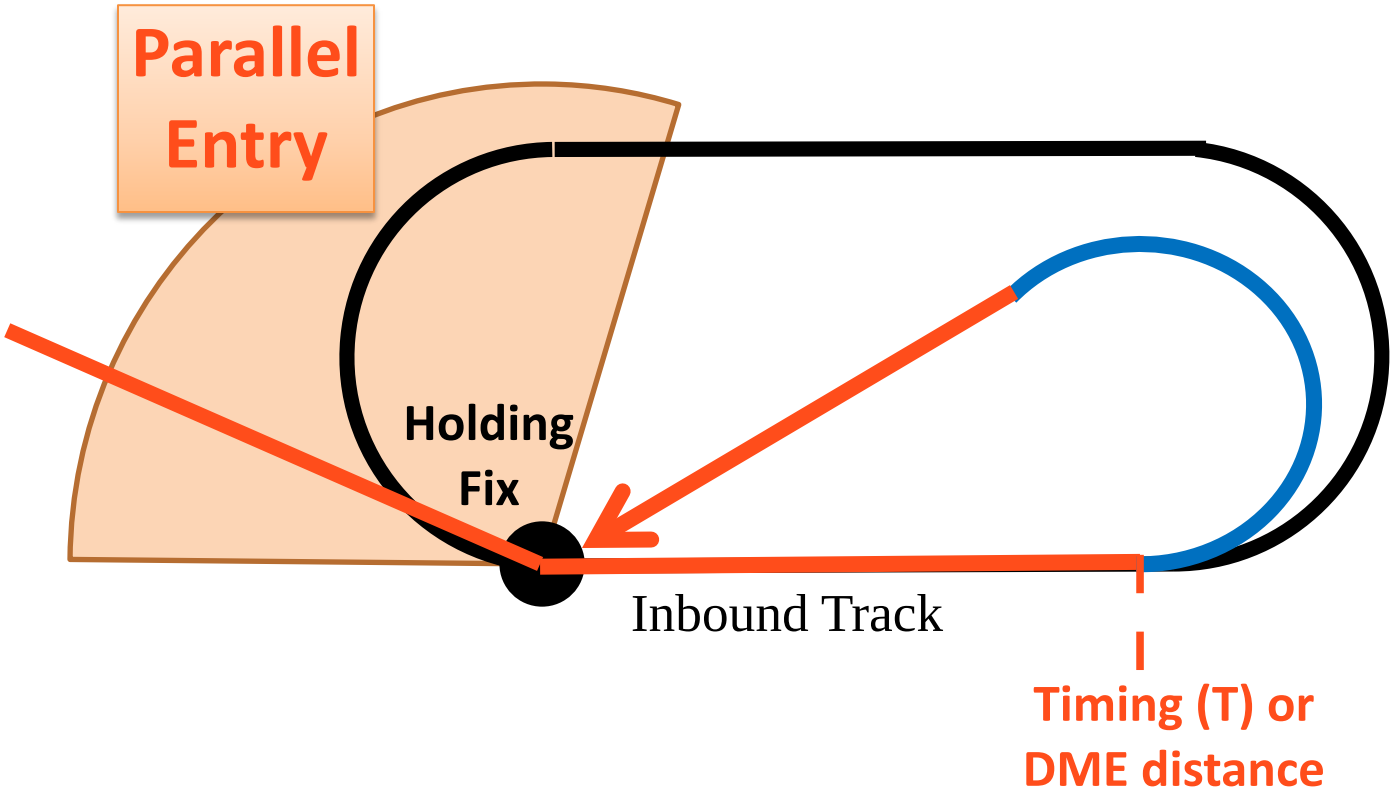
Non-guided Path

* The pilot should estimate appropiate wind corrections when turning
** A 3º/s turn with a maximum bank angle bound of 25º

Holding entry procedures



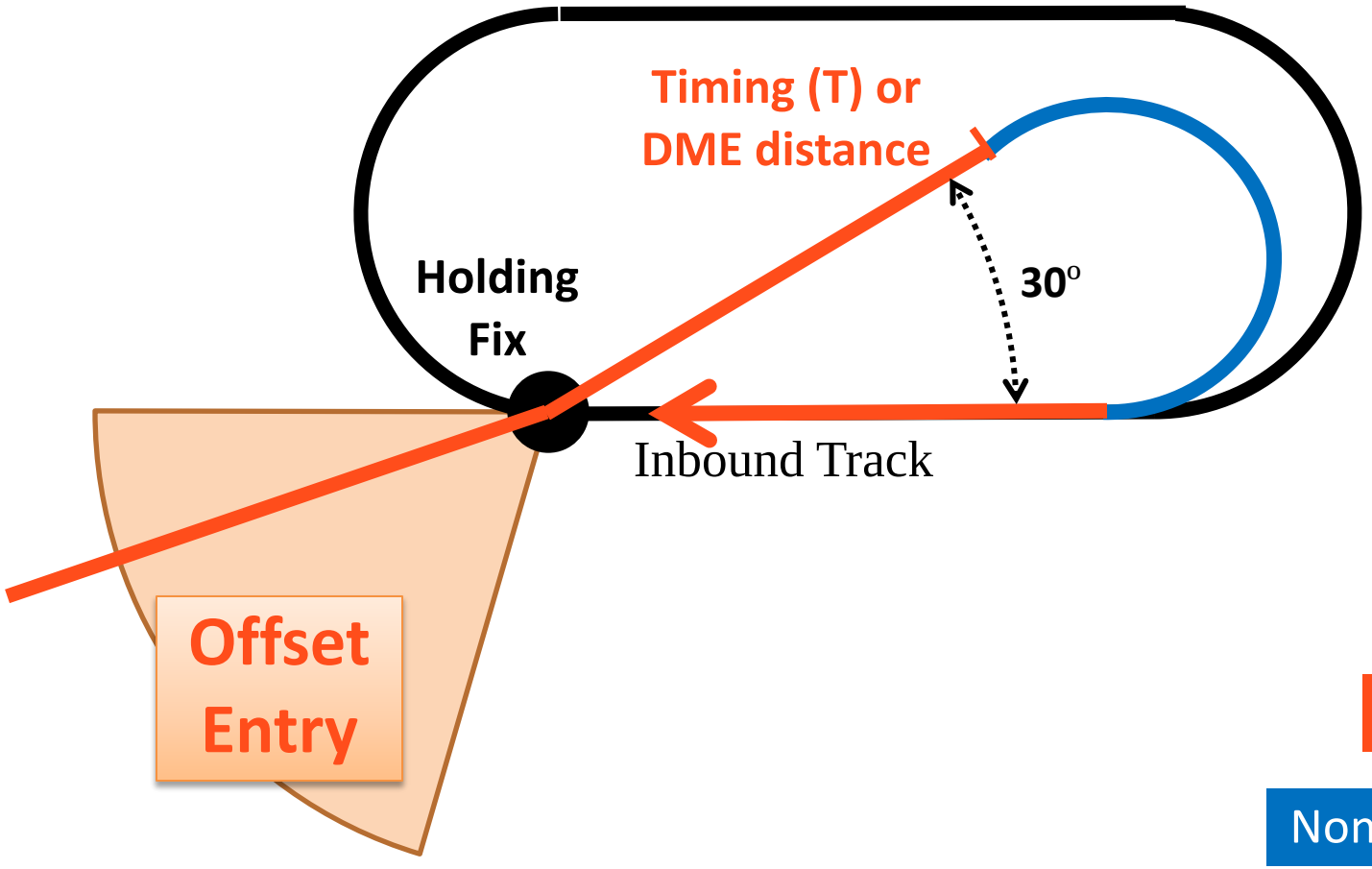
Holding entry procedures



Guided Path

Non-guided Path

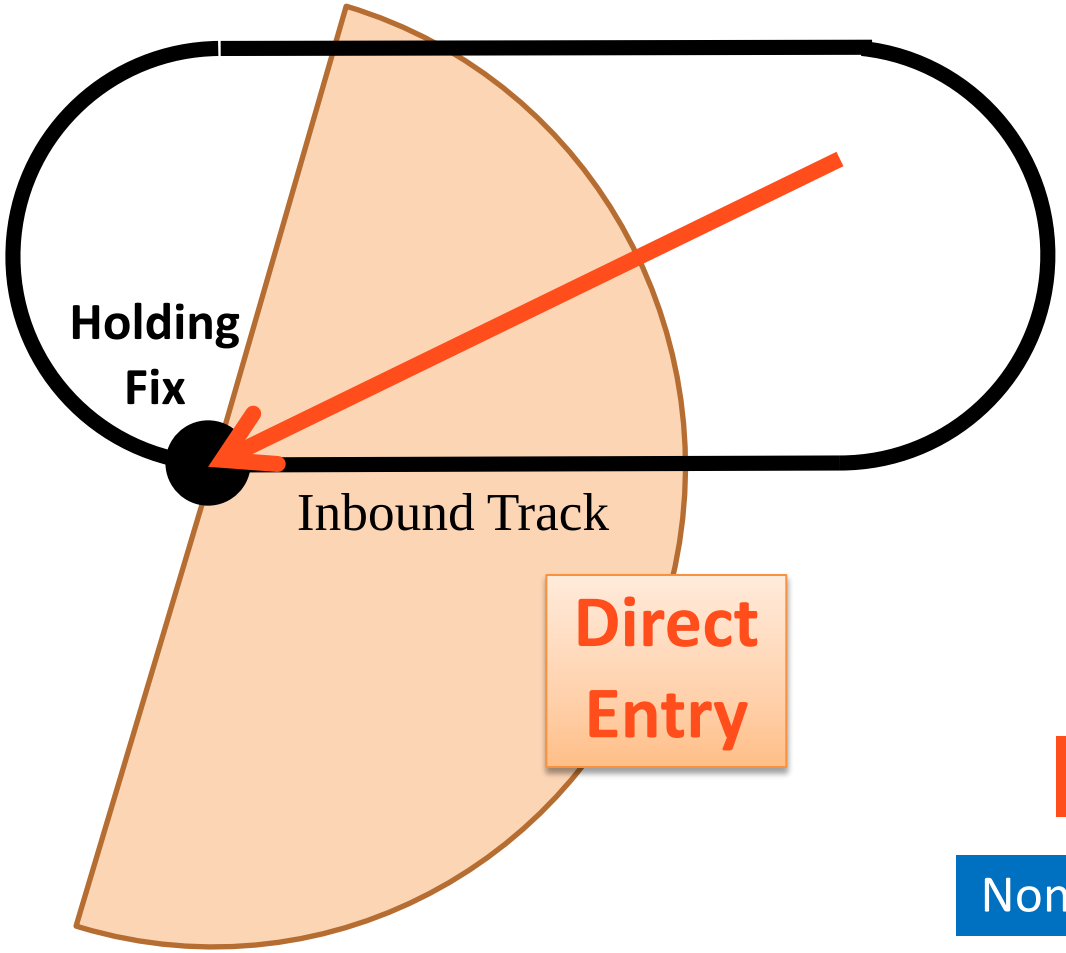
Holding entry procedures



Guided Path

Non-guided Path

Holding entry procedures



Guided Path

Non-guided Path

Standard timings and speeds

Standard* Outbound leg and entry timings (T) and maximum holding speeds

- **h** < 14000 ft (4250m)

  T=1’ Max IAS = 425km/h (230kt)

  Max IAS = 315km/h (170kt) for CAT A/B

- 14000 ft (4250m) < **h** < 20000ft (6100m)

  T=1‘30’’ Max IAS = 445km/h (240kt)

- 20000 ft (6100m) < **h** < 34000ft (10350m)

  T=1‘30’’ Max IAS = 490km/h (265kt)

- **h** > 34000ft (10350m)

  T=1‘30’’ Max IAS = 0.83 Mach

* ICAO Doc. 8168 PANS-OPS Vol-I

Thank you!!

Gràcies!!