



HOLDING DIRECT ENTRY

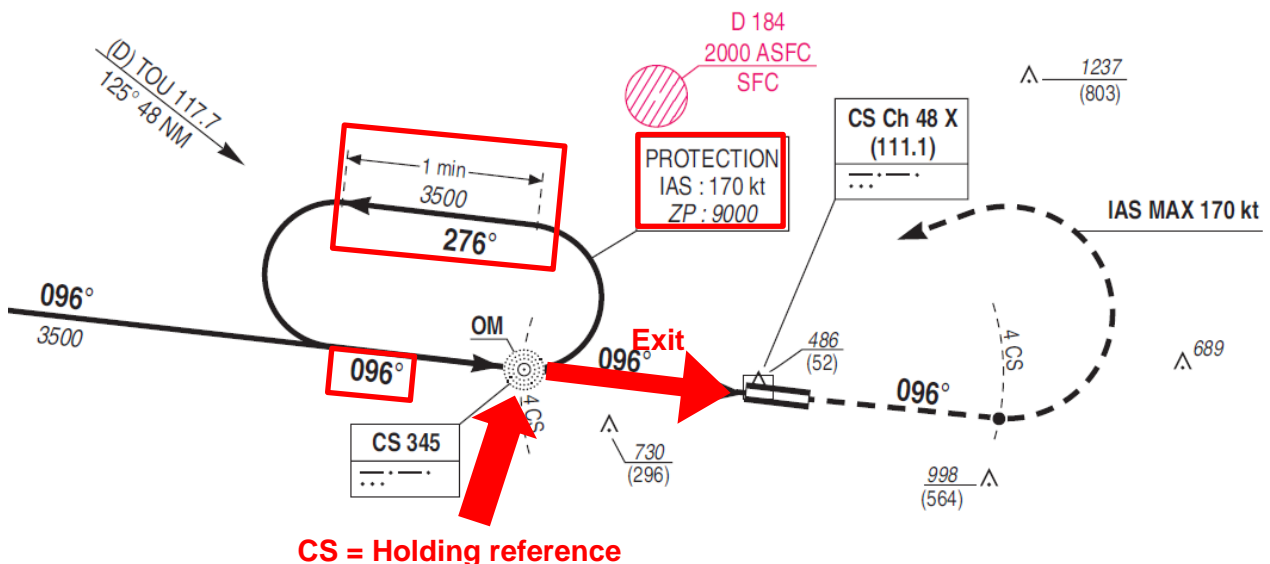
1. Introduction

This documentation will illustrate how to perform a **direct** entry into a holding.

2. Preparatory work

2.1. Scenario and chart analysis

You will need to open the ILS Z RWY 10 charts of Carcassonne airport LFMK in France:



We will be flying the published hold over a NDB following the chart above:

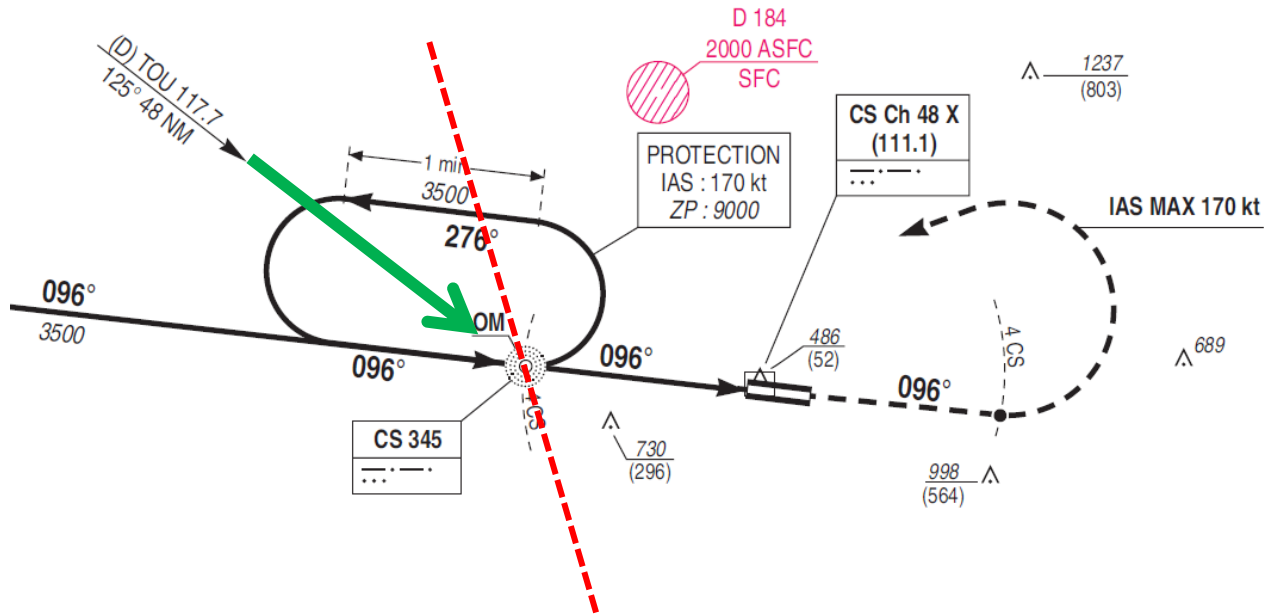
- Holding reference point is **CS NDB**
- inbound track is at heading **096° towards CS NDB** or 276° track inbound CS NDB
- altitude to maintain is **3500ft**
- outbound time is **1 minute** using heading of **276°**
- protection area imposes to use maximum speed of **170KT** (maximum altitude 9000ft)
- Exit track is **96°** outbound of CS NDB

In this documentation, we will not take into account the effect of wind.

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2.2. Starting situation

In this example, we will enter into the holding using the direct entry procedure.



1. Our aircraft will have a heading equal to 125° and direct to the NDB CS
2. We are currently reducing to 170Kt (the maximum allowed speed to ensure holding protection)
3. We are at 3500ft
4. Do not forget to reset your time counter to 0.

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2.3. Over holding reference point : CS

Our aircraft is over the holding reference point: CS NDB.

1. RMI indicator is turning, we are over NDB.
2. We start a turn towards outbound leg at heading 276°
3. After the turn at 276° heading, we are not abeam (90°) CS, we shall wait this position to start the timer.



2.4. Abeam CS

Our aircraft is abeam (90°) CS:

1. We start the timer when CS is abeam.
2. We maintain the outbound heading (276°) for 1 minute.



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2.5. End of outbound leg

The timer is reaching 1 minute. We should turn now toward the holding fix via the inbound heading 096°

1. As we can undershoot the inbound track, we stop the turn 30° before the final heading : 126°
2. When we are near the final track , we turn to the wanted heading : 96°



In case of over shoot (aircraft had crossed the inbound track), we should set an intercept course toward the holding fix.

1. We should turn 30° more in the same direction (new heading will be 066°).



2.6. End of inbound leg at the holding fix

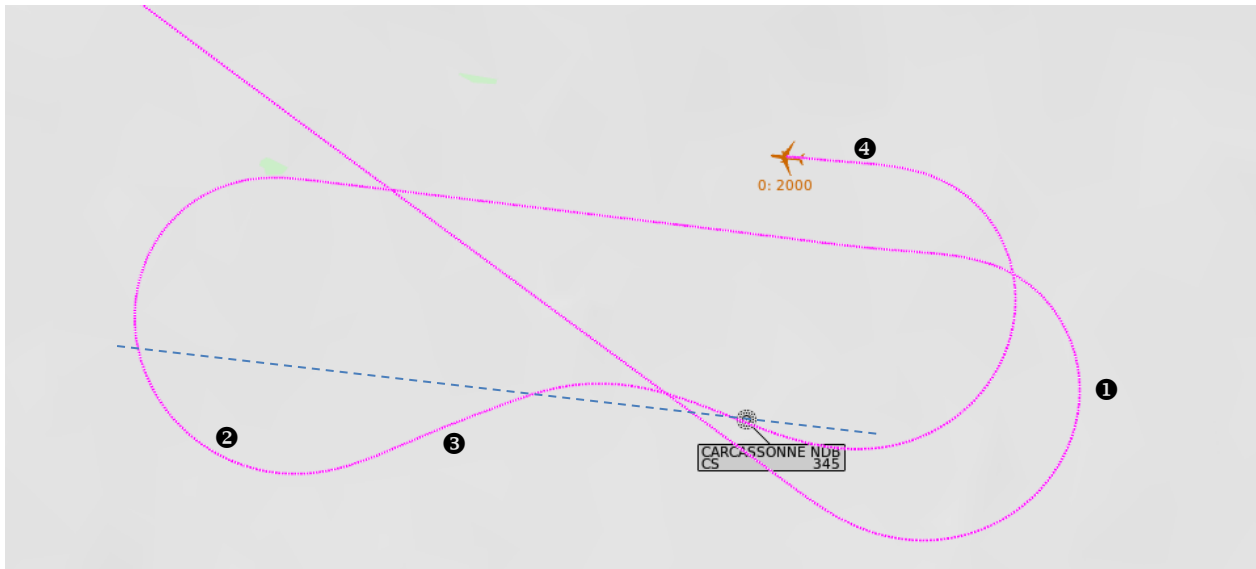
We now overfly the holding fix for the end of the holding pattern.

1. If we receive the approach clearance, or other exit clearance from ATC, we should follow the instructions.
2. If we want to continue the holding, or we do not receive any other clearance from ATC, we should perform another direct entry holding. (Follow chapter 2.3).



3. Final plotting of the track

This is the final plotting of the performed track.



Analysis:

1. Due to the entry heading the first half-turn we undershot the outbound track of the holding pattern in comparison to the ideal one. But this is normal.
2. As we undershot the outbound leg, we overshot the inbound leg.
3. The 30° interception manoeuvre was performed.
4. We continued the first half turn for a new holding pattern.

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