

Holding Patterns Simplified

by Darren Smith, CFII/MEI from IFR Checkride Reviewer

The purpose of a hold is to park aircraft in the sky somewhere until ATC is ready to sequence the aircraft inbound for approach & landing. It can happen when TRACON can't get you passed off to Center (called a departure hold) or when TRACON can't get you sequenced into an approach (arrival hold).

Holding patterns baffle most pilots. I see a lot of students holding up three fingers to the DG and mumbling nonsense to themselves. In order to end the confusion, and simplify this for easy learning, use this 3-step method described below. Once you get the idea, check your instrument textbook for a diagram that shows the "official method" of hold entries.

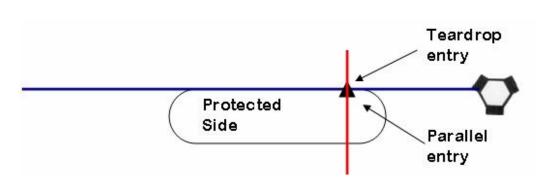
The Easy Way...

Step 1, Diagram the instructions given. "Hold on the 270 Radial, west of the 15 DME fix from ABC VOR, standard pattern, 1 minute legs." Standard pattern means right turns.



Step 2, Determine what side of the hold you are entering from. Here's the simple method that handles most of all hold entries.

- Chop the holding pattern in half as shown (see the red line). If you are entering from the fat side, its always a direct entry. Go to Step 3 for an example.
- If you are entering the hold from the thin side, chop the holding pattern between the protected side and the nonprotected side (see the blue line). If you are entering from a heading on the protected side, and thin side, its always parallel entry. If you are entering on the nonprotected side, and on the thin side, it's a teardrop entry.



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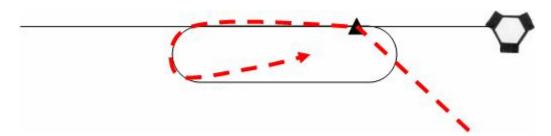


Step 3. What does each look like? As you can see from the red dashed line, sometimes your ground track executing the hold isn't perfect.

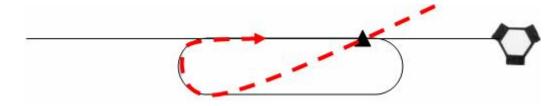
Direct Entry, entering on the fat side of the hold, in-bound heading for this example is approximately 060 degrees:



Parallel Entry, entering from the thin, protected side, in-bound heading for this example is approximately 330:



Teardrop Entry, entering from the thin, non-protected side, in-bound heading for this example is approximately 240 degrees:



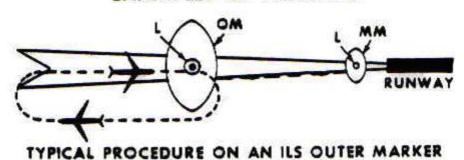
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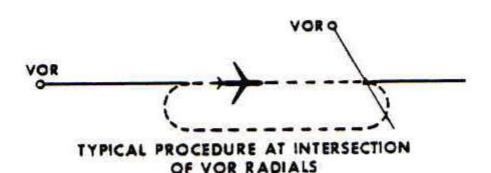


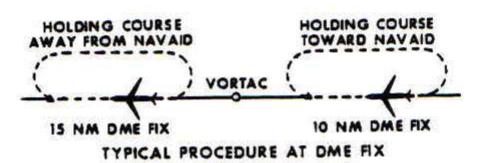
Examples of Holding

- 1. Holding at an outer marker.
- 2. Holding at an intersection of VOR radials.
- 3. Holding at a DME fix (or enroute fix).
 - a. Outbound hold holding course away from navaid
 - b. Inbound hold holding course toward navaid

EXAMPLES OF HOLDING







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