

**[b]** When RNAV lateral guidance is used in fixed wing airplanes, it is desirable to enter and conduct holding at the lowest practical airspeed consistent with the airplane's recommended holding speed to address the cumulative errors associated with RNAV holding and increase the probability of remaining within protected airspace. It is acceptable to allow RNAV systems to determine a recommended holding speed *that is at or below the maximum holding speed*.

**[c]** Helicopter holding is based on a minimum airspeed of 90 KIAS.

**(2)** Advise ATC immediately if unable to comply with the maximum holding airspeed and request an alternate clearance.

**NOTE—**

*Speeds above the maximum or published holding speed may be necessary due to turbulence, icing, etc. Exceeding maximum holding airspeed may result in aircraft excursions beyond the holding pattern protected airspace. In a non-radar environment, the pilot should advise ATC that they cannot accept the assigned hold.*

**(3)** Ensure the RNAV system applies the proper time and speed restrictions to a holding pattern. This is especially critical when climbing or descending to a holding pattern altitude where time and speed restrictions are different than at the present aircraft altitude.

**(b)** Bank Angle. For holding not involving the use of RNAV lateral guidance, make all turns during entry and while holding at:

**(1)** 3 degrees per second, or

**(2)** 30 degree bank angle, or

**(3)** 25 degree bank angle, provided a flight director system is used.

**NOTE—**

*Use whichever requires the least bank angle.*

**(4)** When using RNAV lateral guidance to conduct holding, it is acceptable to permit the RNAV system to calculate the appropriate bank angle for the outbound and inbound turns. Do not use flight guidance system bank angle limiting functions of less than 25 degrees unless the feature is not pilot-selectable, required by the aircraft limitations, or its use is necessary to comply with the aircraft's minimum

maneuvering speed margins. If the bank angle must be limited to less than 25 degrees, advise ATC that additional area for holding is required.

**(c)** Compensate for wind effect primarily by drift correction on the inbound and outbound legs. When outbound, triple the inbound drift correction to avoid major turning adjustments; for example, if correcting left by 8 degrees when inbound, correct right by 24 degrees when outbound.

**(d)** Determine entry turn from aircraft heading upon arrival at the holding fix; +/- 5 degrees in heading is considered to be within allowable good operating limits for determining entry. When using RNAV lateral guidance for holding, it is permissible to allow the system to compute the holding entry.

**(e)** RNAV lateral guidance may execute a fly-by turn beginning at an excessively large distance from the holding fix. Reducing speed to the maximum holding speed at least 3 minutes prior to reaching the holding fix and using the recommended 25 degree bank angle will reduce potential excursions beyond protected airspace.

**(f)** When RNAV guidance is used for holding, pilots should be prepared to intervene if the turn from outbound leg to the inbound leg does not begin within a reasonable distance of the charted leg length, especially when holding is used as a course reversal HILPT. Pilot intervention is not required when holding in an ATC-assigned holding pattern that is not charted. However, notify ATC when the outbound leg length becomes excessive when RNAV guidance is used for holding.

**k.** When holding at a fix and instructions are received specifying the time of departure from the fix, the pilot should adjust the aircraft's flight path within the limits of the established holding pattern in order to leave the fix at the exact time specified. After departing the holding fix, normal speed is to be resumed with respect to other governing speed requirements, such as terminal area speed limits, specific ATC requests, etc. Where the fix is associated with an instrument approach and timed approaches are in effect, a procedure turn must not be executed unless the pilot advises ATC, since aircraft holding are expected to proceed inbound on final approach directly from the holding pattern when approach clearance is received.