

Eights-on-pylons are performed at bank angles ranging from shallow to steep. [Figure 6-14] The pilot should understand that the bank chosen does not alter the pivotal altitude. As proficiency is gained, the instructor should increase the complexity of the maneuver by directing the student to enter at a distance from the pylon that results in a specific bank angle at the steepest point in the pylon turn.

The most common error in attempting to hold a pylon is incorrect use of the rudder. When the projection of the visual reference line moves forward with respect to the pylon, many pilots tend to apply inside rudder pressure to yaw the wing backward. When the reference line moves behind the pylon, they tend to apply outside rudder pressure to yaw the wing forward. The pilot should use the rudder only for coordination.

Other common errors in the performance of eights-on-pylons are:

- Failure to adequately clear the area above, below, and on either side of the airplane for safety hazards, initially and throughout the maneuver.
- Poor selection of ground references.
- Failure to establish a constant, level altitude prior to entering the maneuver.
- Failure to maintain adequate altitude control during the maneuver.
- Failure to properly assess wind direction.

- Failure to properly execute constant radius turns.
- Failure to manipulate the flight controls in a smooth and continuous manner.
- Failure to establish the appropriate wind correction angles.
- Failure to apply coordinated aileron and rudder pressure, resulting in slips or skids.
- Failure to maintain orientation as the maneuver progresses.

Chapter Summary

At the completion of ground reference maneuvers, the pilot should not only be able to command the airplane to specific pitch, roll, and yaw attitudes but, while correcting for the effects of wind drift, also control the airplane's orientation in relation to ground-based references. It should be reinforced that safety is paramount in all aspects of flying. Ground reference maneuvers require planning and high levels of vigilance to ensure that the practice and performance of these maneuvers are executed where the safety to groups of people, livestock, communities, and the pilot is not compromised. To master ground reference maneuvers, a pilot must develop coordination, timing, and division of attention to accurately maneuver the airplane in reference to flight attitudes and specific ground references. With these enhanced skills, the pilot significantly strengthens their competency in everyday flight maneuvers, such as straight-and-level, turns, climbs, and descents.

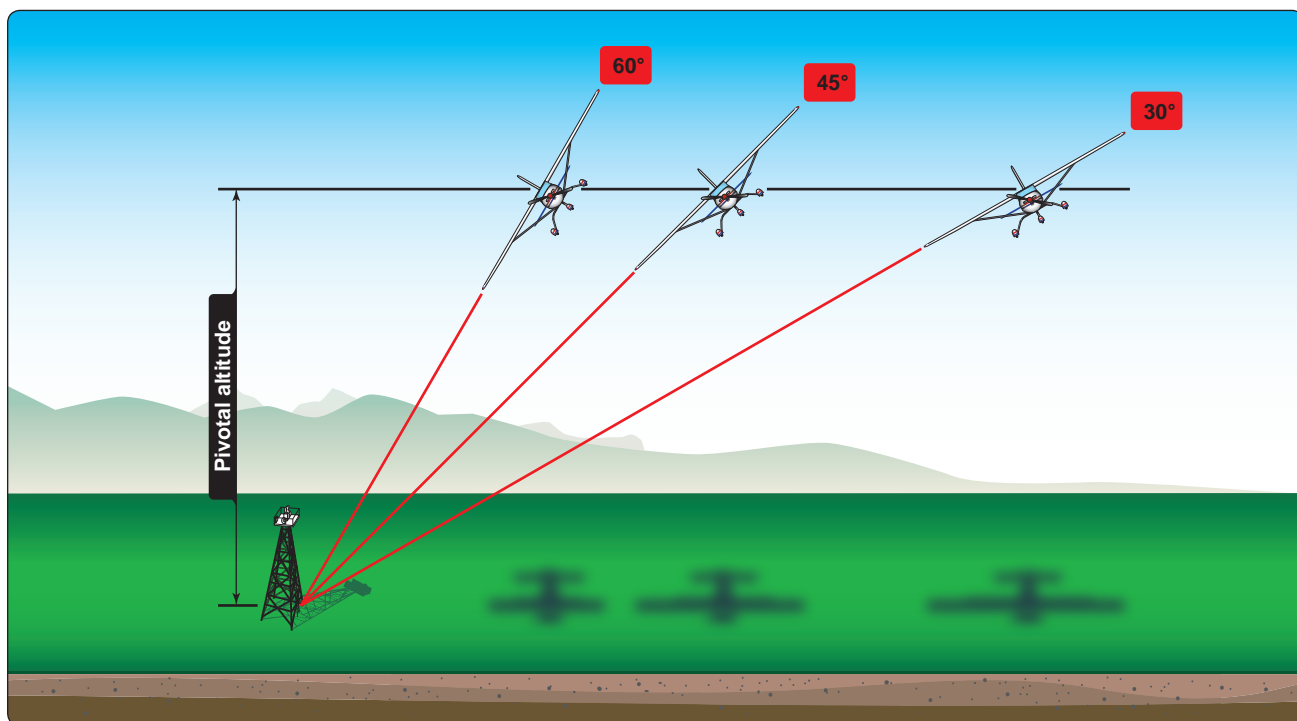


Figure 6-14. Bank angle versus pivotal altitude.