

Eights On Pylons

Commercial Ground Reference Maneuver

Dual – Local (1.5 hours)

Lesson Objectives

- Develop the ability to maneuver the airplane accurately while dividing attention between the flight path and selected references
- Demonstrate how wind affects the path and speed of the airplane over the ground
- Gain experience in the visualization of the results of planning before the execution of the maneuver
- Continue developing the skills of energy management and flight by visual references

Content

Review

- Airplane Flying Handbook Chapter 7, pages 14-18
- Airmen Certification Standards for this procedure and similar (S-Turns, Turns around a Point)

Introduce

- Pivotal altitude
- The Eights on Pylons Maneuver

Steps

- Prepare for maneuvering (clearing turns, communication, etc.)
- Pick two pylons about “3-5 seconds” of straight and level flight apart and the same elevation (AFH)
- Establish and maintain 105-110 MPH (approx. 2200 RPM) and pivotal altitude
- Enter the maneuver on a 45° to the downwind between the two points
- Abeam the first point, roll into about 30° of bank placing the first pylon below the wingtip
- Keep the point under the wingtip, the reference line should appear to pivot on the pylon
 - If the point moves forward, push forward and descend
 - If the point moves backwards, pull up and climb
- After a complete turn, fly for 3-5 seconds in level flight and perform the second turn

Completion Standards

- Clear the area.
- Determine the approximate pivotal altitude.
- Select suitable pylons that will permit straight-and-level flight between the pylons.
- Enter the maneuver in the correct direction and position using an appropriate altitude and airspeed.
- Establish the correct bank angle for the conditions, not to exceed 40°.
- Apply smooth and continuous corrections so that the line-of-sight reference line remains on the pylon.
- Divide attention between accurate, coordinated airplane control and outside visual references.
- Maintain pylon position using appropriate pivotal altitude, avoiding slips and skids.

Common Errors

- Failure to adequately clear the surrounding area for safety hazards
- Skidding or slipping in turns (whether trying to hold the pylon with rudder or not).
- Excessive gain or loss of altitude. (It’s easy to lose the pylons this way)
- Poor choice of pylons.
- Not entering the pylon turns into the wind.
- Failure to assume a heading when flying between pylons that will compensate sufficiently for drift.
- Failure to time the bank so that the turn entry is completed with the pylon in position.
- Abrupt control usage. (We shouldn’t feel any Gs)
- **The most common error in attempting to hold a pylon is incorrect use of the rudder!**