Turns Around a Point

About: 360° constant radius turns around a single ground based reference point

TSW: Learn dividing attention between the flightpath, ground based references, manipulating controls, and scanning for outside hazards and instrument indications.

How: Shown by entering downwind and flying constant radius turns around a ground reference point and low altitude.

Procedure:

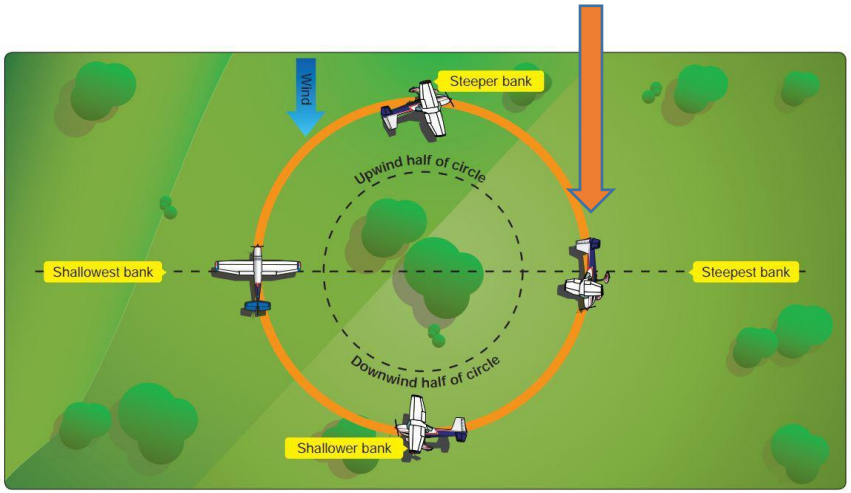
1. Two 90° clearing turns
2. Establish V_A or the recommended entry speed
3. Maintain 600 – 1000 AGL, Trim for level flight
4. Enter maneuver **downwind**
5. When point is under wing begin turn ~30° bank (<45°)
6. Crosswind: reduce bank: compensate for decreasing tailwind
7. Upwind: bank will be **shallowest** due to **slowest** groundspeed
8. Complete two circuits, exit on initial heading

Discussion Points:

1. Trim for level flight prior to maneuver.
2. Determine wind direction and speed (AWOS)
3. Ensure emergency landing area available for selected field.
4. During turns, to maintain altitude, back pressure increased (trim)
5. Higher grd speeds-> steepen bank, Lower grd speed-> shallow bank
6. Look outside (ground track), peak inside (Altimeter/ Airspeed/ Hdg).

Evaluations/ Standards:

9. Alt: +/-100ft, A/S +/- 10kts, Head: +/-10°
10. Selects a suitable ground reference point.
11. Plans maneuver so as to enter 600 to 1000 feet AGL, at an appropriate distance from the reference point.
12. Applies adequate wind-drift correction to track a constant radius turn around the selected reference point.
13. Divides attention between airplane control and the ground track while maintaining coordinated flight.



****Pick out fly over points, intersections can be good 90° points

Common errors:

- Failure to clear area and establish proper altitude prior to entry.
- Not selecting a proper distance from ground based reference.
    - Lowered wing may block view of point. Pilot must change altitude or desired turn radius.
- Entering upwind
- Entering at an improper altitude.
- Failure to maintain selected altitude or airspeed.
    - Not dividing attention inside and outside resulting in a loss of gain in altitude.
- Non-symmetrical ground track: not compensating for the wind, especially on the upwind side
- Not using correct bank angles in turns. (+45 degrees)
- Selection of a ground reference where there is no suitable emergency landing area within the gliding distance.
- Fixating on the field and forgetting to look for other air traffic.