

## THE KEYS TO SUCCESS

The FAA's *Airplane Flying Handbook* (FAA-H-8083-3A) identifies two "key" positions when describing what it calls the 360-degree power-off approach. One key is on the downwind leg, the other is on base. The objective is to fly to the downwind key position at the proper altitude and then to the base key, also at the desired altitude, thence to a landing.

The 360-degree power-off approach is one in which the airplane glides through a 360-degree change of direction to the preselected landing spot. The turn may be shallowed, steepened or discontinued altogether at any point as needed to adjust the desired flightpath's accuracy.

The 360-degree approach usually is initiated from approximately 2000 feet or more above the ground — where the wind may vary significantly from that at lower altitudes. This potential wind change must be taken into account when maneuvering the airplane to a point from which a 90- or 180-degree power-off approach can be completed.

The angle of bank can be varied as needed throughout the pattern to correct for wind conditions and to align the airplane with the final approach. The turn-to-final should be completed at a minimum altitude of 300 feet above the terrain.

Common errors in performing power-off accuracy approaches include:

- Downwind leg too far from the runway/landing area.
- Overextension of downwind leg resulting from tailwind.
- Inadequate compensation for wind drift on base leg.
- Skidding turns in an effort to increase gliding distance.
- Failure to lower landing gear in retractable gear airplanes.
- Attempting to "stretch" the glide during undershoot.
- Premature flap extension/landing gear extension.
- Use of throttle to increase the glide instead of merely clearing the engine.
- Forcing the airplane onto the runway in order to avoid overshooting the designated landing spot.

The diagram below highlights the key positions along with recommended altitudes for them, and reminds us we'll want the shallowest banks when flying the upwind portion of the maneuver — and groundspeed is lowest — with the steepest occurring when downwind and groundspeed is highest.

