

PRIVATE PILOT

IV. AREA OF OPERATION: TAKEOFFS, LANDINGS AND GO-AROUNDS

K. TASK: FORWARD SLIP TO A LANDING

OBJECTIVE

To determine that the applicant:

1. Exhibits knowledge of the elements related to a forward slip to a landing.
2. Considers the wind conditions, landing surface, obstructions, and selects the most suitable touchdown point.
3. Establishes the slipping attitude at a point from which a landing can be made using the recommended approach and landing configuration and airspeed; adjusts pitch attitude and power as required.
4. Maintains a ground track aligned with the runway center / landing path and an airspeed, which results in minimum float during the roundout.
5. Makes smooth, timely, and correct control application during the recovery from the slip, the roundout and the touchdown.
6. Touches down smoothly at the approximate stalling speed, at or within 400 feet (120 meters) beyond a specified point, with no side drift, and with the airplane's longitudinal axis aligned with and over the runway center / landing path.
7. Maintains crosswind correction and directional control throughout the approach and landing sequence.
8. Completes the appropriate checklist.

ELEMENTS

1. Slips result from intentionally cross-controlled rudder / aileron deflections. Slips can be very useful for dissipating altitude on final approach without increasing airspeed and/or adjusting a ground track during a crosswind.
2. An airplane in a slip is flying partially sideways, experiencing a relative wind striking the side of the fuselage and producing more drag than usual.
3. A slip is entered by lowering a wing and applying enough opposite rudder to prevent a turn. Rate of sideward movement (slip) and sink is determined by the amount of bank (balanced with opposite rudder).
4. Side slip:
 - a. The airplane no longer flies straight ahead. Instead, the airplane moves sideways toward the low wing.
 - b. The airplane's longitudinal axis does not change angle.
5. Forward slip:
 - a. The airplane remains on the original ground track.
 - b. The airplane's longitudinal axis is at an angle to its original flightpath.
6. The amount of slip is limited by the amount of rudder authority (which can be increased with higher airspeed). This is called the practical slip limit.
7. The wing-low landing technique is a combination of a side slip (longitudinal axis does not change) and a forward slip (the airplane remains on the original ground track).

COMMON ERRORS

- a. Improper use of landing performance data and limitations.
- b. Failure to establish approach and landing configuration at appropriate time or in proper sequence.
- c. Failure to maintain stabilized slip.
- d. Inappropriate removal of hand from throttle.
- e. Improper procedure during transition from the slip to the touchdown.
- f. Poor directional control after touchdown.
- g. Improper use of brakes (ASEL).

REFERENCES

1. FAA-H-8083-3A, Airplane Flying Handbook, Chapter 8.
2. POH / AFM, Pilot Operating Handbook / FAA-Approved Airplane Flight Manual.