

PRIVATE PILOT

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

F. TASK: SHORT-FIELD APPROACH (CONFINED AREA – ASES) AND LANDING

OBJECTIVE

To determine that the applicant:

1. Exhibits knowledge of the elements related to short-field (confined area – ASES) approach and landing.
2. Adequately surveys the intended landing area (ASES).
3. Considers the wind conditions, landing surface, obstructions, and selects the most suitable touchdown point.
4. Establishes the recommended approach and landing configuration and airspeed; adjusts pitch attitude and power as required.
5. Maintains a stabilized approach and recommended approach airspeed, or in its absence not more than $1.3 V_{SO} + 10/-5$ knots, with wind gust factor applied.
6. Makes smooth, timely and correct control application during the roundout and touchdown.
7. Selects the proper landing path, contacts the water at the minimum safe airspeed with the proper pitch attitude for the surface conditions (ASES).
8. Touches down smoothly at minimum control airspeed (ASEL).
9. Touches down at or within 200 feet (60 meters) beyond a specified point, with no side drift, minimum float and with the airplane's longitudinal axis aligned with and over the runway center / landing path.
10. Maintains crosswind correction and directional control throughout the approach and landing sequence.
11. Applies brakes (ASEL), or elevator control (ASES), as necessary, to stop in the shortest distance consistent with safety.
12. Completes the appropriate checklist.

ELEMENTS

1. Know the recommended power / flap settings, V_x and V_y from the POH / AFM.
2. Complete the Before Landing Checklist.
3. Establish a stabilized approach.
4. Extend full flaps at least 500 feet AGL from the touchdown area.
5. Fly a wider-than-normal pattern in order to get the airplane properly configured and trimmed.
6. Fly the manufacturer's recommended approach speed, or $1.3V_{SO}$ if not provided.
7. In gusty conditions, the gust factor (one-half of the gust speed minus the steady wind speed increment) should be added.
8. Simultaneously make minor adjustments to power and pitch attitude to establish proper angle of descent at the recommended airspeed to the recommended aiming point.
9. Avoid allowing slow airspeed and high power to put the airplane in the region of reverse command (back side of the power curve).
10. Roundout and flare for touchdown at the recommended aiming point – proper short field approach airspeed will ensure the airplane will not fly into the ground or stall prematurely.
11. Touchdown at the minimum controllable airspeed with the airplane at the pitch attitude that will result in a power-off stall when the throttle is closed.
12. After touchdown, hold the airplane in the positive pitch attitude as long as the elevators remain effective. This aerodynamic braking assists in deceleration.
13. Apply appropriate braking to minimize the after landing roll.
14. Stop within the shortest possible distance consistent with safety and controllability.
15. Complete the After Landing Checklist.

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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 allow enough room on final to set up the approach, necessitating an overly steep approach and high sink rate.
- d. Failure to establish and maintain a stabilized approach.
- e. Undue delay in initiating glidepath corrections.
- f. Improper procedure in use of power, wing flaps, and trim.
- g. Inappropriate removal of hand from throttle.
- h. Improper procedure during roundout and touchdown.
- i. Too low an airspeed on final resulting in an inability to flare properly and landing hard.
- j. Too high an airspeed resulting in floating on roundout.
- k. Prematurely reducing power to idle on roundout resulting in landing hard.
- l. Touchdown with excessive airspeed
- m. Poor directional control after touchdown.
- n. Excessive and/or unnecessary braking after touchdown.
- o. Failure to maintain directional control.

REFERENCES

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