SHORT FIELD APPROACH AND LANDING (Commercial)

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WHAT: The pilot must fly the airplane at one of its crucial performance capabilities while close to the ground in order to safely land within confined areas.

WHY: *The pilot must have precise, positive control of the rate of descent and airspeed to produce an approach that will clear any obstacle; and resulting in little or no floating during the roundout. This will permit the airplane to be stopped in the shortest possible distance.*

HOW:

1) Fly a normal pattern, thus allowing time and spacing to configure the airplane.
2) On final (and at least 500 feet higher than the touchdown area), lower full flaps and establish short-field approach airspeed and pitch attitude.
3) Fly a stabilized, standardized approach to the runway using power to control airspeed and pitch to control descent rate.
4) Do not "chop and drop" (pull the throttle and push down) over obstacle.
5) After touchdown; retract flaps, maintain full aft elevator, maximum braking.

Key Elements:

STABILIZED – Fly a constant descent angle to the runway, do not "chop and drop"
STANDARDIZED – Fly the approach the same way every time

TARGET APPROACH SPEED: 1.3 x V_{so} OR manufacturer's recommended short field approach speed, whichever is greater.

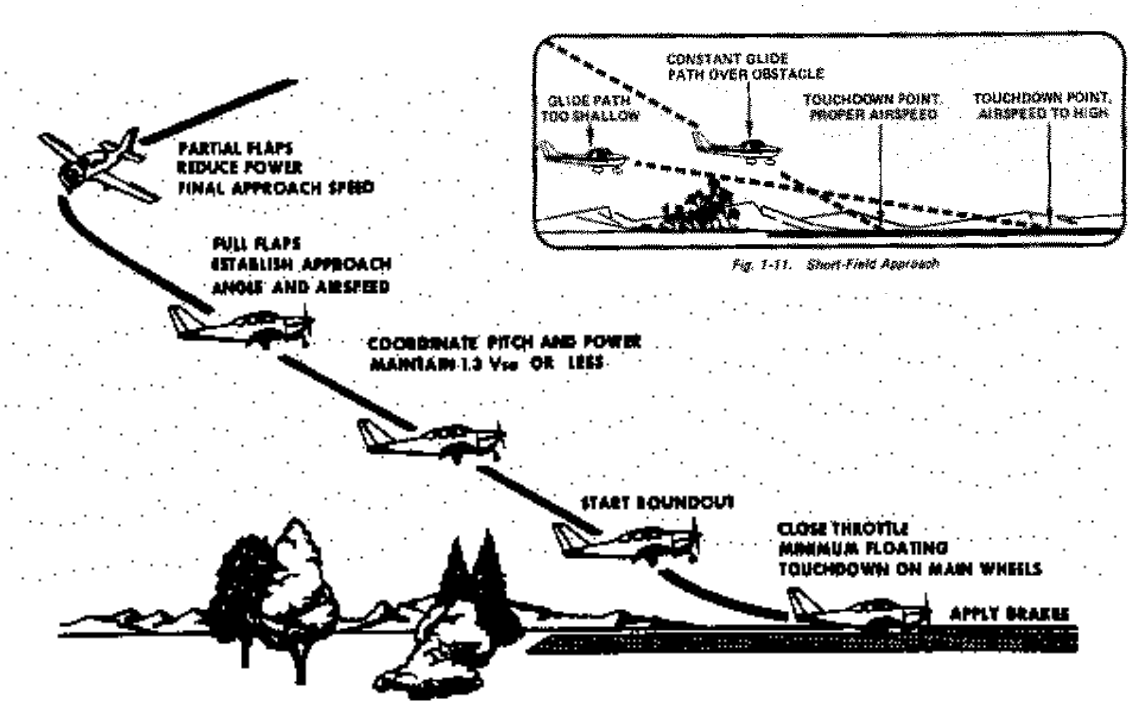

Fig. 1-11. Short-Field Approach

COMMON ERRORS:

1) Improper use of landing performance data and limitations.
2) Failure to establish approach and landing configuration at appropriate time or in proper sequence, necessitating an overly steep approach and high sink rate.
3) Failure to establish and maintain a stabilized approach.
4) Improper technique in use of power, wing flaps, and trim.
5) Undue delay in initiating glidepath corrections.
6) Inappropriate removal of hand from throttle.
7) Too low an airspeed on final resulting in inability to flare properly and landing hard.
8) Too high an airspeed resulting in floating on roundout.
9) Prematurely reducing power to idle on roundout resulting in hard landing.
10) Poor directional control after touchdown.
11) Excessive and/or unnecessary braking after touchdown.
12) Failure to maintain directional control.
13) Does not complete the appropriate checklists.

COMMERCIAL PILOT COMPLETION STANDARDS:

F. TASK: SHORT-FIELD APPROACH (CONFINED AREA—ASES) AND LANDING (ASEL AND ASES)
REFERENCES: FAA-H-8083-3; POH/AFM.
Objective. To determine that the applicant:

1. Exhibits knowledge of the elements related to a 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.
5. Maintains a stabilized approach and recommended approach airspeed, or in its absence, not more than 1.3 V_{SO}, ±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 100 feet (30 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 appropriate checklist.