

this section that apply to the aircraft category and class rating sought.

(b) *Aeronautical knowledge areas.* (1) Applicable Federal Aviation Regulations of this chapter that relate to private pilot privileges, limitations, and flight operations;

(2) Accident reporting requirements of the National Transportation Safety Board;

(3) Use of the applicable portions of the "Aeronautical Information Manual" and FAA advisory circulars;

(4) Use of aeronautical charts for VFR navigation using pilotage, dead reckoning, and navigation systems;

(5) Radio communication procedures;

(6) Recognition of critical weather situations from the ground and in flight, windshear avoidance, and the procurement and use of aeronautical weather reports and forecasts;

(7) Safe and efficient operation of aircraft, including collision avoidance, and recognition and avoidance of wake turbulence;

(8) Effects of density altitude on takeoff and climb performance;

(9) Weight and balance computations;

(10) Principles of aerodynamics, powerplants, and aircraft systems;

(11) Stall awareness, spin entry, spins, and spin recovery techniques for the airplane and glider category ratings;

(12) Aeronautical decision making and judgment; and

(13) Preflight action that includes—

(i) How to obtain information on runway lengths at airports of intended use, data on takeoff and landing distances, weather reports and forecasts, and fuel requirements; and

(ii) How to plan for alternatives if the planned flight cannot be completed or delays are encountered.

[Doc. No. 25910, 62 FR 16298, Apr. 4, 1997; Amdt. 61-103, 62 FR 40902, July 30, 1997]

#### § 61.107 Flight proficiency.

(a) *General.* A person who applies for a private pilot certificate must receive and log ground and flight training from an authorized instructor on the areas of operation of this section that apply to the aircraft category and class rating sought.

(b) *Areas of operation.* (1) For an airplane category rating with a single-engine class rating:

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport and seaplane base operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Ground reference maneuvers;

(vii) Navigation;

(viii) Slow flight and stalls;

(ix) Basic instrument maneuvers;

(x) Emergency operations;

(xi) Night operations, except as provided in § 61.110 of this part; and

(xii) Postflight procedures.

(2) For an airplane category rating with a multiengine class rating:

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport and seaplane base operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Ground reference maneuvers;

(vii) Navigation;

(viii) Slow flight and stalls;

(ix) Basic instrument maneuvers;

(x) Emergency operations;

(xi) Multiengine operations;

(xii) Night operations, except as provided in § 61.110 of this part; and

(xiii) Postflight procedures.

(3) For a rotorcraft category rating with a helicopter class rating:

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport and heliport operations;

(iv) Hovering maneuvers;

(v) Takeoffs, landings, and go-arounds;

(vi) Performance maneuvers;

(vii) Navigation;

(viii) Emergency operations;

(ix) Night operations, except as provided in § 61.110 of this part; and

(x) Postflight procedures.

(4) For a rotorcraft category rating with a gyroplane class rating:

(i) Preflight preparation;

(ii) Preflight procedures;

(iii) Airport operations;

(iv) Takeoffs, landings, and go-arounds;

(v) Performance maneuvers;

(vi) Ground reference maneuvers;

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- (vii) Navigation;
- (viii) Flight at slow airspeeds;
- (ix) Emergency operations;
- (x) Night operations, except as provided in §61.110 of this part; and
- (xi) Postflight procedures.
- (5) For a powered-lift category rating:
  - (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Airport and heliport operations;
  - (iv) Hovering maneuvers;
  - (v) Takeoffs, landings, and go-arounds;
  - (vi) Performance maneuvers;
  - (vii) Ground reference maneuvers;
  - (viii) Navigation;
  - (ix) Slow flight and stalls;
  - (x) Basic instrument maneuvers;
  - (xi) Emergency operations;
  - (xii) Night operations, except as provided in §61.110 of this part; and
  - (xiii) Postflight procedures.
- (6) For a glider category rating:
  - (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Airport and gliderport operations;
  - (iv) Launches and landings;
  - (v) Performance speeds;
  - (vi) Soaring techniques;
  - (vii) Performance maneuvers;
  - (viii) Navigation;
  - (ix) Slow flight and stalls;
  - (x) Emergency operations; and
  - (xi) Postflight procedures.
- (7) For a lighter-than-air category rating with an airship class rating:
  - (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Airport operations;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Emergency operations; and
  - (ix) Postflight procedures.
- (8) For a lighter-than-air category rating with a balloon class rating:
  - (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Airport operations;
  - (iv) Launches and landings;
  - (v) Performance maneuvers;
  - (vi) Navigation;
  - (vii) Emergency operations; and
  - (viii) Postflight procedures.
- (9) For a powered parachute category rating—

- (i) Preflight preparation;
- (ii) Preflight procedures;
- (iii) Airport and seaplane base operations, as applicable;
- (iv) Takeoffs, landings, and go-arounds;
- (v) Performance maneuvers;
- (vi) Ground reference maneuvers;
- (vii) Navigation;
- (viii) Night operations, except as provided in §61.110;
- (ix) Emergency operations; and
- (x) Post-flight procedures.
- (10) For a weight-shift-control aircraft category rating—
  - (i) Preflight preparation;
  - (ii) Preflight procedures;
  - (iii) Airport and seaplane base operations, as applicable;
  - (iv) Takeoffs, landings, and go-arounds;
  - (v) Performance maneuvers;
  - (vi) Ground reference maneuvers;
  - (vii) Navigation;
  - (viii) Slow flight and stalls;
  - (ix) Night operations, except as provided in §61.110;
  - (x) Emergency operations; and
  - (xi) Post-flight procedures.

[Doc. No. 25910, 62 FR 16298, Apr. 4, 1997, as amended by Amdt. 61-110, 69 FR 44868, July 27, 2004]

§61.109 Aeronautical experience.

- (a) *For an airplane single-engine rating.* Except as provided in paragraph (k) of this section, a person who applies for a private pilot certificate with an airplane category and single-engine class rating must log at least 40 hours of flight time that includes at least 20 hours of flight training from an authorized instructor and 10 hours of solo flight training in the areas of operation listed in §61.107(b)(1) of this part, and the training must include at least—
  - (1) 3 hours of cross-country flight training in a single-engine airplane;
  - (2) Except as provided in §61.110 of this part, 3 hours of night flight training in a single-engine airplane that includes—
    - (i) One cross-country flight of over 100 nautical miles total distance; and
    - (ii) 10 takeoffs and 10 landings to a full stop (with each landing involving a flight in the traffic pattern) at an airport.