



§ 61.87 Solo requirements for student pilots.

(a) General. A student pilot may not operate an aircraft in solo flight unless that student has met the requirements of this section. The term "solo flight" as used in this subpart means that flight time during which a student pilot is the sole occupant of the aircraft or that flight time during which the student performs the duties of a pilot in command of a gas balloon or an airship requiring more than one pilot flight crewmember.

(b) Aeronautical knowledge. A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph:

(1) The test must address the student pilot's knowledge of -

(i) Applicable sections of parts 61 and 91 of this chapter;

(ii) Airspace rules and procedures for the airport where the solo flight will be performed; and

(iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown.

(2) The student's authorized instructor must -

(i) Administer the test; and

(ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

(c) Pre-solo flight training. Prior to conducting a solo flight, a student pilot must have:

(1) Received and logged flight training for the maneuvers and procedures of this section that are appropriate to the make and model of aircraft to be flown; and

(2) Demonstrated satisfactory proficiency and safety, as judged by an authorized instructor, on the maneuvers and procedures required by this section in the make and model of aircraft or similar make and model of aircraft to be flown.

(i) Maneuvers and procedures for pre-solo flight training in a glider. A student pilot who is receiving training for a glider rating must receive and log flight training for the following maneuvers and procedures:

(1) Proper flight preparation procedures, including preflight planning, preparation, aircraft systems, and, if appropriate, powerplant operations;

(2) Taxiing or surface operations, including runups, if applicable;

(3) Launches, including normal and crosswind;

(4) Straight and level flight, and turns in both directions, if applicable;

(5) Airport traffic patterns, including entry procedures;

(6) Collision avoidance, windshear avoidance, and wake turbulence avoidance;

(7) Descents with and without turns using high and low drag configurations;

(8) Flight at various airspeeds;

(9) Emergency procedures and equipment malfunctions;

(10) Ground reference maneuvers, if applicable;

(11) Inspection of towline rigging and review of signals and release procedures, if applicable;

(12) Aerotow, ground tow, or self-launch procedures;

(13) Procedures for disassembly and assembly of the glider;

(14) Stall entry, stall, and stall recovery;

(15) Straight glides, turns, and spirals;

(16) Landings, including normal and crosswind;

(17) Slips to a landing;

(18) Procedures and techniques for thermalling; and

(19) Emergency operations, including towline break procedures.

§ 61.105 Aeronautical knowledge.

(a) General. A person who is applying for a private pilot certificate must receive and log ground training from an authorized instructor or complete a home-study course on the aeronautical knowledge areas of paragraph (b) of 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.

§ 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.
 - (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.

§ 61.109 Aeronautical experience.

- (f) For a glider category rating.

- (1) If the applicant for a private pilot certificate with a glider category rating has not logged at least 40 hours of flight time as a pilot in a heavier-than-air aircraft, the applicant must log at least 10 hours of flight time in a glider in the areas of operation listed in § 61.107(b)(6) of this part, and that flight time must include at least -

- (i) 20 flights in a glider in the areas of operations listed in § 61.107(b)(6) of this part, including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test that must have been performed within the 60-day period preceding the date of the test; and

- (ii) 2 hours of solo flight time in a glider in the areas of operation listed in § 61.107(b)(6) of this part, with not less than 10 launches and landings being performed.

- (2) If the applicant has logged at least 40 hours of flight time in a heavier-than-air aircraft, the applicant must log at least 3 hours of flight time in a glider in the areas of operation listed in § 61.107(b)(6) of this part, and that flight time must include at least -

- (i) 10 solo flights in a glider in the areas of operation listed in § 61.107(b)(6) of this part; and

- (ii) 3 training flights in a glider with an authorized instructor in preparation for the practical test that must have been performed within the 60-day period preceding the date of the test.