

(a) Be at least 16 years of age for other than the operation of a glider or balloon.

(b) Be at least 14 years of age for the operation of a glider or balloon.

(c) Be able to read, speak, write, and understand the English language. If the applicant is unable to meet one of these requirements due to medical reasons, then the Administrator may place such operating limitations on that applicant's pilot certificate as are necessary for the safe operation of the aircraft.

#### § 61.85 Application.

An application for a student pilot certificate is made on a form and in a manner provided by the Administrator and is submitted to:

(a) A designated aviation medical examiner if applying for an FAA medical certificate under part 67 of this chapter;

(b) An examiner; or

(c) A Flight Standards District Office.

#### § 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.

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

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

(2) Taxiing or surface operations, including runups;

(3) Takeoffs and landings, including normal and crosswind;

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

(5) Climbs and climbing turns;

(6) Airport traffic patterns, including entry and departure procedures;

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

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

(9) Flight at various airspeeds from cruise to slow flight;

(10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;

(11) Emergency procedures and equipment malfunctions;

(12) Ground reference maneuvers;

(13) Approaches to a landing area with simulated engine malfunctions;

(14) Slips to a landing; and

(15) Go-arounds.

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

- (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;
- (2) Taxiing or surface operations, including runups;
- (3) Takeoffs and landings, including normal and crosswind;
- (4) Straight and level flight, and turns in both directions;
- (5) Climbs and climbing turns;
- (6) Airport traffic patterns, including entry and departure procedures;
- (7) Collision avoidance, windshear avoidance, and wake turbulence avoidance;
- (8) Descents, with and without turns, using high and low drag configurations;
- (9) Flight at various airspeeds from cruise to slow flight;
- (10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;
- (11) Emergency procedures and equipment malfunctions;
- (12) Ground reference maneuvers;
- (13) Approaches to a landing area with simulated engine malfunctions; and
- (14) Go-arounds.

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

- (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;
- (2) Taxiing or surface operations, including runups;
- (3) Takeoffs and landings, including normal and crosswind;
- (4) Straight and level flight, and turns in both directions;
- (5) Climbs and climbing turns;
- (6) Airport traffic patterns, including entry and departure procedures;

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

- (8) Descents with and without turns;
- (9) Flight at various airspeeds;
- (10) Emergency procedures and equipment malfunctions;
- (11) Ground reference maneuvers;
- (12) Approaches to the landing area;
- (13) Hovering and hovering turns;
- (14) Go-arounds;
- (15) Simulated emergency procedures, including autorotational descents with a power recovery and power recovery to a hover;
- (16) Rapid decelerations; and
- (17) Simulated one-engine-inoperative approaches and landings for multiengine helicopters.

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

- (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;
- (2) Taxiing or surface operations, including runups;
- (3) Takeoffs and landings, including normal and crosswind;
- (4) Straight and level flight, and turns in both directions;
- (5) Climbs and climbing turns;
- (6) Airport traffic patterns, including entry and departure procedures;
- (7) Collision avoidance, windshear avoidance, and wake turbulence avoidance;
- (8) Descents with and without turns;
- (9) Flight at various airspeeds;
- (10) Emergency procedures and equipment malfunctions;
- (11) Ground reference maneuvers;
- (12) Approaches to the landing area;
- (13) High rates of descent with power on and with simulated power off, and recovery from those flight configurations;
- (14) Go-arounds; and
- (15) Simulated emergency procedures, including simulated power-off landings and simulated power failure during departures.

(h) *Maneuvers and procedures for pre-solo flight training in a powered-lift.* A student pilot who is receiving training

for a powered-lift rating must receive and log flight training in the following maneuvers and procedures:

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

(2) Taxiing or surface operations, including runups;

(3) Takeoffs and landings, including normal and crosswind;

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

(5) Climbs and climbing turns;

(6) Airport traffic patterns, including entry and departure procedures;

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

(8) Descents with and without turns;

(9) Flight at various airspeeds from cruise to slow flight;

(10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;

(11) Emergency procedures and equipment malfunctions;

(12) Ground reference maneuvers;

(13) Approaches to a landing with simulated engine malfunctions;

(14) Go-arounds;

(15) Approaches to the landing area;

(16) Hovering and hovering turns; and

(17) For multiengine powered-lifts, simulated one-engine-inoperative approaches and landings.

(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.

(j) *Maneuvers and procedures for pre-solo flight training in an airship.* A student pilot who is receiving training for an airship rating must receive and log flight training for the following maneuvers and procedures:

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

(2) Taxiing or surface operations, including runups;

(3) Takeoffs and landings, including normal and crosswind;

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

(5) Climbs and climbing turns;

(6) Airport traffic patterns, including entry and departure procedures;

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

(8) Descents with and without turns;

(9) Flight at various airspeeds from cruise to slow flight;

(10) Emergency procedures and equipment malfunctions;

(11) Ground reference maneuvers;

(12) Rigging, ballasting, and controlling pressure in the ballonets, and superheating; and

(13) Landings with positive and with negative static trim.

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

- (1) Layout and assembly procedures;
- (2) Proper flight preparation procedures, including preflight planning and preparation, and aircraft systems;
- (3) Ascents and descents;
- (4) Landing and recovery procedures;
- (5) Emergency procedures and equipment malfunctions;
- (6) Operation of hot air or gas source, ballast, valves, vents, and rip panels, as appropriate;
- (7) Use of deflation valves or rip panels for simulating an emergency;
- (8) The effects of wind on climb and approach angles; and
- (9) Obstruction detection and avoidance techniques.

(l) *Limitations on student pilots operating an aircraft in solo flight.* A student pilot may not operate an aircraft in solo flight unless that student pilot has received:

- (1) An endorsement from an authorized instructor on his or her student pilot certificate for the specific make and model aircraft to be flown; and
- (2) An endorsement in the student's logbook for the specific make and model aircraft to be flown by an authorized instructor, who gave the training within the 90 days preceding the date of the flight.

(m) *Limitations on student pilots operating an aircraft in solo flight at night.* A student pilot may not operate an aircraft in solo flight at night unless that student pilot has received:

- (1) Flight training at night on night flying procedures that includes take-offs, approaches, landings, and go-arounds at night at the airport where the solo flight will be conducted;
- (2) Navigation training at night in the vicinity of the airport where the solo flight will be conducted; and
- (3) An endorsement in the student's logbook for the specific make and model aircraft to be flown for night solo flight by an authorized instructor who gave the training within the 90-day period preceding the date of the flight.

(n) *Limitations on flight instructors authorizing solo flight.* (1) No instructor may authorize a student pilot to perform a solo flight unless that instructor has—

- (i) Given that student pilot training in the make and model of aircraft or a similar make and model of aircraft in which the solo flight is to be flown;
- (ii) Determined the student pilot is proficient in the maneuvers and procedures prescribed in this section;
- (iii) Determined the student pilot is proficient in the make and model of aircraft to be flown;
- (iv) Ensured that the student pilot's certificate has been endorsed by an instructor authorized to provide flight training for the specific make and model aircraft to be flown; and
- (v) Endorsed the student pilot's logbook for the specific make and model aircraft to be flown, and that endorsement remains current for solo flight privileges, provided an authorized instructor updates the student's logbook every 90 days thereafter.

(2) The flight training required by this section must be given by an instructor authorized to provide flight training who is appropriately rated and current.

[Doc. No. 25910, 62 FR 16298, Apr. 4, 1997; Amdt. 61-103, 62 FR 40902, July 30, 1997; Amdt. 61-104, 63 FR 20287, Apr. 23, 1998]

**§ 61.89 General limitations.**

- (a) A student pilot may not act as pilot in command of an aircraft:
- (1) That is carrying a passenger;
  - (2) That is carrying property for compensation or hire;
  - (3) For compensation or hire;
  - (4) In furtherance of a business;
  - (5) On an international flight, except that a student pilot may make solo training flights from Haines, Gustavus, or Juneau, Alaska, to White Horse, Yukon, Canada, and return over the province of British Columbia;
  - (6) With a flight or surface visibility of less than 3 statute miles during daylight hours or 5 statute miles at night;
  - (7) When the flight cannot be made with visual reference to the surface; or
  - (8) In a manner contrary to any limitations placed in the pilot's logbook by an authorized instructor.