

Federal Aviation Regulations for Glider Pilots

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PART 61 - CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

§ 61.3 Requirement for certificates, ratings, and authorizations.

(a) *Required pilot certificate for operating a civil aircraft of the United States.* No person may serve as a required pilot flight crewmember of a civil aircraft of the United States, unless that person:

(1) Has in the person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate or authorization -

(i) A pilot certificate issued under this part and in accordance with § 61.19;

(2) Has a photo identification that is in that person's physical possession or readily accessible in the aircraft when exercising the privileges of that pilot certificate or authorization. The photo identification must be a:

(i) Driver's license issued by a State, the District of Columbia, or territory or possession of the United States;

(ii) Government identification card issued by the Federal government, a State, the District of Columbia, or a territory or possession of the United States;

- (iii) U.S. Armed Forces' identification card;
- (iv) Official passport;

61.3(c)(1) Medical certificate.

A person may serve as a required pilot flight crewmember of an aircraft only if that person holds the appropriate medical certificate issued under [part 67 of this chapter](#), or other documentation acceptable to the FAA, that is in that person's physical possession or readily accessible in the aircraft. [Paragraph \(c\)\(2\)](#) of this section provides certain exceptions to the requirement to hold a medical certificate.

- (2) A person is not required to meet the requirements of [paragraph \(c\)\(1\)](#) of this section if that person -
 - (i) Is exercising the privileges of a student pilot certificate while seeking a pilot certificate with a glider category rating, a balloon class rating, or glider or balloon privileges;
 - (ii) Is exercising the privileges of a student pilot certificate while seeking a sport pilot certificate with other than glider or balloon privileges and holds a U.S. driver's license;
 - (iv) Is exercising the privileges of a sport pilot certificate with glider or balloon privileges;
 - (vii) Is holding a pilot certificate or a flight instructor certificate with a glider category rating, and is piloting or providing training in a glider, as appropriate;

§ 61.19 Duration of pilot and instructor certificates and privileges.

General.

- (1) The holder of a certificate with an expiration date may not, after that date, exercise the privileges of that certificate.
- (2) Except for a certificate issued with an expiration date, a pilot certificate is valid unless it is surrendered, suspended, or revoked.
- (b) ***Paper student pilot certificate.*** A student pilot certificate issued under this part prior to April 1, 2016 expires:

For student pilots seeking a glider rating, balloon rating, or a sport pilot certificate, 60 calendar months after the month of the date issued, regardless of the person's age.

- (d) ***Flight instructor certificate.*** Except as specified in [§ 61.197\(b\)](#), a flight instructor certificate expires 24 calendar months from the month in which it was issued, renewed, or reinstated, as appropriate.

§ 61.23 Medical certificates: Requirement and duration.

Operations not requiring a medical certificate. A person is not required to hold a medical certificate -

- (1) When exercising the privileges of a student pilot certificate while seeking -
 - (i) A sport pilot certificate with glider or balloon privileges; or
 - (ii) A pilot certificate with a glider category rating or balloon class rating;
- (2) When exercising the privileges of a sport pilot certificate with privileges in a glider or balloon;
- (3) When exercising the privileges of a pilot certificate with a glider category rating or balloon class rating in a glider or a balloon, as appropriate;
- (4) When exercising the privileges of a flight instructor certificate with -
 - (i) A sport pilot rating in a glider or balloon; or
 - (ii) A glider category rating;
- (5) When exercising the privileges of a flight instructor certificate if the person is not acting as pilot in command or serving as a required pilot flight crewmember;
- (8) When taking a practical test or a proficiency check for a certificate, rating, authorization or operating privilege conducted in a glider, balloon, flight simulator, or flight training device;

§ 61.31 Type rating requirements, additional training, and authorization requirements.

(j) *Additional training required for operating a glider.*

- (1) No person may act as pilot in command of a glider -
 - (i) Using ground-tow procedures, unless that person has satisfactorily accomplished ground and flight training on ground-tow procedures and operations, and has received an endorsement from an authorized instructor who certifies in that pilot's logbook that the pilot has been found proficient in ground-tow procedures and operations;
 - (ii) Using aerotow procedures, unless that person has satisfactorily accomplished ground and flight training on aerotow procedures and operations, and has received an endorsement from an authorized instructor who certifies in that pilot's logbook that the pilot has been found proficient in aerotow procedures and operations; or

- (iii) Using self-launch procedures, unless that person has satisfactorily accomplished ground and flight training on self-launch procedures and operations, and has received an endorsement from an authorized instructor who certifies in that pilot's logbook that the pilot has been found proficient in self-launch procedures and operations.
- (2) The holder of a glider rating issued prior to August 4, 1997, is considered to be in compliance with the training and logbook endorsement requirements of this paragraph for the specific operating privilege for which the holder is already qualified.

§ 61.35 Knowledge test: Prerequisites and passing grades.

(a) An applicant for a knowledge test must have:

- (1) Received an endorsement, if required by this part, from an authorized instructor certifying that the applicant accomplished the appropriate ground-training or a home-study course required by this part for the certificate or rating sought and is prepared for the knowledge test;

§ 61.49 Retesting after failure.

- (a) An applicant for a knowledge or practical test who fails that test may reapply for the test only after the applicant has received:
 - (1) The necessary training from an authorized instructor who has determined that the applicant is proficient to pass the test; and
 - (2) An endorsement from an authorized instructor who gave the applicant the additional training.

§ 61.56 Flight review.

- (a) Except as provided in [paragraphs \(b\) and \(f\)](#) of this section, a flight review consists of a minimum of 1 hour of flight training and 1 hour of ground training. The review must include:
 - (1) A review of the current general operating and flight rules of [part 91 of this chapter](#); and
 - (2) A review of those maneuvers and procedures that, at the discretion of the person giving the review, are necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot certificate.
- (b) Glider pilots may substitute a minimum of three instructional flights in a glider, each of which includes a flight to traffic pattern altitude, in lieu of the 1 hour of flight training required in [paragraph \(a\)](#) of this section.
- (c) Except as provided in [paragraphs \(d\), \(e\), and \(g\)](#) of this section, no person may act as pilot in command of an aircraft unless, since the beginning of the 24th calendar month before the month in which that pilot acts as pilot in command, that person has -
 - (1) Accomplished a flight review given in an aircraft for which that pilot is rated by an authorized instructor and

- (2) A logbook endorsed from an authorized instructor who gave the review certifying that the person has satisfactorily completed the review.
- (d) A person who has, within the period specified in [paragraph \(c\)](#) of this section, passed any of the following need not accomplish the flight review required by this section:
 - (1) A pilot proficiency check or practical test conducted by an examiner, an approved pilot check airman, or a U.S. Armed Force, for a pilot certificate, rating, or operating privilege.
 - (2) A practical test conducted by an examiner for the issuance of a flight instructor certificate, an additional rating on a flight instructor certificate, renewal of a flight instructor certificate, or reinstatement of a flight instructor certificate.
- (e) A person who has, within the period specified in [paragraph \(c\)](#) of this section, satisfactorily accomplished one or more phases of an FAA-sponsored pilot proficiency award program need not accomplish the flight review required by this section.
- (f) A person who holds a flight instructor certificate and who has, within the period specified in [paragraph \(c\)](#) of this section, satisfactorily completed a renewal of a flight instructor certificate under the provisions in [§ 61.197](#) need not accomplish the one hour of ground training specified in [paragraph \(a\)](#) of this section.
- (g) A student pilot need not accomplish the flight review required by this section provided the student pilot is undergoing training for a certificate and has a current solo flight endorsement as required under [§ 61.87 of this part](#).
- (h) The requirements of this section may be accomplished in combination with the requirements of [§ 61.57](#) and other applicable recent experience requirements at the discretion of the authorized instructor conducting the flight review.

§ 61.69 Glider and unpowered ultralight vehicle towing: Experience and training requirements.

- (a) No person may act as pilot in command for towing a glider or unpowered ultralight vehicle unless that person -
 - (1) Holds a private, commercial or airline transport pilot certificate with a category rating for powered aircraft;
 - (2) Has logged at least 100 hours of pilot-in-command time in the aircraft category, class and type, if required, that the pilot is using to tow a glider or unpowered ultralight vehicle;
 - (3) Has a logbook endorsement from an authorized instructor who certifies that the person has received ground and flight training in gliders or unpowered ultralight vehicles and is proficient in -
 - (i) The techniques and procedures essential to the safe towing of gliders or unpowered ultralight vehicles, including airspeed limitations;

- (ii) Emergency procedures;
 - (iii) Signals used; and
 - (iv) Maximum angles of bank.
- (4) Except as provided in [paragraph \(b\)](#) of this section, has logged at least three flights as the sole manipulator of the controls of an aircraft while towing a glider or unpowered ultralight vehicle, or has simulated towing flight procedures in an aircraft while accompanied by a pilot who meets the requirements of [paragraphs \(c\)](#) and [\(d\)](#) of this section.
- (5) Except as provided in [paragraph \(b\)](#) of this section, has received a logbook endorsement from the pilot, described in [paragraph \(a\)\(4\)](#) of this section, certifying that the person has accomplished at least 3 flights in an aircraft while towing a glider or unpowered ultralight vehicle, or while simulating towing flight procedures; and
- (6) Within 24 calendar months before the flight has -
- (i) Made at least three actual or simulated tows of a glider or unpowered ultralight vehicle while accompanied by a qualified pilot who meets the requirements of this section; or
 - (ii) Made at least three flights as pilot in command of a glider or unpowered ultralight vehicle towed by an aircraft.
- (c) The pilot, described in [paragraph \(a\)\(4\)](#) of this section, who endorses the logbook of a person seeking towing privileges must have -
- (1) Met the requirements of this section prior to endorsing the logbook of the person seeking towing privileges; and
 - (2) Logged at least 10 flights as pilot in command of an aircraft while towing a glider or unpowered ultralight vehicle.
- (d) If the pilot described in [paragraph \(a\)\(4\)](#) of this section holds only a private pilot certificate, then that pilot must have -
- (1) Logged at least 100 hours of pilot-in-command time in airplanes, or 200 hours of pilot-in-command time in a combination of powered and other-than-powered aircraft; and
 - (2) Performed and logged at least three flights within the 12 calendar months preceding the month that pilot accompanies or endorses the logbook of a person seeking towing privileges -
- (i) In an aircraft while towing a glider or unpowered ultralight vehicle accompanied by another pilot who meets the requirements of this section; or
 - (ii) As pilot in command of a glider or unpowered ultralight vehicle being towed by another aircraft.

§ 61.83 Eligibility requirements for student pilots.

To be eligible for a student pilot certificate, an applicant must:

- (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 applicant for a student pilot certificate:

- (a) Must make that application in a form acceptable to the Administrator; and
- (b) Must submit the application to a Flight Standards office, a designated pilot examiner, an airman certification representative associated with a pilot school, a flight instructor, or other person authorized by the Administrator.

§ 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.

Maneuvers and procedures for pre-solo flight training in a glider. A student pilot who is receiving training for a glider rating or privileges 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.

(n) ***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 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.

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

- (1) 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;
- (2) Determined the student pilot is proficient in the maneuvers and procedures prescribed in this section;
- (3) Determined the student pilot is proficient in the make and model of aircraft to be flown; and
- (4) 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.

§ 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.

§ 61.93 Solo cross-country flight requirements.

(j) ***Maneuvers and procedures for cross-country flight training in a glider.*** A student pilot who is receiving training for cross-country flight in a glider must receive and log flight training in the following maneuvers and procedures:

- (1) Use of aeronautical charts for VFR navigation using pilotage and dead reckoning with the aid of a magnetic compass;
- (2) Use of aircraft performance charts pertaining to cross-country flight;
- (3) Procurement and analysis of aeronautical weather reports and forecasts, including recognition of critical weather situations and estimating visibility while in flight;
- (4) Emergency procedures;
- (5) Traffic pattern procedures that include area departure, area arrival, entry into the traffic pattern, and approach;
- (6) Procedures and operating practices for collision avoidance, wake turbulence precautions, and windshear avoidance;
- (7) Recognition, avoidance, and operational restrictions of hazardous terrain features in the geographical area where the cross-country flight will be flown;
- (8) Procedures for operating the instruments and equipment installed in the aircraft to be flown, including recognition and use of the proper operational procedures and indications;
- (9) Landings accomplished without the use of the altimeter from at least 2,000 feet above the surface; and
- (10) Recognition of weather and upper air conditions favorable for cross-country soaring, ascending and descending flight, and altitude control.

Subpart E - Private Pilots

§ 61.102 Applicability.

This subpart prescribes the requirements for the issuance of private pilot certificates and ratings, the conditions under which those certificates and ratings are necessary, and the general operating rules for persons who hold those certificates and ratings.

§ 61.103 Eligibility requirements: General.

To be eligible for a private pilot certificate, a person must:

- (a) Be at least 17 years of age for a rating in other than a glider or balloon.
- (b) Be at least 16 years of age for a rating in 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.

- (d) Receive a logbook endorsement from an authorized instructor who:
 - (1) Conducted the training or reviewed the person's home study on the aeronautical knowledge areas listed in [§ 61.105\(b\) of this part](#) that apply to the aircraft rating sought; and
 - (2) Certified that the person is prepared for the required knowledge test.
- (e) Pass the required knowledge test on the aeronautical knowledge areas listed in [§ 61.105\(b\) of this part](#).
- (f) Receive flight training and a logbook endorsement from an authorized instructor who:
 - (1) Conducted the training in the areas of operation listed in [§ 61.107\(b\) of this part](#) that apply to the aircraft rating sought; and
 - (2) Certified that the person is prepared for the required practical test.
- (g) Meet the aeronautical experience requirements of this part that apply to the aircraft rating sought before applying for the practical test.
- (h) Pass a practical test on the areas of operation listed in [§ 61.107\(b\) of this part](#) that apply to the aircraft rating sought.
- (i) Comply with the appropriate sections of this part that apply to the aircraft category and class rating sought.
- (j) Hold a U.S. student pilot certificate, sport pilot certificate, or recreational pilot certificate.

§ 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.

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 with an authorized instructor in a glider in preparation for the practical test that must have been performed within the preceding 2 calendar months from the month 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 with an authorized instructor in a glider in preparation for the practical test that must have been performed within the preceding 2 calendar months from the month of the test.

§ 61.113 Private pilot privileges and limitations: Pilot in command.

- (a) Except as provided in [paragraphs \(b\) through \(h\)](#) of this section, no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.
- (g) A private pilot who meets the requirements of [§ 61.69](#) may act as a pilot in command of an aircraft towing a glider or unpowered ultralight vehicle.

§ 61.127 Flight proficiency.

- (a) ***General.*** A person who applies for a commercial 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.

§ 61.129 Aeronautical experience.

For a glider rating. A person who applies for a commercial pilot certificate with a glider category rating must log at least -

- (1) 25 hours of flight time as a pilot in a glider and that flight time must include at least 100 flights in a glider as pilot in command, including at least -
 - (i) Three hours of flight training in a glider with an authorized instructor or 10 training flights in a glider with an authorized instructor on the areas of operation listed in [§ 61.127\(b\)\(6\) of this part](#), including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the preceding 2 calendar months from the month of the test; and
 - (ii) 2 hours of solo flight that include not less than 10 solo flights in a glider on the areas of operation listed in [§ 61.127\(b\)\(6\) of this part](#); or
- (2) 200 hours of flight time as a pilot in heavier-than-air aircraft and at least 20 flights in a glider as pilot in command, including at least -
 - (i) Three hours of flight training in a glider or 10 training flights in a glider with an authorized instructor on the areas of operation listed in [§ 61.127\(b\)\(6\) of this part](#) including at least 3 training flights in a glider with an authorized instructor in preparation for the practical test within the preceding 2 calendar months from the month of the test; and

(ii) 5 solo flights in a glider on the areas of operation listed in [§ 61.127\(b\)\(6\) of this part](#).

PART 91 - GENERAL OPERATING AND FLIGHT RULES

§ 91.3 Responsibility and authority of the pilot in command.

- (a) The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.
- (b) In an in-flight emergency requiring immediate action, the pilot in command may deviate from any rule of this part to the extent required to meet that emergency.
- (c) Each pilot in command who deviates from a rule under [paragraph \(b\)](#) of this section shall, upon the request of the Administrator, send a written report of that deviation to the Administrator.

§ 91.113 Right-of-way rules: Except water operations.

- (a) ***Inapplicability.*** This section does not apply to the operation of an aircraft on water.
- (b) ***General.*** When weather conditions permit, regardless of whether an operation is conducted under instrument flight rules or visual flight rules, vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft. When a rule of this section gives another aircraft the right-of-way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it unless well clear.
- (c) ***In distress.*** An aircraft in distress has the right-of-way over all other air traffic.
- (d) ***Converging.*** When aircraft of the same category are converging at approximately the same altitude (except head-on, or nearly so), the aircraft to the other's right has the right-of-way. If the aircraft are of different categories -
 - (1) A balloon has the right-of-way over any other category of aircraft;
 - (2) A glider has the right-of-way over an airship, powered parachute, weight-shift-control aircraft, airplane, or rotorcraft.
 - (3) An airship has the right-of-way over a powered parachute, weight-shift-control aircraft, airplane, or rotorcraft.

However, an aircraft towing or refueling other aircraft has the right-of-way over all other engine-driven aircraft.

- (e) ***Approaching head-on.*** When aircraft are approaching each other head-on, or nearly so, each pilot of each aircraft shall alter course to the right.

(f) **Overtaking.** Each aircraft that is being overtaken has the right-of-way and each pilot of an overtaking aircraft shall alter course to the right to pass well clear.

(g) **Landing.** Aircraft, while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface, except that they shall not take advantage of this rule to force an aircraft off the runway surface which has already landed and is attempting to make way for an aircraft on final approach. When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft.

§ 91.131 Operations in Class B airspace.

(a) **Operating rules.** No person may operate an aircraft within a Class B airspace area except in compliance with [§ 91.129](#) and the following rules:

(1) The operator must receive an ATC clearance from the ATC facility having jurisdiction for that area before operating an aircraft in that area.

Communications and navigation equipment requirements. Unless otherwise authorized by ATC, no person may operate an aircraft within a Class B airspace area unless that aircraft is equipped with -

For all operations. An operable two-way radio capable of communications with ATC on appropriate frequencies for that Class B airspace area.

(d) **Other equipment requirements.** No person may operate an aircraft in a Class B airspace area unless the aircraft is equipped with -

(1) The applicable operating transponder and automatic altitude reporting equipment specified in [§ 91.215 \(a\)](#), except as provided in [§ 91.215 \(e\)](#), and

(2) After January 1, 2020, the applicable Automatic Dependent Surveillance-Broadcast Out equipment specified in [§ 91.225](#).

§ 91.133 Restricted and prohibited areas.

(a) No person may operate an aircraft within a restricted area (designated in part 73) contrary to the restrictions imposed, or within a prohibited area, unless that person has the permission of the using or controlling agency, as appropriate.

§ 91.137 Temporary flight restrictions in the vicinity of disaster/hazard areas.

(a) The Administrator will issue a Notice to Airmen (NOTAM) designating an area within which temporary flight restrictions apply and specifying the hazard or condition requiring their imposition, whenever he determines it is necessary in order to -

- (1) Protect persons and property on the surface or in the air from a hazard associated with an incident on the surface;
- (2) Provide a safe environment for the operation of disaster relief aircraft; or
- (3) Prevent an unsafe congestion of sightseeing and other aircraft above an incident or event which may generate a high degree of public interest.

The Notice to Airmen will specify the hazard or condition that requires the imposition of temporary flight restrictions.

§ 91.155 Basic VFR weather minimums.

- (a) Except as provided in [paragraph \(b\)](#) of this section and [§ 91.157](#), no person may operate an aircraft under VFR when the flight visibility is less, or at a distance from clouds that is less, than that prescribed for the corresponding altitude and class of airspace in the following table:

Airspace	Flight visibility	Distance from clouds
Class A	Not Applicable	Not Applicable.
Class B	3 statute miles	Clear of Clouds.
Class C	3 statute miles	500 feet below.
		1,000 feet above.
		2,000 feet horizontal.
Class D	3 statute miles	500 feet below.
		1,000 feet above.
		2,000 feet horizontal.
Class E:		
Less than 10,000 feet MSL	3 statute miles	500 feet below.
		1,000 feet above.
		2,000 feet horizontal.
At or above 10,000 feet MSL	5 statute miles	1,000 feet below.
		1,000 feet above.

		1 statute mile horizontal.
Class G:		
1,200 feet or less above the surface (regardless of MSL altitude)		
For aircraft other than helicopters:		
Day, except as provided in § 91.155(b)	1 statute mile	Clear of clouds.
Night, except as provided in § 91.155(b)	3 statute miles	500 feet below.
		1,000 feet above.
		2,000 feet horizontal.

§ 91.211 Supplemental oxygen.

(a) *General.* No person may operate a civil aircraft of U.S. registry -

- (1) At cabin pressure altitudes above 12,500 feet (MSL) up to and including 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration;
- (2) At cabin pressure altitudes above 14,000 feet (MSL) unless the required minimum flight crew is provided with and uses supplemental oxygen during the entire flight time at those altitudes; and
- (3) At cabin pressure altitudes above 15,000 feet (MSL) unless each occupant of the aircraft is provided with supplemental oxygen.

§ 91.213 Inoperative instruments and equipment.

(a) Except as provided in [paragraph \(d\)](#) of this section, no person may take off an aircraft with inoperative instruments or equipment installed unless the following conditions are met:

- (1) An approved Minimum Equipment List exists for that aircraft.
- (b) The following instruments and equipment may not be included in a Minimum Equipment List:
 - (1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the aircraft is type certificated and which are essential for safe operations under all operating conditions.

Except for operations conducted in accordance with [paragraph \(a\)](#) or [\(c\)](#) of this section, a person may takeoff an aircraft in operations conducted under this part with inoperative instruments and equipment without an approved Minimum Equipment List provided -

(1) The flight operation is conducted in a -

(i) Rotorcraft, non-turbine-powered airplane, glider, lighter-than-air aircraft, powered parachute, or weight-shift-control aircraft, for which a master minimum equipment list has not been developed

§ 91.215 ATC transponder and altitude reporting equipment and use.

(b) *All airspace.* Unless otherwise authorized or directed by ATC, and except as provided in [paragraph \(e\)\(1\)](#) of this section, no person may operate an aircraft in the airspace described in [paragraphs \(b\)\(1\)](#) through [\(5\)](#) of this section, unless that aircraft is equipped with an operable coded radar beacon transponder...

(1) *All aircraft.* In Class A, Class B, and Class C airspace areas;

(2) *All aircraft.* In all airspace within 30 nautical miles of an airport listed in appendix D, section 1 of this part from the surface upward to 10,000 feet MSL;

(3) Notwithstanding [paragraph \(b\)\(2\)](#) of this section, any aircraft which was not originally certificated with an engine-driven electrical system or which has not subsequently been certified with such a system installed, balloon or glider may conduct operations in the airspace within 30 nautical miles of an airport listed in appendix D, section 1 of this part provided such operations are conducted -

(i) Outside any Class A, Class B, or Class C airspace area; and

(ii) Below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport or 10,000 feet MSL, whichever is lower;

(c) *Transponder-on operation.* Except as provided in [paragraph \(e\)\(2\)](#) of this section, while in the airspace as specified in [paragraph \(b\)](#) of this section or in all controlled airspace, each person operating an aircraft equipped with an operable ATC transponder maintained in accordance with [§ 91.413](#) shall operate the transponder, including Mode C equipment if installed, and shall reply on the appropriate code or as assigned by ATC, unless otherwise directed by ATC when transmitting would jeopardize the safe execution of air traffic control functions.

§ 91.225 Automatic Dependent Surveillance-Broadcast (ADS-B) Out equipment and use.

(b) After January 1, 2020, except as prohibited in [paragraph \(i\)\(2\)](#) of this section or unless otherwise authorized by ATC, no person may operate an aircraft below 18,000 feet MSL and in airspace described in [paragraph \(d\)](#) of this section unless the aircraft has equipment installed that -

(1) Meets the performance requirements in -

(i) TSO-C166b; or

(ii) TSO-C154c, Universal Access Transceiver (UAT) Automatic Dependent Surveillance-Broadcast (ADS-B) Equipment Operating on the Frequency of 978 MHz;

(2) Except as provided for in [paragraph \(e\)](#) of this section, within 30 nautical miles of an airport listed in appendix D, section 1 to this part from the surface upward to 10,000 feet MSL;

(e) The requirements of [paragraph \(b\)](#) of this section do not apply to any aircraft that was not originally certificated with an electrical system, or that has not subsequently been certified with such a system installed, including balloons and gliders. These aircraft may conduct operations without ADS-B Out in the airspace specified in [paragraphs \(d\)\(2\)](#) and [\(d\)\(4\)](#) of this section. Operations authorized by this section must be conducted -

(1) Outside any Class B or Class C airspace area; and

(2) Below the altitude of the ceiling of a Class B or Class C airspace area designated for an airport, or 10,000 feet MSL, whichever is lower.

§ 91.303 Aerobatic flight.

No person may operate an aircraft in aerobatic flight -

(a) Over any congested area of a city, town, or settlement;

(b) Over an open air assembly of persons;

(c) Within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport;

(d) Within 4 nautical miles of the center line of any Federal airway;

(e) Below an altitude of 1,500 feet above the surface; or

(f) When flight visibility is less than 3 statute miles.

For the purposes of this section, aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight.

§ 91.307 Parachutes and parachuting.

(a) No pilot of a civil aircraft may allow a parachute that is available for emergency use to be carried in that aircraft unless it is an approved type and has been packed by a certificated and appropriately rated parachute rigger -

(1) Within the preceding 180 days, if its canopy, shrouds, and harness are composed exclusively of nylon, rayon, or other similar synthetic fiber or materials that are substantially resistant to damage from mold, mildew, or other fungi and other rotting agents propagated in a moist environment;

§ 91.309 Towing: Gliders and unpowered ultralight vehicles.

(a) No person may operate a civil aircraft towing a glider or unpowered ultralight vehicle unless -

- (1) The pilot in command of the towing aircraft is qualified under [§ 61.69 of this chapter](#);
 - (2) The towing aircraft is equipped with a tow-hitch of a kind, and installed in a manner, that is approved by the Administrator;
 - (3) The towline used has breaking strength not less than 80 percent of the maximum certificated operating weight of the glider or unpowered ultralight vehicle and not more than twice this operating weight. However, the towline used may have a breaking strength more than twice the maximum certificated operating weight of the glider or unpowered ultralight vehicle if -
 - (i) A safety link is installed at the point of attachment of the towline to the glider or unpowered ultralight vehicle with a breaking strength not less than 80 percent of the maximum certificated operating weight of the glider or unpowered ultralight vehicle and not greater than twice this operating weight;
 - (ii) A safety link is installed at the point of attachment of the towline to the towing aircraft with a breaking strength greater, but not more than 25 percent greater, than that of the safety link at the towed glider or unpowered ultralight vehicle end of the towline and not greater than twice the maximum certificated operating weight of the glider or unpowered ultralight vehicle;
 - (4) Before conducting any towing operation within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport, or before making each towing flight within such controlled airspace if required by ATC, the pilot in command notifies the control tower. If a control tower does not exist or is not in operation, the pilot in command must notify the FAA flight service station serving that controlled airspace before conducting any towing operations in that airspace; and
 - (5) The pilots of the towing aircraft and the glider or unpowered ultralight vehicle have agreed upon a general course of action, including takeoff and release signals, airspeeds, and emergency procedures for each pilot.
- (b) No pilot of a civil aircraft may intentionally release a towline, after release of a glider or unpowered ultralight vehicle, in a manner that endangers the life or property of another.

§ 91.409 Inspections.

(a) Except as provided in [paragraph \(c\)](#) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had -

- (1) An annual inspection in accordance with [part 43 of this chapter](#) and has been approved for return to service by a person authorized by [§ 43.7 of this chapter](#); or

§ 91.519 Passenger briefing.

(a) Before each takeoff the pilot in command of an airplane carrying passengers shall ensure that all passengers have been orally briefed on -

(2) *Use of safety belts and shoulder harnesses.*

(3) Location and means for opening the passenger entry door and emergency exits;

(b) The oral briefing required by [paragraph \(a\)](#) of this section shall be given by the pilot in command or a member of the crew, but need not be given when the pilot in command determines that the passengers are familiar with the contents of the briefing.

PART 830 - NOTIFICATION AND REPORTING OF AIRCRAFT ACCIDENTS OR INCIDENTS AND OVERDUE AIRCRAFT, AND PRESERVATION OF AIRCRAFT WRECKAGE, MAIL, CARGO, AND RECORDS

Aircraft Accident means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

§ 830.5 Immediate notification.

The operator of any civil aircraft, or any public aircraft not operated by the Armed Forces or an intelligence agency of the United States, or any foreign aircraft shall immediately, and by the most expeditious means available, notify the nearest National Transportation Safety Board (NTSB) office,^[1] when:

(a) An aircraft accident or any of the following listed serious incidents occur:

(1) Flight control system malfunction or failure;

(2) Inability of any required flight crewmember to perform normal flight duties as a result of injury or illness;

(3) Failure of any internal turbine engine component that results in the escape of debris other than out the exhaust path;

(4) In-flight fire;

(5) Aircraft collision in flight;

(6) Damage to property, other than the aircraft, estimated to exceed \$25,000 for repair (including materials and labor) or fair market value in the event of total loss, whichever is less.