CIVIL AIR REGULATIONS

PART 22—LIGHTER-THAN-AIR PILOT CERTIFICATES

As amended to November 1, 1949

CIVIL AERONAUTICS BOARD

WASHINGTON, D. C.

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AUTHORITY: §§ 22.1 to 22.42, issued under sec. 205 (a), 52 Stat. 984; 49 U. S. C. 425 (a). Interpret or apply secs. 601, 602, 52 Stat. 1007, 1008, 49 U. S. C. 551, 552.

SOURCE: §§ 22.1 to 22.42 contained in Amendment 127, 6 F. R. 4558, except as noted following sections affected.

CLASSIFICATION OF LIGHTER-THAN-AIR PILOT CERTIFICATES

§ 22.1 *Grades.* Lighter-than-air pilot certificates are classified in the following grades:

(a) Student lighter-than-air pilot certificate.

(b) Private lighter-than-air pilot certificate.

(c) Commercial lighter-than-air pilot certificate.

(d) Free balloon pilot certificate.

LIGHTER-THAN-AIR PILOT CERTIFICATE REQUIREMENTS

§ 22.10 *Student lighter-than-air pilot certificate.* To be eligible for a student lighter-than-air pilot certificate an applicant shall comply with the following requirements:

(a) *Age.* Applicant shall be at least 16 years of age. If applicant be less than 21 years of age at the time of making application, he shall submit with his application the written consent of either parent, or legal or natural guardian to the issuance of the pilot certificate sought.

(b) *Character.* Applicant shall not be temperamentally unsuited for flying.

(c) *Citizenship.* Applicant shall be:

(1) A citizen of and of unquestionable loyalty to the United States, or

(2) A person who is in sympathy with the objectives of the United States and who is a trustworthy citizen of a friendly foreign government not under the domination of or associated with any government with which the United States is at war.

(d) *Education.* If an applicant is unable to read, speak, and understand the English language, appropriate operation limitations may be entered upon his student lighter-than-air pilot certificate.

(e) *Physical condition.* Applicant shall meet the physical standards of the Third Class prescribed in Part 29 of this subchapter.

(f) *Aeronautical knowledge.* No requirement is prescribed.

(g) *Aeronautical experience.* No requirement is prescribed.

(h) *Aeronautical skill.* No requirement is prescribed.

[Amdt. 127, 6 F. R. 4558 as amended by Amdt. 22-1, 22-2, 22-3, 7 F. R. 989 and Amdt. 22-5, 7 F. R. 3924]

§ 22.11 *Private lighter-than-air pilot certificate.* To be eligible for a private lighter-than-air pilot certificate an applicant shall comply with the following requirements:

(a) *Age.* Applicant shall be at least 18 years of age. If applicant be less than 21 years of age at the time of making application, he shall submit with his application the written consent of either parent, or legal or natural guardian to the issuance of the pilot certificate sought.

(b) *Character.* Same as in § 22.10 (b).

(c) *Citizenship.* Same as in § 22.10 (c).

(d) *Education.* Applicant shall be able to read, speak, and understand the English language.

(e) *Physical condition.* Applicant shall meet the physical standards of the Third Class prescribed in Part 29 of this subchapter.

(f) *Aeronautical knowledge.* Applicant shall pass a written examination covering so much of the provisions of this part and Parts 1 and 60 of this subchapter as are pertinent to his certificate, prevailing weather conditions in the United States as encountered in flying, and the forecasting thereof, the analyzing of weather maps and sequence reports as furnished by the United States Weather Bureau, practical air navigation problems and the use of maps, navigation by terrain (pilotage) and by dead reckoning, including the use of instruments and other aids to navigation in visual-contact flying, and the general servicing and operation of airships.

(g) *Aeronautical experience.* Applicant shall have logged at least 50 flight hours actually at the controls of airships, including not less than 5 hours of solo flight and not less than 5 hours of cross-country flight. At least 5 hours of such time shall have been logged within the 60 days immediately preceding the date of filing the application.

(h) *Aeronautical skill.* Applicant shall satisfactorily demonstrate his ability to pilot airships in solo flight and in addition to normal take-offs and landings to perform satisfactorily the following maneuvers:

(1) A series of right and left turns and figure eights;

(2) Ascents and descents at rates up to 600 feet per minute not permitting gas pressure to exceed 1½ inches of water during ascents or to fall below 1 inch of water during descents;

(3) Land the airship 200 pounds heavy and 200 pounds light;

(4) Such other maneuvers as the Administrator deems necessary.

(i) *Military competence.* An applicant for a private lighter-than-air pilot certificate on the basis of military competence shall be deemed to have met the aeronautical knowledge, experience, and skill requirements of the Civil Air Regulations for the issuance of such certificate, if he passes a written examination on Parts 43 and 60 of this subchapter and presents reliable documentary evidence showing:

(1) That he is a member of the armed forces of the United States or a civilian employee of the ferry or transport services of such forces, and is on solo flying status as a rated lighter-than-air pilot or the equivalent, or

(2) That he has been honorably discharged or released from such forces and has had at least 10 hours as sole manipulator of the controls of a military lighter-than-air aircraft within the preceding 12 months.

[Amdt. 127, 6 F. R. 4558, as amended by Amdt. 22-5, 7 F. R. 3924, and Amdt. 22-3, 13 F. R. 2791]

§ 22.12 *Commercial lighter-than-air pilot certificate.* To be eligible for a commercial lighter-than-air pilot certificate an applicant shall comply with the following requirements:

(a) *Age.* Applicant shall be at least 18 years of age. If applicant be less than 21 years of age at the time of making application, he shall submit with his application the written consent of either parent, or legal or natural guardian to the issuance of the pilot certificate sought.

(b) *Character.* Applicant shall not be temperamentally unsuited for flying.

(c) *Citizenship.* Applicant shall be a citizen of the United States or of a foreign government which grants or has undertaken to grant reciprocal commercial lighter-than-air pilot privileges to citizens of the United States on equal terms and conditions with citizens of such foreign government.

(d) *Education.* Applicant shall be able to read, speak, write, and understand the English language.

(e) *Physical condition.* Applicant shall meet the physical standards of the Second Class prescribed in Part 29 of this subchapter.

(f) *Aeronautical knowledge.* The same as in § 22.11 (f) and, in addition, the applicant shall pass a written examination on the theory and practice of flight, the maintenance of nonrigid airships and the maintenance and proper use of airship power units, the use of such instruments and other navigational aids, both in airships and on the ground, necessary for the navigation of airships by instrument, and meteorology as applied to weather analysis and forecast.

(g) *Aeronautical experience.* Applicant shall show a total of at least 200 hours of flight time actually at the controls of airships of which at least 5 hours shall have been logged within the 60 days immediately preceding the date of the filing of the application and including:

(1) Not less than 50 hours in solo flight;

(2) Not less than 10 hours in cross-country flight;

(3) Not less than 10 hours in flight during the hours of darkness;

(4) Not less than 20 hours of instrument instruction and practice in flight: *Provided*, That not more than 10 hours of this requirement may be instruction and practice under simulated conditions not in flight when approved by the Administrator; and

(5) In lieu of not to exceed 50 hours of the 200-hour total flight time requirement, applicant may show an equal or greater amount of flight time while participating as a crew member when acceptable to the Administrator.

(h) *Aeronautical skill.* Same as in § 22.11 (h) except that:

(1) In the maneuvers required by § 22.11 (h) (1) the altitude of the ship shall not vary up or down in excess of 100 feet of the assigned flight altitude.

(2) In the maneuvers required by § 22.11 (h) (2) ascents and descents at rates up to 1,200 feet per minute shall be made under the same pressure limitations.

(3) Applicant shall also demonstrate satisfactorily his ability to perform, solely by instrument, the following:

(i) Straight, level flight for given period of time;

(ii) Moderate 180- and 360-degree precision turns in both directions;

(iii) Ascents and descents at rates up to 1000 feet per minute;

(iv) Climbing and diving turns and recovery therefrom;

(v) Estimating arrival time taking into account wind, air speed, and drift while in flight or under simulated conditions;

(vi) Such other maneuvers as the Administrator deems necessary.

(i) *Radio skill.* Applicant shall demonstrate satisfactorily his ability to perform while in flight the following:

(1) Tuning radio;

(2) Orientation;

(3) Following radio range;

(4) Locating cone of silence;

(5) Letting-down-through on the range by a satisfactory airship instrument approach procedure for the particular airport used in connection with the test; and

(6) Such other maneuvers as the Administrator deems necessary.

(j) *Military competence.* An applicant for a commercial lighter-than-air pilot certificate on the basis of military competence shall be deemed to have met the aeronautical knowledge, experience, and skill requirements of the regulations in this subchapter for the issuance of such certificate, if he passes a written examination on Parts 43 and 60 of this subchapter and presents reliable documentary evidence showing:

(1) That he is a member of the armed forces of the United States and that he has been on active duty on solo flying status as a rated lighter-than-air pilot with unlimited instrument privileges for a period of at least 6 consecutive months immediately preceding application, or

(2) That he has been honorably discharged or released from such forces and had been on active duty of the type specified in subparagraph (1) of this paragraph for the period of at least 6 consecutive months within 18 months immediately preceding application.

[Amdt. 127, 6 F. R. 4558 as amended by Amdt. 22-5, 7 F. R. 3924, Amdt. 22-3, 13 F. R. 2791 and Amdt. 22-4, 13 F. R. 4313]

§ 22.13 *Free balloon pilot certificate.* To be eligible for a free balloon pilot certificate an applicant shall comply with the following requirements:

(a) *Age.* Same as § 22.11 (a).

(b) *Character.* Applicant shall not be temperamentally unsuited for flying.

(c) *Citizenship.* Same as § 22.10 (c).

(d) *Education.* Applicant shall be able to read, speak, write, and understand the English language.

(e) *Physical condition.* Same as § 22.11 (e).

(f) *Aeronautical knowledge.* Same as § 22.11 (f).

(g) *Aeronautical experience.* Applicant shall have had a minimum of 6 instruction flights in free balloons of not less than 1 hour duration each and shall have logged at least 1 hour of actual solo flight time within the 90 days immediately preceding the date of filing the application. The date of such solo flight shall be certified to by the instructor on the student lighter-than-air pilot certificate.

(h) *Aeronautical skill.* Applicant shall demonstrate satisfactorily his ability to pilot and maneuver a free balloon in actual solo flight.

[Amdt. 127, 6 F. R. 4558, as amended by Amdt. 22-1, 22-2, 22-3, 7 F. R. 989]

LIGHTER-THAN-AIR PILOT CERTIFICATES

§ 22.20 *Application.* Application for a lighter-than-air pilot certificate shall be made upon the form prescribed and furnished by the Administrator.

(a) *Revocation.* No person whose lighter-than-air pilot certificate has been revoked shall apply for or be issued a pilot certificate for a period of 1 year after the revocation except as the order of revocation may otherwise provide.

(b) *Nontransferability.* A lighter-than-air pilot certificate is not transferable.

§ 22.21 *Duration.* (a) A student lighter-than-air pilot certificate shall expire 24 calendar months after the month of issuance.

(b) A private or commercial lighter-than-air pilot certificate or free balloon pilot certificate shall remain in effect unless it is suspended, or revoked, or a general termination date for such certificate is fixed by the Board.

(c) The Administrator or his authorized representative may issue a temporary lighter-than-air pilot certificate for a period of not to exceed 90 days subject to the terms and conditions specified therein by the Administrator.

§ 22.22 *Recent experience requirements*—(a) *General.* (1) A student who has not piloted an airship within 90 days shall not pilot such aircraft in solo flight until he has passed a flight check given by a commercial lighter-than-air pilot and that fact has been endorsed by such pilot in the student pilot logbook.

(2) The holder of a private or commercial lighter-than-air pilot certificate shall not pilot an airship carrying passengers, unless within the preceding 90 days he has had at least 5 take-offs and landings.

(b) *Night flight.* No person shall pilot a lighter-than-air aircraft carrying passengers during the period from one hour after sunset to one hour before sunrise, unless he has made at least 5 take-offs and landings to a full stop during the hours of darkness within the preceding 90 days.

(c) *Instrument flight.* A pilot shall not pilot an airship under instrument flight rules, unless he has had at least 6 hours of instrument flight under actual or simulated instrument conditions during the preceding 6 calendar months. At least 50 percent of the above required time must have been accomplished in actual flight.

[Amdt. 22-2, 12 F. R. 1029]

§ 22.23 *Reinstatement.* A private or commercial lighter-than-air pilot certificate or a free balloon pilot certificate which was effective on or after January 1, 1942, and has expired, may be reinstated upon application to an authorized representative of the Administrator prior to February 1, 1948.

[Amdt. 22-2, 12 F. R. 1029]

§ 22.24 *Examinations and tests*—(a) *General procedure.* The examinations and tests prescribed in this part shall be conducted by an authorized officer or employee of the Administrator or by a properly qualified person designated for the purpose by the Administrator. All examinations and tests will be held at such times and places as the Administrator may designate.

(b) *Physical examination.* Prior to taking a flight test for a lighter-than-air pilot certificate, an applicant shall have met the appropriate physical require-

ments within the time limitations hereinafter prescribed:

(1) *Private lighter-than-air pilot certificate.* Within the preceding 24 months.

(2) *Commercial lighter-than-air pilot certificate.* Within the preceding 12 months.

(c) *Reexaminations.* (1) An applicant for a private or commercial lighter-than-air pilot certificate or for a free balloon pilot certificate who has failed to pass any prescribed theoretical examination may apply for reexamination at any time after 30 days of the day of failure or after he has received not less than 5 hours instruction on each subject of the examination failed from a certificated ground instructor rated for such subject and presents a statement from such instructor showing the amount of instruction given and stating that he deems the applicant qualified to pass the required examination in such subject.

(2) An applicant for a private or commercial lighter-than-air pilot certificate or for a free balloon pilot certificate who has failed to pass any practical examination or test may apply for reexamination only after he has logged at least 3 additional hours of flight time.

(d) *Aircraft used in tests.* The applicant shall furnish suitable certificated aircraft for any flight test required.

[Amdt. 127, 6 F. R. 4558, as amended by Amdt. 22-4, 7 F. R. 3258, Amdt. 22-5, 7 F. R. 3924, and Amdt. 22-5, 14 F. R. 110]

§ 22.25 *Change of address.* Within 30 days after any change in the permanent mailing address of a holder of a lighter-than-air pilot certificate, the holder shall notify the Administrator in writing of such change. Such notice shall be mailed to the Administrator of Civil Aeronautics, attention Airman Records Branch, Washington 25, D. C.

[Amdt. 22-6, 14 F. R. 5423

PILOT REGULATIONS

§ 22.31 *Flight limitations and privileges*—(a) *Student lighter-than-air pilot.* (1) The holder of a student lighter-than-air pilot certificate shall not operate a free balloon in solo flight until:

(i) He has demonstrated thorough familiarity with the provisions of Part 60 of this subchapter dealing with contact flight by passing a written examination of such provisions and such fact has been certified to by his instructor on the student lighter-than-air pilot certificate;

(ii) He shall have had a minimum of six instruction flights in free balloons of not less than 1 hour duration each and such fact has been certified to by his instructor on the student pilot certificate.

(2) The holder of a student lighter-than-air pilot certificate shall not pilot an airship in solo flight until:

(i) He has demonstrated thorough familiarity with the provisions of Part 60 of this subchapter dealing with contact flight by passing a written examination of such provisions and such fact has been certified to by his instructor on the student lighter-than-air pilot certificate;

(ii) He shall have had a minimum of six instruction flights in free balloons of not less than 1 hour duration each and shall have logged at least 1 hour of actual solo flight in a free balloon and such fact shall be certified to by his instructor on the student lighter-than-air pilot certificate. If the student pilot possesses a free balloon pilot certificate such certification shall not be required;

(iii) He shall have had a minimum of 35 hours of dual instruction in airships which shall include level flight, right and left turns, landing and take-offs, and shall be deemed competent by his instructor to make such flight, which fact shall be certified to by his instructor on the student lighter-than-air pilot certificate.

(3) The holder of a student lighter-than-air pilot certificate shall not pilot any lighter-than-air aircraft carrying any person other than a certificated commercial lighter-than-air pilot, a member of the crew, or another certificated student lighter-than-air pilot whose presence in the aircraft is authorized by the instructor under whose direction the flight is being made. Such person shall not pilot any lighter-than-air aircraft for hire.

(b) *Private lighter-than-air pilot.* (1) The holder of a private lighter-than-air pilot certificate shall not pilot an airship carrying any persons or property for hire nor give any flight or instrument instruction therein.

(2) The holder of such certificate may pilot a free balloon for hire and may give flight instruction therein.

(c) *Commercial lighter-than-air pilot.* The holder of a commercial lighter-than-air pilot certificate may pilot for hire any lighter-than-air aircraft carrying passengers or property and may give either flying instruction or instrument instruction therein.

(d) *Free balloon pilot.* The holder of a free balloon pilot certificate shall not pilot any lighter-than-air aircraft except a free balloon but may pilot a free balloon for hire carrying passengers or property and give flight instruction therein.

(e) *Medical certificate and renewal.* Any person while piloting a lighter-than-air aircraft shall have on his person a medical certificate or other evidence satisfactory to the Administrator showing that he has met the physical requirements within the following time limits:

(1) Student pilot, private pilot, or free balloon pilot—24 calendar months.

(2) Commercial pilot—12 calendar months.

[Amdt. 127, 6 F. R. 4558, as amended by Amdt. 22-2, 12 F. R. 1029]

§ 22.32 *Miscellaneous.*—(a) *Display.* The holder of any lighter-than-air pilot certificate shall keep his certificate in his personal possession at all times when piloting lighter-than-air aircraft and shall present the same for inspection upon request of any passenger, any authorized officer or employee of the Administrator or Board and of any State or municipal official charged with the duty of enforcing local laws or regulations involving Federal compliance.

(1) *Medical certificate.* A medical certificate issued by an authorized medical examiner of the Administrator or other evidence satisfactory to the Administrator that the pilot has met the appropriate physical requirements prescribed in this part shall be carried by such pilot while piloting aircraft.

(b) *Surrender.* The holder of a lighter-than-air pilot certificate shall surrender, upon request, such certificate to any officer or employee of the Administrator if it has been suspended or revoked or if it has expired.

(c) *Operation during physical deficiency.* The holder of a lighter-than-air pilot certificate shall not pilot any lighter-than-air aircraft during the period of any known physical deficiency which would render him during that period unable to meet the physical requirements with which he complied in order to secure his certificate.

(d) *Inspection.* An applicant for, or the holder of, a lighter-than-air pilot certificate shall offer full cooperation with respect to any inspection or examination which may be made of such person upon proper request by any authorized representative of the Administrator.

(e) *Simulated instrument flight.* No person shall pilot a lighter-than-air aircraft in flight under simulated instrument conditions unless a certificated lighter-than-air safety pilot shall be present at all times and have ready access to the controls and adequate vision from the aircraft.

(f) *Logbooks.* Every certificated lighter-than-air pilot and every person receiving flight instruction shall keep an accurate record of his flying time in a logbook in which the entries with respect to solo flying time shall be certified to by him and such entries respecting dual instruction shall have been certified to by the lighter-than-air pilot giving the instruction. This logbook shall be presented for inspection upon request and reasonable notice to any authorized representative of the Administrator or Board or of any State or municipal officer enforcing local regulations or laws involving Federal compliance.

(1) *Form.* Such logbook shall be a bound record and the entries shall be accurate, legible, and in ink or indelible pencil so arranged as to facilitate easy reference thereto.

(2) *Content.* The logbook shall contain entries including at least the following: The date of flight; the make and model of the lighter-than-air aircraft flown; the aircraft identification mark; a statement classifying the type of flight (whether solo, dual instruction, instrument, or night flying time); the duration of the flight; the points between which such flight was made; and, in addition, when any flight results in serious damage to the aircraft, a notation to this effect.

(3) *Logging of flight time.* No flight time shall be logged as such unless the lighter-than-air aircraft flown is a public or certificated aircraft.

(4) *Logging of instrument flight time.* No instrument flight time shall be logged as such unless the lighter-than-air aircraft is flown solely by reference to instruments either under actual or properly simulated flight conditions. Over-the-top flying shall not be logged as instrument flight time.

[Amdt. 127, 6 F. R. 4558 as amended by Amdt. 22-5, 7 F. R. 3923]

DEFINITIONS

§ 22.40 *Lighter-than-air aircraft.* A lighter-than-air aircraft is an aircraft whose support is chiefly due to buoyancy

derived from aerostatic forces.

(a) *Free balloon.* A free balloon, as used in this part, shall mean a lighter-than-air aircraft not restrained from free flight by any connection with the ground nor equipped with any power plant or propelling device, the ascent and descent of which may be controlled by releasing ballast or gas and the direction of flight of which is determined by the wind.

(b) *Airship.* An airship, as used in this part, shall mean a lighter-than-air aircraft other than a fixed or free balloon.

§ 22.41 *Solo flight time.* Solo flight time, as used in this part, shall mean flight time when the pilot is in command and actually at the controls of the lighter-than-air aircraft regardless of the presence of any other crew members in the aircraft who may act under his direction.

(a) *Actual solo flight time.* Actual solo flight time, as used in this part, shall mean flight time when the pilot is the sole occupant of the lighter-than-air aircraft.

§ 22.42 *Dual instruction.* Dual instruction, as used in this part, shall mean flight time as a student at the controls of a lighter-than-air aircraft under the immediate direction of a pilot who is in command of the aircraft and authorized to give instruction therein.

NOTICE

Advise the Civil Aeronautics Board, Washington 25, D. C., that you have purchased this Part of the Civil Air Regulations and that agency will supply you with copies of amendments which have been issued since this printing. Be sure to specify the number of this Part, otherwise your request cannot be filled.

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