PART 20—PILOT AND INSTRUCTOR CERTIFICATES

Effective August 23, 1956

CIVIL AERONAUTICS BOARD

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TITLE 14—CIVIL AVIATION

Chapter I—Civil Aeronautics Board

Subchapter A—Civil Air Regulations

PART 20—PILOT AND INSTRUCTOR CERTIFICATES

REVISION OF PART

Adopted by the Civil Aeronautics Board at its office in Washington, D. C., on the 23d day of August 1956.

Experience under the provisions of currently effective Part 20 of the Civil Air Regulations, which establishes the requirements for the issuance of student, private, and commercial pilot certificates, and for aircraft, instrument, and instructor ratings, has shown the need for a revision of the part in order to identify more easily the applicable sections, clarify the intent of certain of the regulations, revise the age, knowledge, experience, and skill requirements, and delete those provisions which impose unnecessary burdens.

In order to make Part 20 more serviceable and to clarify its certification provisions, the requirements have been divided into subparts so as to include all of the requirements for the issuance of student, private, and commercial pilot certificates with an airplane rating under a single heading. A similar organization has been accomplished for the rotorcraft and glider rating requirements.

The following changes and additions have been incorporated in the certification and rating requirements:

1. *General.* (a) The present private, commercial, and instructor "ratings" have been changed to private, commercial, and instructor "certificates" to conform more closely with common usage.

(b) Since Part 20 no longer contains any citizenship requirements, the provisions which limit the duration of certificates to 12 months for non-citizens have been deleted.

(c) In 1945 the new photographically reproduced type of pilot certificate was introduced and the regulations were amended to provide for the expiration of all pilot certificates issued between January 1, 1942, and July 1, 1945, and the exchange of these certificates at any time prior to July 1, 1947, without any further showing of competence. This section was amended in 1947 extending the exchange privilege indefinitely. As ample time has been allowed for the exchange of those certificates which expired in 1947, this section is deleted from the revision and none of these certificates will be exchanged after the effective date of this revision.

(d) The identification card requirement contained in present Part 20 was intended to facilitate the identification of the holder in the event that future security restrictions might so require. However, after 5 years experience with the issuance of identification cards, it is now evident that they have served no useful purpose in the past and it appears unlikely that the carriage of such a card by airmen would have any future beneficial effect upon the exercise of security controls. In view of this experience and in view of the fact that the requirement has created a burden for the applicant as well as the Government, for which no safety or security justification exists, it has been deleted from this revision. All persons who commented on this requirement in Draft Release No. 55–12 were emphatically of the view that it should be rescinded and the record appears clearly to support this view.

(e) Draft Release No. 55–12 proposed to delete the minimum age requirements for student pilot applicants. Significant objection to authorizing children to operate aircraft in solo flights was offered by several of those who commented on this item. Consequently, the present minimum student pilot ages of 16 years for powered aircraft and 14 years for gliders are continued.

(f) The draft release proposed to require parental consent only for those students younger than the currently prescribed minimum ages for student pilot applicants. Considerable adverse comment was received to this proposal. The principal objections called attention to the financial responsibility of parents for property damage or personal injury which might result from any activity in which minor children are engaged. Upon reconsidering this matter, it was decided that the present parental consent requirement for all student pilot applicants under 21 years of age would be continued.

2. *Student pilot certificates; airplane rating.* (a) The draft release proposed that a student receive a demonstration of straight flight and turns solely by reference to instruments before he is authorized to make solo flights. The comment was overwhelmingly opposed to this proposal. Since the publication of the draft release, the Board has received other recommendations concerning requirements for instrument flight instruction for student, private, and commercial pilots. It is apparent that these recommendations involve conflicting views with respect to the importance of instrument flight instruction for such pilots, the type of instruction needed, and the degree of competence to be sought. In view of the obvious controversy surrounding this matter, the Board has decided that further study is required. Consequently, the proposal for instrument flight demonstration is being deferred and will be the subject of separate rule making, proposals concerning which will be circulated at a later date.

(b) The draft release proposed to require instruction in recovery from spins along with other maneuvers in which the student must receive instruction before being authorized to make solo flights. A spin requirement had previously been included in the skill tests for both private and commercial pilots but was eliminated in 1949. In view of the unfavorable comment on this proposal and considering the suggestions that greater emphasis on the recognition of and recovery from stalls would contribute more effectively to safety, this proposal has been omitted.

(c) To insure that the student pilot has received instruction in all the prescribed procedures and techniques prior to solo flight, the flight instructor will be required to endorse the student's logbook for each instruction flight.

3. *Private pilot certificates; airplane rating.* (a) In lieu of requiring a minimum number of hours of dual instruction, the rule has been amended to specify the particular procedures and maneuvers in which the student must receive instruction. However, 3 hours of dual instruction after the first solo cross-country flight have been included with the expectation that this instruction will tend to correct any bad flying habits which the student might develop between the time of his first solo cross-country flight and his final flight test.

(b) The draft release proposed to modify the flight test to consist of basic airwork and the satisfactory completion of the principal steps in making a cross-country flight. This change was proposed in order to make it possible to complete the test on a single flight and still provide the examiner with a satisfactory basis for judging the applicant's aeronautical skill. The Board is of the view that such a change is required, however, due to the suggestions received and the Board's intention to reconsider the tests for other grades of certificates as

well, it has been decided to continue the present skill requirements pending further refinement of the substitute rules. A separate notice of proposed rule making in this matter will be circulated in the near future.

4. *Commercial pilot certificates; airplane rating.* (a) The experience requirements are modified by requiring 50 hours of cross-country time as pilot in command. Present regulations do not require dual instruction time for a commercial pilot certificate, but 10 hours required dual instruction time has been included in this revision to make more certain that the applicant possesses a satisfactory level of competence for the certificate.

(b) Night flight experience requirements have been deleted in this revision, but will be considered in connection with a project under way for evaluation of instrument flight experience requirements for both commercial and private pilots. Until action is taken with respect to this study, an applicant issued a commercial pilot certificate shall be limited in his night flying activity by the recent experience provisions of Part 43.

(c) In the skill tests proposed in the draft release, the acrobatic-type maneuvers were deleted and a cross-country flight similar to the one now required in the private pilot flight test was added. However, further consideration indicated that the proposed test did not differentiate sufficiently between the private and commercial requirements nor did it reflect the skill required of the commercial pilot in the performance of those privileges which he is authorized to exercise. Consequently, the skill test for the commercial pilot will be reevaluated together with the test for the private pilot to align them more closely with the privileges of each certificate. In the meantime, the present skill requirements are being continued.

5. *Pilot certificates; rotorcraft.* Due to the many improvements in rotorcraft since the present regulations were adopted, piloting techniques have changed correspondingly; hence, virtually all of the flight experience requirements are new. New skill requirements were proposed in the draft release for the rotorcraft pilot but the present ones are being continued with the understanding that new skill tests will be developed in conjunction with the consideration of new tests for pilots with airplane ratings.

6. *Pilot certificates; gliders.* Experience requirements for the private glider certificate have been modified to allow three methods for meeting the required flight time—100 glider flights, 10 hours of flight time, or 3 hours in light airplanes and 7 hours in gliders. The skill requirements for glider pilots contained in the draft release were substantively the same as those in the present regulations and no adverse comment was received. The proposed experience requirements are included in this revision with the addition of certain alternative experience provisions which have been suggested by interested persons.

7. *Special issuance of pilot certificates.* (a) The present regulations give the graduate of an approved flying school full credit for having met the aeronautical experience requirements. The draft release proposed to give the graduate credit for having met the knowledge and skill requirements also. However, comment in opposition to the extension of this credit indicated that the present level of training in approved schools is not always of sufficient caliber to warrant the proposed additional privileges. Consequently, the provisions of the draft release have been modified to authorize the Administrator to recognize the written examinations and flight tests of those schools in which the examination and tests are found by him to be the equivalent of those prescribed in Part 20, and at the same time, retain the provisions which give credit for aeronautical experience gained in a certificated flying school.

(b) The eligibility of members of the various branches of the armed forces for the issuance of pilot certificates on the basis of military competence has been expanded to include the National Guard and the Coast Guard and their reserve components.

(c) In consideration of the high standards of competence set by the military for the issuance of a military instrument certificate, a private or commercial pilot holding a currently effective military instrument certificate may be issued a civilian instrument rating if he meets the other requirements for the issuance of such rating.

(d) The revised regulation will permit the Administrator to credit an applicant, who possesses a foreign pilot certificate, with satisfactory completion of certain required examinations and tests when he finds that the corresponding foreign examinations and tests previously accomplished by such applicant are at least the equivalent of those prescribed pursuant to this part.

8. *Instrument ratings.* In lieu of a specified number of flight hours to satisfy the experience requirements for this rating, an applicant must either hold a commercial pilot certificate, or hold a private pilot certificate and meet the aeronautical experience requirements for the issuance of a commercial pilot certificate. However, a requirement for 10 hours of instrument flight instruction by a rated instrument flight instructor has been added in the belief that this will better insure meeting at least a minimum level of competence on the part of applicants for instrument ratings.

9. *Flight instructor certificates.* (a) The draft release proposed to change the flight instructor rating to a flight instructor certificate and to introduce a new junior flight instructor certificate that would be temporary in nature and enable the CAA to judge the competence of an applicant for a permanent flight instructor certificate by the proficiency of the students he had instructed. The comment was generally in favor of introducing the probationary type of certificate but serious objection to the word "junior" was indicated. The concept of the junior instructor certificate is retained in the revision with the name changed to "limited" flight instructor certificate which is considered to be a more appropriate term. The holder of this limited certificate must either qualify for a regular flight instructor certificate within 2 years or have his certificate renewed. In addition, he must have all of his students examined by a CAA Aviation Safety Agent rather than by a designated flight examiner.

(b) The issuance of the regular flight instructor certificate is based on the instruction record of the limited flight instructor rather than on the basis of a flight test as has been done in the past. In addition to aircraft category ratings for the flight instructor, a new instrument flight instructor rating has been added. A pilot with an instrument rating may secure a flight instructor certificate with an instrument instructor rating by demonstrating that he is competent to give instructions in instrument flying; he will not be required to comply with the general flight instructor provisions.

(c) In line with the general policy of giving the flight instructor more responsibility for preparing students for appropriate certificates and ratings, he will be required to keep a record of each instruction flight.

(d) The present flight instructor rating may be exchanged for a regular flight instructor certificate without further showing of competence.

Interested persons have been afforded an opportunity to participate in the revision of this part (20 F. R. 3028), and due consideration has been given to all relevant matter presented. Since persons affected by the provisions of this revised part need not comply until more than 30 days after it has become effective, it may be made effective immediately.

In consideration of the foregoing, the Civil Aeronautics Board hereby revises Part 20 of the Civil Air Regulations (14 CFR Part 20) as follows, effective August 23, 1956:

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AUTHORITY: §§ 20.1 to 20.138 issued under sec. 205, 52 Stat. 984; 49 U. S. C. 425. Interpret or apply secs. 601, 602, 608–610, 52 Stat. 1007, 1008, 1011, 1012, as amended; 49 U. S. C. 551, 552, 558–560.

SUBPART A—GENERAL

APPLICABILITY AND DEFINITIONS

§ 20.1 *Applicability of this part.* This part prescribes standards for the issuance of student, private, and commercial pilot and flight instructor certificates and aircraft and instrument ratings. Regulations for the issuance of airline transport and lighter-than-air pilot certificates are specified in Parts 21 and 22, respectively, of this subchapter.

§ 20.2 *Optional compliance.* In lieu of compliance with the provisions of this part, the Administrator, prior to March 1, 1957, shall issue certificates and ratings, on request, in accordance with the provisions of this part that were effective immediately prior to the effective date of this revision.

§ 20.5 *Definitions.* As used in this part terms shall be defined as follows:

Actual instrument flight time. Actual instrument flight time is flight time during which the pilot is operating an aircraft solely by reference to instruments under actual instrument weather conditions.

Aircraft. An aircraft is any contrivance now known or hereafter invented, used, or designed for navigation of or flight in the air.

Airplane. An airplane is a power-driven fixed-wing aircraft, heavier than air, which is supported by the dynamic reaction of the air against its wings.

Calendar month. A calendar month is that period of time extending from the first day of any month as delineated by the calendar through the last day thereof.

NOTE: A period of 12 calendar months would extend from any day within any month to the end of the last day of the same month of the following year.

Category (of aircraft). A category is a broad classification of aircraft with distinct configuration and operating characteristics such as airplane, rotorcraft, or glider.

Class (of aircraft). A class is a classification of aircraft within a category differentiating between single-engine and multiengine and land and water configurations.

Day VFR flight time. Day VFR flight time is that flight time acquired under visual flight rules between the beginning of morning civil twilight and the ending of evening civil twilight, as published in the "American Air Almanac" converted to local time for the locality concerned.

Dual instruction time. Dual instruction time is that portion of flight time during which a person is receiving flight instruction from a certificated flight instructor on board the aircraft.

Flight instruction time. Flight instruction time is that portion of a flight during which a person is receiving flight instruction from a certificated pilot authorized by the Civil Air Regulations to give flight instruction.

Flight instructor. A flight instructor is a certificated pilot authorized by the Civil Air Regulations to give flight instruction.

Flight time. Flight time is the total time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the end of the flight.

Glider. A glider is a heavier-than-air aircraft the free flight of which does not depend principally upon a power-generating unit.

Instrument time. Instrument time is that time during which a pilot is operating an aircraft under actual or simulated instrument flight conditions solely by reference to instruments, or time acquired in a synthetic trainer approved for instrument flight training.

Night VFR flight time. Night VFR flight time is that flight time acquired under visual flight rules between the ending of evening civil twilight and the beginning of morning civil twilight, as published in the "American Air Almanac" converted to local time for the locality concerned.

Pilot in command. A pilot in command is the pilot responsible for the operation and safety of the aircraft during the time defined as flight time.

Rotorcraft. A rotorcraft is a power-driven aircraft, heavier than air, which is supported during flight by one or more rotors.

Second pilot. A second pilot is a certificated pilot serving in any piloting capacity other than as pilot in command on an aircraft equipped with dual controls.

Simulated instrument flight time. Simulated instrument flight time is flight time during which the pilot is operating an aircraft solely by reference to instruments under simulated instrument flight conditions.

Solo flight time. Solo flight time is flight time during which the pilot is the sole occupant of the aircraft.

Synthetic trainer. A synthetic trainer is a device the use of which is approved by the Administrator to simulate certain operating conditions.

Type [of aircraft]. Type is a specific classification of aircraft having the same basic design including all modifications thereto except those modifications which result in a change in handling or flight characteristics.

GENERAL

§ 20.10 *Application and issuance.* (a) An application for a pilot certificate or any rating shall be made on a form furnished by the Administrator.

(b) A student, private, or commercial pilot or flight instructor certificate with appropriate aircraft ratings shall be issued by the Administrator to an applicant who meets the applicable requirements. Additional aircraft category, class, and type, and instrument ratings for which an applicant has been found qualified shall be issued in connection with a pilot or flight instructor certificate. A pilot certificate with appropriate limitations shall be issued to an applicant who cannot comply with all the prescribed skill requirements due to the

special characteristics of the aircraft used in the flight test if he meets all other requirements for the issuance of the certificate sought.

(c) An applicant for a pilot certificate who presents a medical certificate issued under the physical-deficiencies provision of Part 29 of this subchapter and meets all other requirements for the issuance of the certificate sought shall be issued a pilot certificate containing such operating limitations as the Administrator may find are commensurate with the physical deficiencies entered on his medical certificate.

(d) The prescribed examinations and tests shall be given by a person designated by the Administrator.

§ 20.11 *Duration of certificates.* (a) Student pilot and limited flight instructor certificates shall expire 24 calendar months after the date of issuance.

(b) Private and commercial pilot and flight instructor certificates shall remain in effect until surrendered, suspended, or revoked, or until a general termination date is set by the Board.

(c) A temporary pilot certificate effective for a period not to exceed 90 days may be granted to an applicant pending issuance of the certificate or rating sought.

§ 20.12 *Citizenship.* An applicant for a pilot or flight instructor certificate may be a citizen of any country or a person without nationality.

§ 20.13 *Re-examination after failure.* An applicant who fails to pass any theoretical or practical examination may reapply after the expiration of 30 days or upon presenting a statement from a rated flight or ground instructor, as applicable, certifying that he has given the student additional instruction and now deems him competent to pass the examination.

§ 20.14 *Prerequisites for examinations and tests.* (a) To be eligible to take a flight test for a pilot or flight instructor certificate or aircraft or instrument rating, the applicant shall meet the following requirements:

(1) He must have passed the prescribed written examination within the preceding 24 calendar months;

(2) He must have acquired the prescribed aeronautical experience; and

(3) He must hold a valid medical certificate appropriate to the certificate or rating sought.

(b) There are no prerequisites for taking the written or physical examinations.

§ 20.15 *Aircraft used in flight tests.* The applicant shall furnish a certificated aircraft equipped with fully functioning dual controls for all flight tests except those for which the Administrator determines that fully functioning dual controls are not necessary.

§ 20.16 *Logging of flight time.* All flight time used to meet the experience requirements for any pilot certificate, rating, or operating privilege shall be substantiated by a reliable record but the logging of other flight time is not required. Such record shall include the following information:

(a) *General.* (1) Date,

(2) Duration,

(3) Cross-country distance and destination,

(4) Type of aircraft, and

(5) Identification mark of the aircraft.

(b) *Type of piloting time.* (1) Pilot-in-command,

(2) Second pilot,

(3) Dual instruction, including the procedures and maneuvers, or

(4) Synthetic trainer.

(c) *Conditions of flight.* (1) Day VFR,

(2) Night VFR,

(3) Actual instrument flight, or

(4) Simulated instrument flight.

§ 20.17 *Change of address.* Within 30 days after any change in the permanent mailing address of the holder of a pilot certificate, he shall notify the Administrator in writing of his new address. This notice shall be mailed to the Administrator of Civil Aeronautics, attention Airman Records Branch, Washington 25, D. C.

SUBPART B—PILOT CERTIFICATES; AIRPLANE RATING

STUDENT

§ 20.20 *Age.* An applicant shall be at least 16 years of age. If an applicant is less than 21 years of age and is not a regular or reserve member of the armed forces of the United States or enrolled in an established ROTC or other training program of such armed forces at the time of making application, he shall submit with his application the written consent of either parent or of his legal or natural guardian.

§ 20.21 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his student pilot certificate.

§ 20.22 *Physical standards.* An applicant shall hold at least a valid third class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.23 *Requirements for solo flight.* A student pilot shall not operate an airplane in solo flight until:

(a) He is familiar with the general and visual flight rules of Part 60 of this subchapter;

(b) He has received dual instruction in such preparatory and flight procedures as preflight inspection, starting, warming up, operating, and stopping the engine; taxying, take-offs, landings, and parking; traffic pattern procedures; level flight, turns, climbs, and glides; and stalls and emergency landings; and

(c) His student certificate has been endorsed by an appropriately rated flight instructor who has examined him and found him to have complied with the provisions of paragraphs (a) and (b) of this section and otherwise to be competent to make solo flights.

§ 20.24 *Flight area limitations.* A student pilot shall not operate an airplane in solo flight outside of a local area designated by his flight instructor until:

(a) He is familiar with such flight planning elements as plotting courses, estimating time en route and fuel required, and obtaining and evaluating weather reports;

(b) He has received dual instruction in crosswind and simulated soft-field take-offs and landings; climbing and gliding turns at minimum safe speeds; cross-country navigation by reference to aeronautical charts; conforming with air traffic control instructions furnished by radio or lights, as appropriate; and safe operating practices in simulated emergencies which might occur due to engine failure, loss of flying speed, deteriorating weather, getting lost, and similar critical situations; and

(c) His student pilot certificate has been endorsed by an appropriately rated flight instructor who has found him to have complied with paragraphs (a) and (b) of this section and otherwise to be competent to make solo cross-country flights.

§ 20.25 *Airplane type limitations.* A student pilot shall operate in solo flight only those types of airplanes that have been endorsed on his student pilot certificate by an appropriately rated flight instructor.

PRIVATE

§ 20.30 *Age.* An applicant shall be at least 17 years of age.

§ 20.31 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.32 *Physical standards.* An applicant shall hold at least a valid third class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.33 *Aeronautical knowledge.* An applicant shall pass an examination on the following:

(a) The Civil Air Regulations governing private pilot privileges and limitations, and general operating, air traffic, and accident reporting rules;

(b) The practical aspects of cross-country flying, including flight planning, map reading, pilotage, and radio communication procedures;

(c) The recognition of dangerous weather conditions and the evaluation of weather reports; and

(d) General safety practices in the operation of airplanes.

§ 20.34 *Aeronautical experience.* An applicant shall present his student pilot certificate appropriately endorsed for solo and cross-country flights and meet each of the following minimum flight experience requirements:

(a) 40 hours total flight time;

(b) 20 hours of solo flight time at least 15 of which shall have been in airplanes;

(c) 10 hours of solo cross-country flight time. Each solo cross-country flight shall include a landing at a point more than 25 miles from the point of departure and at least one flight shall include a landing at a point more than 100 miles from the point of departure; and

(d) 3 hours of dual instruction after the first solo cross-country flight which shall include a review of the procedures and maneuvers previously learned and additional instruction in preparation for the private pilot flight test.

§ 20.35 *Aeronautical skill.* An applicant shall satisfactorily accomplish a practical examination with respect to the following procedures and maneuvers:

(a) Preflight inspection, starting, taxying, and run-up check of the airplane before take-off;

(b) Planning of a cross-country flight to a specified destination, reckoning with weather conditions, fuel requirements, check points, estimated time of arrival, and available alternate airports, and accomplishing such portion of the planned flight, including change of course to an alternate airport, as is necessary to demonstrate proficiency in cross-country flying;

(c) Straight and level flight, left and right medium banked turns, left and right climbing and gliding turns at normal and at minimum controllable speeds, and recovery from power-on and power-off stalls entered from all normally anticipated flight attitudes;

(d) Turns while maintaining a constant radius, or track, around a point, or area, including a 720° turn in each direction in a banked attitude of more than 45°;

(e) Normal and cross-wind take-offs and landings following appropriate traffic control procedures of the airport involved, using power, flaps, and slips at the applicant's discretion for assistance in landing; and

(f) Simulated emergencies, including one short or soft-field take-off, and one landing, if in single-engine aircraft, with engine throttled and using flaps, slips, or both, for assistance; or, if in multiengine aircraft, in accordance with proper engine-out procedure.

COMMERCIAL

§ 20.40 *Age.* An applicant shall be at least 18 years of age.

§ 20.41 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.42 *Physical standards.* An applicant shall hold at least a valid second class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.43 *Aeronautical knowledge.* An applicant shall pass a written examination based on the following:

(a) Meteorology, including the recognition of basic weather conditions and trends, and the acquisition and use of weather information disseminated by the U. S. Weather Bureau;

(b) Navigation, including pilotage, dead reckoning, and the use of instruments and radio aids to air navigation;

(c) Principles of safe flight operations, including theory of flight and the operation and maintenance of airplanes and general safety practices and procedures for coping with emergencies and critical situations; and

(d) Civil Air Regulations pertaining to the privileges and limitations of a commercial pilot and the general operating, air traffic, and accident reporting rules.

§ 20.44 *Aeronautical experience.* An applicant shall have acquired at least 200 hours of flight time and meet each of the following minimum flight experience requirements:

(a) 100 hours in powered aircraft which shall include 50 hours in airplanes of which at least 15 hours shall have been solo;

(b) 100 hours as pilot in command, of which 50 hours shall have been cross-country and shall include one round-trip flight of not less than 350 miles in the course of which 3 full-stop landings were made at different points, one of which was at least 150 miles away from the point of departure;

(c) 10 hours of dual instruction in airplanes in preparation for the commercial pilot flight test; and

(d) 10 hours of instrument flight experience which shall include not less than 5 hours of instrument flight instruction given by an instrument flight instructor; the remaining 5 hours may be acquired in flight under simulated instrument conditions accompanied by a safety pilot or in a synthetic trainer approved for instrument flight training: *Provided,* That an applicant who does not meet the instrument flight experience requirements of this paragraph but does meet the other requirements may be issued a commercial pilot certificate in which event the Administrator shall appropriately endorse such certificate to show that the holder thereof does not meet the instrument flight experience requirements. At such time as the holder of a certificate so endorsed submits reliable documentary evidence to the Administrator that he has met such instrument flight experience requirements, he shall be reissued a certificate without such endorsement.

§ 20.45 *Aeronautical skill.* An applicant shall competently perform the following maneuvers:

(a) A series of 3 landings from an altitude not to exceed 1,000 feet with engine throttled and a 180° change in direction, the aircraft touching the ground in normal landing attitude beyond and within 200 feet of a designated line or point. At least one landing shall be accomplished from a forward slip;

(b) A spiral in each direction of not less than 3 full turns in a banked attitude of not less than 60°, with engine throttled;

(c) 3 shallow on-pylon figure eights, 3 steep on-pylon figure eights, and one 720° power turn in each direction in a banked attitude of at least 60°. During each of these maneuvers the total variation in altitude shall not exceed 100 feet; and

(d) Straight climbs, climbing turns, slips, maneuvers at minimum controllable speeds, and emergency maneuvers such as simulated forced landings and recovery from power-on and power-off stalls entered from all normally anticipated flight attitudes.

SUBPART C—PILOT CERTIFICATES; ROTORCRAFT RATING

STUDENT

§ 20.50 *Age.* An applicant shall be at least 16 years of age. If an applicant is less than 21 years of age and is not a regular or reserve member of the armed forces of the United States or enrolled in an established ROTC or other training program of such armed forces at the time of making application, he shall submit with his application the written consent of either parent or of his legal or natural guardian.

§ 20.51 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his student pilot certificate.

§ 20.52 *Physical standards.* An applicant shall hold at least a valid third class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.53 *Requirements for solo flight.* A student pilot shall not operate a rotorcraft in solo flight until:

(a) He is familiar with the general and visual flight rules of Part 60 of this subchapter;

(b) He has received dual instruction in such preparatory and flight procedures as preflight inspection, starting, warming up, operating, and stopping the engine; taxying, take-offs, hovering, landing, and parking; traffic pattern procedures; and emergency procedures, including engine failure; and

(c) His student certificate has been endorsed by an appropriately rated flight instructor who has examined him and found him to have complied with the provisions of paragraphs (a) and (b) of this section and otherwise to be competent to make solo flights.

§ 20.54 *Flight area limitations.* A student pilot shall not operate a rotorcraft in solo flight outside of a local area designated by his flight instructor until:

(a) He is familiar with such flight planning elements as plotting courses, estimating time en route and fuel required, and obtaining and evaluating weather reports;

(b) He has received dual instruction in pilotage by reference to aeronautical charts; conforming with air traffic control instructions furnished by radio or lights, as appropriate; and safe operating practices in simulated emergencies which might occur due to engine failure, deteriorating weather, getting lost, and similar critical situations; and

(c) His student pilot certificate has been endorsed by an appropriately rated flight instructor who has found him to have complied with paragraphs (a) and (b) of this section and otherwise to be competent to make solo cross-country flights.

PRIVATE

§ 20.60 *Age.* An applicant shall be at least 17 years of age.

§ 20.61 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.62 *Physical standards.* An applicant shall hold at least a valid third class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.63 *Aeronautical knowledge.* An applicant shall pass an examination on the following:

(a) The Civil Air Regulations governing private pilot privileges and limitations, and general operating, air traffic, and accident reporting rules;

(b) The practical aspects of cross-country flying, including flight planning, map reading, pilotage, and radio communication procedures;

(c) The recognition of dangerous weather conditions and the evaluation of weather reports; and

(d) General safety practices in the operation of rotorcraft.

§ 20.64 *Aeronautical experience.* An applicant shall present his student pilot certificate appropriately endorsed for solo and cross-country flights and meet each of the following minimum flight experience requirements:

(a) 40 hours total flight time;

(b) 15 hours of solo flight time in rotorcraft; and

(c) 3 hours of solo cross-country flying which shall include a landing at an airport more than 25 miles from the point of departure.

§ 20.65 *Aeronautical skill.* An applicant shall satisfactorily accomplish a practical examination with respect to the maneuvers prescribed by the Administrator appropriate to the type of rotorcraft used.

COMMERCIAL

§ 20.70 *Age.* An applicant shall be at least 18 years of age.

§ 20.71 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.72 *Physical standards.* An applicant shall hold at least a valid second class medical certificate issued in accordance with the physical standards prescribed in Part 29 of this subchapter.

§ 20.73 *Aeronautical knowledge.* An applicant shall pass a written examination based on the following:

(a) Meteorology, including the recognition of basic weather conditions and trends, and the acquisition and use of weather information disseminated by the U. S. Weather Bureau;

(b) Navigation, including pilotage, dead reckoning, and the use of instruments and radio aids to air navigation;

(c) Principles of safe flight operations, including theory of flight and the operation and maintenance of rotorcraft and general safety practices and procedures for coping with emergencies and critical situations; and

(d) Civil Air Regulations pertaining to the privileges and limitations of a commercial pilot and the general operating, air traffic, and accident reporting rules.

§ 20.74 *Aeronautical experience.* An applicant shall have acquired at least 150 hours of flight time and meet each of the following minimum flight experience requirements:

(a) 100 hours in powered aircraft which shall include 50 hours in rotorcraft of which at least 15 hours shall have been solo;

(b) 100 hours as pilot in command, of which 20 hours shall have been cross-country; and

(c) 10 hours of dual instruction in rotorcraft in preparation for the commercial pilot flight test.

§ 20.75 *Aeronautical skill.* An applicant shall competently perform the procedures and maneuvers prescribed by the Administrator appropriate to the type of rotorcraft used.

SUBPART D—PILOT CERTIFICATES; GLIDER RATING

STUDENT

§ 20.80 *Age.* An applicant shall be at least 14 years of age. If an applicant is less than 21 years of age and is not a regular or reserve member of the armed forces of the United States or enrolled in an established ROTC or other training program of such armed forces at the time of making application, he shall submit with his application the written consent of either parent or of his legal or natural guardian.

§ 20.81 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his student pilot certificate.

§ 20.82 *Physical standards.* An applicant shall certify that he has no known physical defect which renders him incompetent to pilot a glider.

§ 20.83 *Requirements for solo flight.* A student pilot shall not operate a glider in solo flight until:

(a) He is familiar with the general and visual flight rules of Part 60 of this subchapter and the procedure to follow in conducting preflight inspections;

(b) He has received flight instruction in take-offs, landings, glides, and gliding turns; and recovery from stalls entered from all normally anticipated flight attitudes; and

(c) His student certificate has been endorsed by an appropriately rated flight instructor who has examined him and found him to have complied with the provisions of paragraphs (a) and (b) of this section and otherwise to be competent to make solo flights.

§ 20.84 *Flight area limitations.* A student pilot shall not operate a glider in solo flight outside of a local area designated by his flight instructor until:

(a) He is familiar with obtaining and evaluating weather reports;

(b) He has received flight instruction in cross-country navigation by reference to aeronautical charts; and

(c) His student pilot certificate has been endorsed by an appropriately rated flight instructor who has found him to have complied with paragraphs (a) and (b) of this section and otherwise to be competent to make solo cross-country flights.

PRIVATE

§ 20.90 *Age.* An applicant shall be at least 16 years of age.

§ 20.91 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.92 *Physical standards.* An applicant shall certify that he has no known physical defect which renders him incompetent to pilot a glider.

§ 20.93 *Aeronautical knowledge.* An applicant shall pass an examination on the following:

(a) The Civil Air Regulations governing private pilot privileges and limitations, and general operating, air traffic, and accident reporting rules;

(b) The practical aspects of cross-country flying;

(c) The recognition of dangerous weather conditions and the evaluation of weather reports; and

(d) General safety practices in the operation of gliders.

§ 20.94 *Aeronautical experience.* An applicant shall present his student pilot certificate appropriately endorsed for solo and cross-country flights and meet each of the following minimum flight experience requirements:

(a) 100 glider flights which shall include 25 flights during each of which a 360° turn was made; or 10 hours of flight time which shall include 50 glider flights or 30 flights if flight training has been accomplished using aero tows; or 3 hours dual instruction in light airplanes directed toward glider training and 7 hours of glider flight time which shall include 50 gliding flights; and

(b) One hour of flight instruction in recovery from stalls entered from all normally anticipated flight attitudes.

§ 20.95 *Aeronautical skill.* An applicant shall demonstrate a satisfactory level of competence in the following procedures and maneuvers:

(a) Preparatory flight procedures;

(b) At least 2 flights, of which one shall include a 360° approach to the left and one a 360° approach to the right, landing each time beyond and within 200 feet of a designated point or line; and

(c) Recovery from stalls entered from all normally anticipated flight attitudes.

COMMERCIAL

§ 20.100 *Age.* An applicant shall be at least 18 years of age.

§ 20.101 *Education.* An applicant shall be able to read, speak, and understand the English language, or an appropriate operation limitation shall be placed on his pilot certificate.

§ 20.102 *Physical standards.* An applicant shall certify that he has no known physical defect which renders him incompetent to pilot a glider.

§ 20.103 *Aeronautical knowledge.* An applicant shall pass a written examination based on the following:

(a) Meteorology, including the recognition of basic weather conditions and trends, and the acquisition and use of weather information disseminated by the U. S. Weather Bureau;

(b) Navigation, including pilotage and the use of navigational instruments;

(c) Principles of safe flight operations, including theory of flight and the operation and maintenance of gliders; and

(d) Civil Air Regulations pertaining to the privileges and limitations of a commercial pilot and the general operating, air traffic, and accident reporting rules.

§ 20.104 *Aeronautical experience.* An applicant shall have acquired at least 25 hours flight time and meet the following minimum experience requirements:

(a) 20 hours flight time in gliders;

(b) 2 hours of flight instruction in gliders in preparation for the commercial pilot flight test;

(c) 100 flights in gliders as pilot in command; and

(d) 25 glider flights with 360° right and left approaches.

§ 20.105 *Aeronautical skill.* An applicant shall demonstrate a satisfactory level of competence in the following procedures and maneuvers:

(a) Preparatory flight procedures;

(b) At least 2 flights, of which one shall include a 360° approach to the left and one a 360° approach to the right, landing each time beyond and within 100 feet of a designated point or line;

(c) A spiral in each direction of at least 3 full turns in a banked attitude of at least 45°;

(d) A glider flight when towed by an airplane during climb, and when above, below, and to one side of the slipstream during level flight;

(e) A glider flight when launched by an automobile or winch; and

(f) Recovery from stalls entered from all normally anticipated flight attitudes.

SUBPART E—SPECIAL ISSUANCE OF PILOT CERTIFICATES

§ 20.110 *Graduates of certificated flying schools.* (a) A graduate of a certificated flying school shall be deemed to have met the aeronautical experience requirements of this part if he presents an appropriate certificate of graduation within 60 days after his graduation date: *Provided*, That an applicant for an instrument rating or a limited flight instructor certificate shall meet the prescribed aeronautical experience requirements for the issuance of a commercial pilot certificate.

(b) The Administrator may issue a private or commercial pilot or limited flight instructor certificate or an instrument or aircraft rating without further showing of competence to an applicant who has graduated from an approved course of a certificated flying school within the preceding 90 days if the Administrator finds that the aeronautical knowledge and skill requirements of such course are the equivalent of those prescribed in this part.

§ 20.111 *Military competence.*—(a) *Pilot certificates.* An applicant for a private or commercial pilot certificate shall be deemed to have met the requirements for the issuance of such certificate if he passes a written examination on the Civil Air Regulations pertaining to pilot privileges and limitations, general operating, air traffic, and accident reporting rules, and presents reliable evidence that:

(1) He is a member of the armed forces of the United States, the National Guard, or the Coast Guard or any reserve component thereof and either is on solo flying status as a rated pilot or the equivalent, or has been graduated from and rated as a pilot or the equivalent by a military flying school within the preceding 12 months; or

(2) He has been honorably discharged from the armed forces, the National Guard, or the Coast Guard within the preceding 12 months, and was at the time of discharge on solo flying status as a rated pilot or the equivalent: *Provided*, That if he has been honorably discharged for a period longer than 12 months preceding the date of application, he shall be required to meet the prescribed physical standards and pass the appropriate flight test.

(b) *Aircraft category, class, and type ratings.* An applicant for a particular category, class, or type rating who has applied for or holds a pilot certificate issued on the basis of military competence or otherwise shall be issued appropriate ratings upon the presentation of reliable documentary evidence that he has had, within 12 months preceding the date of application, at least 10 hours of flight time as pilot in command in military aircraft of a category, class, or type for which the rating is sought, or has taken a flight test.

(c) *Instrument rating.* An instrument rating shall be issued to a private or commercial pilot who holds a currently effective military instrument rating.

§ 20.112 *Foreign pilot certificates.* (a) An applicant for a pilot certificate who holds a currently effective pilot certificate issued by a foreign government may receive credit for his flight experience and for those examinations and tests, completed in securing his pilot certificate, which the Administrator finds to be at least the equivalent of those required in the Civil Air Regulations for the issuance of a comparable U. S. pilot certificate.

(b) A pilot certificate with appropriate limitations may be issued for a specific purpose to an applicant who is a citizen of a foreign country and holds a currently effective pilot license issued by his government upon submitting to the Administrator reliable evidence of his aeronautical experience and passing an examination on the air traffic rules contained in Part 60 of this subchapter. The Administrator shall limit the duration of the certificate to not more than 90 days and may prescribe such additional limitations as he finds necessary for safety.

SUBPART F—AIRCRAFT AND INSTRUMENT RATINGS

AIRCRAFT RATINGS

§ 20.120 *Aircraft ratings.* Aircraft ratings issued to private and commercial pilots shall be classified as follows:

(a) *Category ratings.* (1) Airplane.

(2) Rotorcraft.

(3) Glider.

(b) *Class ratings.* (1) Single-engine land.

(2) Multiengine land.

(3) Single-engine sea.

(4) Multiengine sea.

(c) *Type ratings.* Each type of aircraft having a maximum certificated take-off weight of more than 12,500 pounds.

§ 20.121 *Additional aircraft ratings.* An applicant for an additional aircraft rating subsequent to the original issuance of a private or commercial pilot certificate shall meet the following requirements:

(a) *Category rating.* An applicant for an additional category rating shall:

(1) Meet all the aeronautical experience requirements for the original issuance of his grade of certificate with the category rating sought; and

(2) Pass an appropriate flight test.

(b) *Class or type rating.* An applicant for an additional class or type rating shall:

(1) Have made at least 5 take-offs and landings as pilot in command and sole manipulator of the controls of an aircraft of the class or type for which a rating is sought; and

(2) Pass an appropriate flight test.

INSTRUMENT RATING

§ 20.125 *Issuance.* An instrument rating shall be issued to a private or commercial pilot who meets the prescribed aeronautical knowledge, experience, and skill requirements.

§ 20.126 *Aeronautical knowledge.* An applicant shall pass a written examination based on the following:

(a) Civil Air Regulations as they apply to flight under IFR conditions;

(b) Radio navigation systems and procedures, instrument landing systems and procedures, and radio communication procedures; and

(c) Meteorology, including the characteristics of air masses and fronts and the weather associated with them; the elementary principles of forecasting; and the availability, evaluation, and utilization of the various types of meteorological reports.

§ 20.127 *Aeronautical experience.* An applicant shall meet the following minimum flight experience requirements:

(a) He shall hold a commercial pilot certificate or a private pilot certificate and meet the aeronautical experience requirements for the issuance of a commercial pilot certificate; and

(b) He shall have acquired 40 hours of

instrument time under actual or simulated instrument conditions, of which not less than 20 hours shall have been in flight and have included 10 hours of instrument flight instruction given by a rated instrument flight instructor.

§ 20.128 *Aeronautical skill.* An applicant shall demonstrate a satisfactory level of competence in the following procedures and maneuvers:

(a) Flight maneuvers, solely by reference to instruments, including recovery from critical attitudes such as steep turns, spirals, and stalls using the minimum instrumentation prescribed for instrument flight in Part 43 of this subchapter.

(b) Planning and conducting a simulated instrument flight including:

(1) Preparing and filing an instrument flight plan;

(2) Radio navigation including orientation;

(3) Radio communications;

(4) A standard instrument approach complying with traffic control instructions and standard holding procedures; and

(5) Recovery from emergency situations such as a missed approach, radio or instrument failure, and failure of an engine if the test is conducted in a multiengine airplane.

SUBPART G—FLIGHT INSTRUCTOR CERTIFICATES

§ 20.130 *Limited flight instructor certificates.* A limited flight instructor certificate with appropriate ratings shall be issued to an applicant who meets the following requirements:

(a) He shall hold a valid airline transport or commercial pilot certificate of if he holds a private pilot certificate he shall meet the aeronautical knowledge, experience, and skill requirements for the issuance of a commercial pilot certificate;

(b) He shall demonstrate in each category of aircraft in which he desires to give flight instruction his ability to teach the performance of such flight maneuvers and procedures as are necessary and appropriate for the safe piloting of that category of aircraft; and

(c) He shall show that he is familiar with effective flight instruction methods and procedures as set forth in the CAA Flight Instruction Manual; or

(d) He shall demonstrate his ability to give instrument flight instruction if he desires to be rated as an instrument flight instructor.

§ 20.131 *Renewal and reissuance.* A limited flight instructor certificate shall expire 24 calendar months after date of issuance but may be renewed or reissued upon presentation to the Administrator of a satisfactory flight instruction record or upon a practical demonstration of continued competence.

§ 20.135 *Flight instructor certificates.* A flight instructor certificate with appropriate ratings shall be issued to an applicant who meets the following requirements:

(a) He has held a limited flight instructor certificate for a period of at least one year;

(b) He has trained at least 5 successful candidates for pilot certificates or instrument ratings; and

(c) He has demonstrated his competence in giving flight instruction as evidenced by the ability of his students to maintain a satisfactory level of flight safety while under his supervision and to pass the certification and rating tests for which he has prepared them.

§ 20.136 *Flight instruction records.* A flight instructor or limited flight instructor shall comply with the following:

(a) He shall sign the student pilot's record for each period of flight instruction;

(b) He shall make a record containing the name of each student pilot whose certificate he has endorsed and to whom he has given flight instruction, the type of endorsement, and the date of each endorsement or flight instruction period, such record to be retained so long as he exercises the privileges of his flight instructor's certificate or 3 years, whichever is the shorter period of time.

(c) He shall not endorse a student pilot certificate for solo flight or for flight outside of the local designated area until he has ascertained that the student has met the appropriate instructional requirements and he has personally checked the student and deems him competent to make such flights.

§ 20.137 *Limited flight instructor limitations.* A pilot certificate or instrument rating will be issued to a student trained by the holder of a limited flight instructor certificate only after such student has passed a flight test given by an Aviation Safety Agent.

§ 20.138 *Validity and exchange of flight instructor ratings and certificates.* The holder of a flight instructor rating may exercise the privileges of such rating until July 1, 1958. Prior to this date he may exchange such rating for a flight instructor certificate without further showing of competence. After July 1, 1958, the holder of a flight instructor rating shall not exercise the privileges of such rating but he may exchange it for a flight instructor certificate upon demonstrating continued competence to give flight instruction.

NOTE: The record-keeping requirements contained herein have been approved by the Bureau of the Budget in accordance with the Federal Reports Act of 1942.

By the Civil Aeronautics Board.

[SEAL] JOHN B. RUSSELL,
Acting Secretary.

[F. R. Doc. 56-6959; Filed, Aug. 28, 1956; 8:53 a. m.]

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