

the Federal Aviation Agency to recodify its regulatory material into a new series of regulations called the "Federal Aviation Regulations" to replace the present "Civil Air Regulations" and "Regulations of the Administrator".

During the life of the recodification project, Chapter I of Title 14 may contain more than one part bearing the same number. To differentiate between the two, the recodified parts, such as the ones in this subchapter, will be labeled "[New]". The label will of course be dropped at the completion of the project as all of the regulations will be new.

Subchapter D [New] was published as a notice of proposed rule making in the FEDERAL REGISTER on May 2, 1962 (27 F.R. 4175) and as Draft Release 62-20.

Some of the comments received recommended specific substantive changes to the regulations. Although some of the recommendations might, upon further study, appear to be meritorious, they cannot be adopted as a part of the recodification program. The purpose of the program is simply to streamline and clarify present regulatory language and to delete obsolete or redundant provisions. To attempt substantive changes in the recodification of these regulations (other than minor, relaxatory ones that are completely noncontroversial) would delay the project and would be contrary to the ground rules specified for it in the FEDERAL REGISTER on November 15, 1961 (26 F.R. 10698) and Draft Release 62-20. However, all comments of this nature will be preserved and considered in any later substantive revision of the affected parts.

Certain changes, not contained in Draft Release 62-20, reflect amendments, to the parts revised herein, that became effective after the Draft Release was published. Each of these amendments, when published, contained a statement that they would be included in the final draft of the recodified parts affected and, in addition, Draft Release 62-20, stated that such amendments would be included in the final draft of the revised subchapter. See amendments 20-15, 20-16, 20-17, 21-3, 22-13, 22-14, 24-4, and 24-5.

Draft Release 62-14, dated April 2, 1962, proposed certain amendments to provisions of Part 20 of the Civil Air Regulations under which former military pilots may obtain private and commercial pilot certificates on the basis of military competence. The period for receiving comments on the proposal having closed on June 7, 1962, and no adverse comments having been received thereon, these amendments are incorporated into § 61.31 of the revised subchapter.

Other minor changes of a technical clarifying nature or relaxatory nature have been made. They are not substantive and do not impose any burden on regulated persons. For example, the unnecessary provision, contained in CAR 21.23, that an airline transport pilot must present his pilot certificate for inspection by any person, has been deleted in the light of other existing requirements that such a pilot must present his certificate for inspection upon the request of the Administrator, an author-

*Part 61*

## Title 14—AERONAUTICS AND SPACE

### Chapter I—Federal Aviation Agency

[Reg. Docket No. 1179]

#### SUBCHAPTER D—AIRMEN [NEW]

#### ADDITION OF SUBCHAPTER

This amendment adds Subchapter D "Airmen" to Chapter I of Title 14 of the Code of Federal Regulations. The amendment is a part of the program of

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ized representative of the CAB, any State or local law enforcement officer, or any passenger.

Draft Release 62-27 dated June 8, 1962 (27 F.R. 5686) contained a notice of the revision of the procedural rules of the Federal Aviation Agency. The preamble to the release stated that the certification procedural rules in Part 406 of the regulations of the Administrator were being considered for transfer to the parts to which they specifically applied, insofar as they did not duplicate provisions already in those parts. For this reason, a new Subpart B, relating to procedures for medical certificates, has been added to Part 67 "Medical Standards and Certification" [New]. The subpart is a revision, without substantive changes, of medical certification provisions now in Part 406.

Of the comments received on Draft Release 62-20, several suggested changes in style, format, or technical wording. These comments have been carefully considered and, where consistent with the style, format, and terminology of the recodification project, were adopted.

The definitions, abbreviations, and rules of construction contained in Part 1 [New] of the Federal Aviation Regulations apply to the new Subchapter D.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due consideration has been given to all relevant matter presented. The Agency appreciates the cooperative spirit in which the public's comments were considered.

In consideration of the foregoing Chapter I of Title 14 of the Code of Federal Regulations is amended, effective November 1, 1962, by deleting Parts 20, 21, 22, 24, 25, 26, 27, 29, 34, 35, §§ 43.40-43.42, 43.52-43.63, 43.64 (b), (c), and (d), 43.65, 43.68, and Special Regulations 428 and 434, and by adding Subchapter D, reading as hereinafter set forth.

This amendment is made under the authority of sections 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, and 1427).

Issued in Washington, D.C., on August 6, 1962.

N. E. HALABY,  
Administrator.

SUBCHAPTER D—AIRMEN [NEW]

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AUTHORITY: §§ 61.1 to 61.183 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958; 49 U.S.C. 1354(a), 1355, 1421, and 1427.

Subpart A—General

§ 61.1 Applicability.

This part prescribes the requirements for issuing the following certificates and ratings, the conditions under which those certificates or ratings are necessary, and the general operating rules for the holders of those certificates and ratings:

- (a) Student, private, and commercial pilot (airplane, rotorcraft, glider, and lighter-than-air aircraft) certificates.
- (b) Airline transport pilot certificates.
- (c) Special purpose pilot certificates.
- (d) Flight instructor certificates.
- (e) Aircraft and instrument ratings.
- (f) Free balloon pilot certificates.

§ 61.3 Certificates and ratings required.

(a) *Pilot certificate.* No person may, within the United States, act as pilot in command of a civil aircraft of United States registry unless he has in his personal possession a current pilot certificate (with appropriate ratings) issued to him under this part.

(b) *Pilot certificate; foreign aircraft.* No person may, within the United States, act as pilot in command of a civil aircraft of foreign registry that is eligible to operate in the United States, unless he has in his personal possession a current pilot certificate (with appropriate ratings) issued to him under this part or issued to him or validated for him by the country in which the aircraft is registered.

(c) *Medical certificate.* Except for glider pilots piloting gliders, no person may act as pilot in command of an aircraft under a certificate issued to him under this part unless he has in his personal possession an appropriate current medical certificate issued under Part 67 of this chapter. However, in the case of a special purpose pilot certificate, the evidence required by the second sentence of § 61.33(b) may be used in place of a medical certificate.

(d) *Inspection of certificate.* Each person who holds a pilot certificate described in paragraph (a) or (b) of this section shall present it for inspection upon the request of the Administrator

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or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer. An airline transport or lighter-than-air pilot must present his pilot certificate for inspection upon the request of any passenger.

(e) *Instrument rating.* No person may act as pilot in command of an aircraft under instrument flight rules or in weather conditions less than the minimums prescribed for VFR flight unless he holds a current instrument rating or an airline transport pilot certificate.

#### § 61.5 Application and issue.

(a) An application for a certificate and rating, or for an additional rating, under this part is made on a form and in a manner prescribed by the Administrator.

(b) An applicant who meets the requirements of this part is entitled to an appropriate pilot or flight instructor certificate with appropriate aircraft ratings. Additional aircraft category, class, and type ratings, and instrument ratings for which the applicant is qualified, are added to his certificate.

(c) An applicant who cannot comply with all of the skill requirements prescribed by or under this part for a particular certificate because special characteristics of the aircraft used in flight test prohibit the required procedures or maneuvers, but who meets all other requirements for the certificate concerned, is entitled to a pilot certificate with appropriate limitations.

(d) An applicant for a pilot certificate who holds a medical certificate under § 67.19 with special limitations on it and who meets all other requirements for that pilot certificate, is entitled to a pilot certificate containing such operating limitations as the Administrator determines are necessary because of the applicant's physical deficiency.

(e) A person whose pilot certificate (other than as airline transport or lighter-than-air) has been suspended or revoked may not apply for a certificate under this part unless the Administrator authorizes it.

(f) Unless the order of revocation provides otherwise, a person whose airline transport or lighter-than-air pilot certificate is revoked may not apply for any pilot or flight instructor certificate for at least 1 year after the date of the revocation.

#### § 61.7 Temporary certificate.

A pilot certificate or rating effective for a period of not more than 90 days may be issued to a qualified applicant, pending the issue of the certificate or rating for which he applied.

#### § 61.9 Duration of certificates.

(a) *Student pilot certificate.* A student pilot certificate expires at the end of the 24th month after the month in which it is issued.

(b) *Flight instructor certificates.* A limited flight instructor certificate expires at the end of the 24th month after the month in which it is issued, but may, at any time before it expires, be exchanged for a flight instructor certificate

with appropriate ratings without a further showing of the holder's ability to give flight instruction. After it expires, it may be exchanged for a flight instructor certificate with appropriate ratings upon a showing by the holder of his continued ability to give flight instruction. A flight instructor certificate is effective until it is surrendered, suspended, or revoked. In addition, each flight instructor certificate is effective only while the holder has a current pilot certificate as prescribed in § 61.171(a).

(c) *Airline transport; lighter-than-air.* An airline transport or lighter-than-air pilot certificate that is issued to a person who is not a citizen of the United States is effective for a period of not more than 12 months after the month in which it is issued, but may be reissued without further proof of technical ability.

(d) *Special purpose pilot certificate.* A special purpose pilot certificate issued under § 61.33 is effective only during the period it is used for the specific purpose for which it was issued, but not longer than 12 months.

(e) *Other pilot certificates.* Any pilot certificate issued under this part and not covered by paragraphs (a) through (d) of this section is issued without a specific expiration date.

(f) *Surrender, suspension, revocation.* Any pilot certificate issued under this part ceases to be effective if it is surrendered, suspended, or revoked.

(g) *Return of certificate.* The holder of an airline transport or lighter-than-air pilot certificate that is suspended or revoked shall, upon the Administrator's request, return it to the Administrator.

#### § 61.11 Exchange of certificate.

The holder of a pilot certificate issued under this part may apply for a pilot certificate of a lower grade. If he so applies, he must include the following statement or its equivalent:

This request is made for my own reasons, with full knowledge that my [insert of name of certificate] may not be reissued to me unless I again pass the tests prescribed for its issue.

#### § 61.13 Change of name; replacement of lost or destroyed certificate.

(a) An application for a change of name on a certificate issued under this part must be accompanied by the applicant's current certificate and the marriage license, court order, or other document verifying the change. The documents are returned to the applicant after inspection.

(b) An application for a replacement of a lost or destroyed certificate is made by letter to the FAA, Airman Certificate Branch, Federal Aviation Agency, Oklahoma City, Oklahoma. The letter must—

(1) Contain a brief statement of the circumstances of the loss or destruction;

(2) Contain any available information regarding the grade, number, and date of issue of the certificate, the name in which it was issued, and the ratings on it; and

(3) Be accompanied by a check or money order for \$2.00, payable to the Federal Aviation Agency.

(c) An application for replacement of a lost or destroyed medical certificate is made by letter to the Civil Air Surgeon, Federal Aviation Agency, Washington 25, D.C., accompanied by a check or money order for \$2.00.

(d) A person whose certificate issued under this part or medical certificate, or both, has been lost may obtain a telegram from the FAA confirming that it was issued. The telegram may be carried as a certificate pending his receiving a duplicate certificate under paragraph (b) or (c) of this section, unless he has been notified that the certificate has been suspended or revoked. The request for such a telegram may be made by prepaid telegram, stating the date upon which a duplicate certificate was requested, or including the request for a duplicate and a money order for the necessary amount. The request for a telegraphic certificate should be sent to the office prescribed in paragraph (b) or (c) of this section, as appropriate. However, a request for both at the same time should be sent to the office prescribed in paragraph (b) of this section.

#### § 61.15 Aircraft ratings.

(a) The category ratings to be placed on private, commercial, and airline transport pilot certificates are—

- (1) Airplanes;
- (2) Rotorcraft;
- (3) Glider; and
- (4) Lighter-than-air.

(b) When applicable, the airplane class ratings to be placed on private, commercial, and airline transport pilot certificates are—

- (1) Single-engine land;
- (2) Multiengine land;
- (3) Single-engine sea; and
- (4) Multiengine sea.

(c) Where applicable, the rotorcraft class ratings to be placed on pilot certificates are—

- (1) Gyroplane; and
- (2) Helicopter.

(d) In addition to the category and class ratings in paragraphs (a), (b), and (c) of this section, the name of each type of large aircraft for which a pilot is rated, is placed on his certificate. In the case of airline transport pilots, a helicopter type rating is issued for each type of helicopter.

(e) The holder of a pilot certificate with a rotorcraft category rating issued before July 12, 1962, may exercise the privileges of that rating until February 1, 1963. At any time after July 12, 1962, he may, without a further showing of competence, exchange his rotorcraft category rating for a rotorcraft category rating with a class rating determined by the class of rotorcraft in which he originally qualified for a rotorcraft rating whether by flight test or on the basis of military competence. If he qualified initially in a helicopter, he may obtain a gyroplane class rating without a further showing if he has at least 10 hours as pilot in command of a gyroplane within the 12-month period before July 12, 1962.

(f) The holder of a pilot certificate with a helicopter or autogiro category rating issued before September 1, 1957, may exercise the privileges of that rat-

ing until February 1, 1963. Until that date, such a helicopter rating is treated as if it were a rotorcraft rating. At any time after July 12, 1962, he may, without a further showing of competence, exchange his helicopter category rating for a rotorcraft category rating with helicopter class rating, and his autogyro category rating for a rotorcraft category rating with a gyroplane class rating, by presenting his certificate for exchange. The holder of a helicopter category rating may obtain a gyroplane class rating without a further showing if he has had at least 10 hours as pilot in command of a gyroplane within the 12-month period before July 12, 1962.

(g) The holder of a certificate named in paragraph (e) or (f) of this section does not have to have a current medical certificate to make the exchange of ratings specified in those paragraphs.

§ 61.17 Additional aircraft ratings after original issue of certificate (other than airline transport or lighter-than-air).

(a) *General.* To be eligible for an additional aircraft rating after his certificate is issued to him, an applicant must meet the requirements of paragraphs (b) through (f) of this section, performing the procedures, maneuvers, and techniques specified in those sections, as applicable, that are not required for the certificates and ratings that he already holds.

(b) *Rotorcraft.* A pilot holding an airplane rating who applies for a rotorcraft rating must have a total of at least 15 hours of flight instruction (from an appropriately rated flight instructor) and solo flight time in rotorcraft, at least 5 of which were solo (or submit a written recommendation from an appropriately rated flight instructor who has given him flight instruction and certifies him as competent to meet the skill requirements for the rating sought), and must pass an appropriate flight test.

(c) *Glider.* A pilot holding an airplane or rotorcraft rating who applies for a glider rating must have a total of at least 2 hours of flight instruction (from an appropriately rated flight instructor or a commercial glider pilot) and solo flight time in gliders, including at least 10 solo glider flights in which he made a 360° turn, and must pass an appropriate flight test.

(d) *Airplane or rotorcraft.* A pilot holding a glider rating who applies for an airplane or rotorcraft rating must meet the requirements for the original issue of a certificate with an airplane or rotorcraft rating, including the flight test.

(e) *Airplane.* A pilot holding a rotorcraft rating who applies for an airplane rating must have the flight time required for the original issue of a certificate with an airplane rating, including at least 5 hours of solo flight time in airplanes and must pass an appropriate flight test.

(f) *Additional class or type.* An applicant for an additional class or type rating must—

(1) Have made at least five takeoffs and landings in an aircraft of the class or type for which he seeks a rating, in solo flight or as the only manipulator

of the controls accompanied by a pilot rated to carry passengers in that aircraft, or, in the case of a Douglas DC-3, a Lockheed 18, or an aircraft that requires more than one pilot, as pilot in command or as second in command performing the duties of a pilot in command while the instructor or check pilot performed the duties of a second in command; and

(2) Pass an appropriate flight test.

(g) *Inapplicability.* This section does not apply to airline transport pilot or lighter-than-air pilot certificates.

§ 61.19 Tests: General procedure.

Tests prescribed by or under this part are given at times and places, and by persons, prescribed by the Administrator.

§ 61.21 Prerequisites for flight tests.

To be eligible for a flight test for a certificate, or an aircraft or instrument rating, under this part the applicant must—

(a) Have passed the written test (if required) within the 24 months before the date he takes the flight test;

(b) Have the applicable aeronautical experience prescribed in this part; and

(c) Hold a medical certificate appropriate to the certificate he seeks.

Notwithstanding paragraph (a) of this section, an applicant for an airline transport pilot certificate who, after passing the written test, has been continuously employed as a pilot by, and has continuously participated in a pilot training program of, a United States air carrier or commercial operator, or a United States scheduled military air transportation service, may take the flight test for that certificate as long as he continues in that employment and training program.

§ 61.23 Flight tests: General procedures.

(a) The examiner of an applicant for a private or commercial pilot certificate or an instrument rating judges the applicant's performance of the procedures and maneuvers on the flight test on the basis of judgment, knowledge, smoothness, and accuracy. For this purpose, competent performance of a procedure or maneuver requires the pilot to be the obvious master of the aircraft, with the successful outcome of the maneuver never seriously in doubt.

(b) If an applicant fails any required item in a phase of the flight test he fails that phase and the entire test, and must pass that phase (as well as any other phases that he has not passed) in any later retesting.

(c) The examiner or the applicant may discontinue the test at any time when the failure of a required item makes passing the test impossible. In such a case, the applicant is entitled to credit for only those entire phases that he passed.

(d) This section does not apply to airline transport or lighter-than-air pilot certificates.

§ 61.25 Flight tests: Required aircraft.

(a) *General.* An applicant for a certificate or rating under this part must furnish, for each flight test that he is

required to take, an appropriate aircraft of United States registry. However, the applicant may, in the examiner's discretion, furnish an aircraft of foreign registry that is properly certificated by the country of registry, or a military aircraft in an operational status if its use is allowed by an appropriate military authority.

(b) *Dual controls.* An aircraft furnished under paragraph (a) of this section for any flight test (other than an airline transport pilot or lighter-than-air pilot certificate) must have functioning dual controls, unless after considering all of the factors, the examiner determines that the flight test can be conducted safely without them.

(c) *Airline transport.* An aircraft furnished under paragraph (a) of this section for an airline transport pilot test must have a suitable hood that excludes the applicant from outside forward vision but does not unduly restrict the examiner's vision, must have functioning dual controls, and must accommodate the applicant and the examiner. For the purposes of this paragraph, an aircraft that has only one elevator and aileron control for two seats or is so arranged that all flight and engine controls cannot be handled in a normal manner from either seat, is not considered to have dual controls. If the applicant is employed by an air carrier, the air carrier may have a check pilot on the aircraft during a flight test under this paragraph. In such a case, the aircraft must provide adequate vision for the pilot and the check pilot.

(d) *Instrument rating.* An aircraft furnished under paragraph (a) of this section for a flight test for an instrument rating must—

(1) Be one in which instrument flight is authorized by this chapter and by its equipment and operating limitations;

(2) Have functioning dual controls; and

(3) Have a hood, slats, polarized material, or other effective means (satisfactory to the examiner) of excluding outside visual reference by the pilot taking the test.

§ 61.27 Retesting after failure.

(a) *Written test.* An applicant for a certificate or rating under this part (other than an airline transport or lighter-than-air pilot certificate or associated rating) who fails a written test for that certificate or rating may apply for retesting—

(1) After 30 days after the date he failed that test;

(2) Upon presenting a statement from whichever of the following is applicable, certifying that he has given additional instruction to the applicant and now considers that he is ready for retesting:

(i) For a private or commercial pilot certificate or associated rating—a certificated flight instructor with an appropriate category rating or a certificated ground instructor with a rating for the subject failed.

(ii) For an instrument rating—a certificated flight instructor with an instrument rating or a certificated ground instructor with a rating for the subject failed.

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(iii) For a flight instructor certificate—a certificated flight instructor with an appropriate category or instrument rating on his flight instructor certificate.

(b) *Flight test.* An applicant for a certificate or rating under this part (other than an airline transport or lighter-than-air pilot certificate or associated rating) who fails a flight test for that certificate or rating may apply for retesting—

(1) After 30 days after the date he failed that test; or

(2) Upon presenting a statement from a certificated flight instructor with an appropriate rating, certifying that he has given additional instruction to the applicant and now considers that the applicant is ready for retesting.

(c) *Airline transport; written test.* An applicant for an airline transport pilot certificate or associated rating who fails a written test under this part may apply for retesting—

(1) After 30 days after the date he failed that test; or

(2) After he has received at least 5 additional hours of instruction, from a person employed by an airline to instruct in that subject, or from whichever of the following is appropriate:

(i) A certificated airline transport pilot.

(ii) A certificated ground instructor for the subject failed.

(iii) A person qualified to instruct in instrument flight theory.

(d) *Airline transport; flight test.* An applicant for an airline transport pilot certificate or associated rating who fails a flight test under this part may apply for retesting after he presents satisfactory evidence that he has—

(1) Logged at least 5 additional hours of flying solely by instruments and at least 5 additional hours of flight instruction from an appropriately rated flight instructor or an airline transport pilot; or

(2) Received such part of the practice or instruction prescribed in subparagraph (1) of this paragraph as, in the Administrator's opinion, warrants retesting.

However, in retesting, only the maneuvers failed need be repeated. An applicant who meets the requirements of subparagraph (1) or (2) of this paragraph is considered to meet the 5-hour flight time requirements of § 61.145(b)(1).

(e) *Additional instruction.* An applicant covered by paragraph (c) (2) or (d) of this section must present a statement from his instructor certifying that he has given the additional instruction to the applicant and considers that he is ready for retesting.

(f) *Lighter-than-air; written test.* An applicant for a private or commercial lighter-than-air pilot certificate or a free balloon pilot certificate who fails a written test under this part may apply for retesting—

(1) After 30 days after the date he failed that test; or

After he has received at least five hours of instruction on each subject that he failed from a ground instructor certified in that subject and presents a statement from that instructor showing

the amount of instruction given and stating that he considers that the applicant is ready for retesting.

(g) *Lighter-than-air; flight test.* An applicant for a private or commercial lighter-than-air pilot certificate or a free balloon pilot certificate who fails a flight test under this part may apply for retesting after he has logged at least three additional hours of flight time.

#### § 61.29 Graduates of certificated flying schools: Special rules.

(a) A graduate of a flying school that is certificated under Part 141 of this chapter is considered to meet the requirements of §§ 61.85, 61.89, 61.115, or 61.119 relating to aeronautical experience, if he presents an appropriate graduation certificate within 60 days after the date he is graduated. However, if he applies for an instrument rating or a flight instructor certificate, he must hold a commercial pilot certificate, or hold a private pilot certificate and meet the requirements of § 61.115 (except paragraph (a) (3) thereof).

(b) An applicant for a certificate or rating under this part may be considered to meet the requirements of § 61.83 or § 61.113 relating to aeronautical knowledge, or of §§ 61.87, 61.91, 61.117, or 61.121 relating to aeronautical skill, or both, for that certificate or rating, if he applies within 90 days after being graduated from an appropriate course of a flying school that is certificated under Part 141 of this chapter and is authorized by the Administrator to test applicants on aeronautical knowledge, or skill, or both.

#### § 61.31 Military pilots or former military pilots: Special rules.

(a) *Written test and evidence.* An applicant for a private or commercial pilot certificate is entitled to that certificate if he passes a written test on the parts of this chapter relating to pilot privileges and limitations, general operating, air traffic, and accident reporting rules, and presents satisfactory documents showing that—

(1) He is a member of an Armed Force of the United States and is either on solo flying status as a rated pilot or the equivalent (or, in the case of an applicant for a lighter-than-air pilot certificate, has been in such a status for a period of at least 6 consecutive months before the date he applies), or has, within the 12 months before the date he applies, been graduated from, and rated as a pilot by, a military flying school;

(2) He is a member of an Armed Force of the United States and has been removed from solo flying status as a rated pilot or the equivalent for reasons other than lack of flying proficiency;

(3) He has been honorably discharged or released from such an Armed Force and was, at the time of the discharge or release, on solo flying status as a rated pilot or the equivalent (or, in the case of an applicant for a lighter-than-air pilot certificate, has been in such a status for a period of at least 6 consecutive months); or

(4) He has been honorably discharged or released from such an Armed Force and was, before that discharge or release, removed from solo flying status

as a rated pilot or the equivalent for reasons other than lack of flying proficiency.

However, a person covered by subparagraph (2), (3), or (4) of this paragraph who was discharged or released more than 12 months before the date he applies, or who has not been on solo flying status as a rated pilot or the equivalent within that 12-month period, must also pass the prescribed flight test and physical requirements, or in the case of an applicant for a private lighter-than-air pilot certificate, have had at least 10 hours of flight time as pilot in command in military lighter-than-air aircraft within that 12-month period.

(b) *Category, class, or type ratings.* A person who applies for a particular category, class, or type rating (other than lighter-than-air), is entitled to an appropriate rating on the pilot certificate that he holds or for which he has applied, if he presents satisfactory documentary evidence that, within the 12 months before the date he applies, he has had at least 10 hours of flight time as pilot in command in military aircraft of a category, class, or type for which he seeks a rating or has passed either an official military checkout as pilot in command, or the equivalent, in the aircraft concerned or the flight test prescribed in § 61.17 (b) or (f). However, this paragraph does not authorize a rating to be placed on an airline transport pilot certificate unless that rating is limited to commercial privileges.

(c) *Instrument rating.* A private or commercial pilot who holds a current military instrument rating or card is entitled to an instrument rating under this part.

(d) For the purposes of this section—

(1) An official identification card issued by the Armed Force concerned showing that the holder is a member is satisfactory evidence of membership;

(2) An official order to solo flight status, an appropriate Air Force form or Navy flight logbook endorsed to show solo flight status, official order showing graduation from, and rating as a pilot by, a military flying school, or a copy of orders showing duty involving flying as a rated pilot, is satisfactory evidence of flight status;

(3) An appropriate Air Force form or a summary of it, or a certified military logbook, is satisfactory evidence of pilot flight time, but pilot-in-command flight time in an aircraft normally having two pilots must be substantiated by official checkout records; and

(4) An original or photostatic copy of a certificate of discharge or release from an Armed Force is satisfactory evidence of discharge or release.

However, a person who was discharged from an Armed Force or removed from flight status because of flight deficiency is not eligible for a pilot certificate under this section.

#### § 61.33 Special purpose pilot certificates (other than airline transport): Foreign citizens.

(a) An applicant for a pilot certificate who is a citizen of a foreign country, who holds a current pilot certificate

issued by that country, and who meets the requirements of this section, may have a pilot certificate issued to him stating the operations it authorizes and containing ratings based on the ratings on his foreign pilot certificate. If he has no ratings on that certificate, the certificate issued under this section is limited to operating aircraft that he has flown for at least 10 hours, as pilot in command, during the preceding 12 months. However, no instrument rating may be placed on a certificate issued under this section.

(b) An applicant for a certificate under this section must submit satisfactory evidence of his aeronautical experience and must pass a test on Part ---- of this chapter [Present Part 60]. In addition, he must either submit satisfactory evidence that he currently meets the physical requirements for the foreign certificate that he holds or presents an appropriate current medical certificate issued under Part 67 of this chapter.

(c) Each certificate issued under this section must show the basis upon which it was issued and may be used only for the specific purpose for which issued. If the applicant cannot read, speak, and understand the English language, the certificate may contain additional limitations that the Administrator considers necessary for air safety.

(d) This section does not apply to airline transport pilot certificates.

#### § 61.35 Instrument rating; experience requirements.

An applicant for an instrument rating must—

- (a) Hold at least—
  - (1) A commercial pilot certificate; or
  - (2) A private pilot certificate and meet the requirements of §61.115(a) (1) and (2);
- (b) Pass a written test on—
  - (1) This subchapter as it applies to flight under IFR conditions;
  - (2) Radio navigation systems and procedures, instrument landing systems and procedures, and radio communication procedures; and
  - (3) Meteorology, including the characteristics of air masses and fronts and the weather associated with them, elementary principles of forecasting, and the availability, evaluation, and utilization of meteorological reports; and
- (c) Have at least 40 hours of instrument time under instrument weather conditions or simulated instrument conditions (including time acquired in a synthetic trainer), of which at least 20 hours were in flight and at least 10 hours were instrument flight instruction given by a person holding a flight instructor certificate with an instrument rating.

#### § 61.37 Instrument rating: Skill requirements.

(a) An applicant for an instrument rating must pass a practical test on the procedures and maneuvers listed in paragraph (c) of this section. The test is given in three phases, an oral operational test, an instrument flying test, and a radio navigation and approach procedures test. The applicant must perform

the flight maneuvers solely by reference to instruments.

(b) Any significant error of a dangerous nature is disqualifying. Any error that makes it necessary for the examiner to take over the controls to avoid violating the aircraft's operating limitations, a loss of control, or a collision with the ground is disqualifying.

(c) The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—oral operational test:
  - (i) Instrument flight planning.
  - (ii) Preparing and filing an instrument flight plan.
  - (iii) Aircraft performance, range, and fuel requirements.
  - (iv) Required instruments and equipment, and their proper use.
- (2) Phase II—Instrument flying test:
  - (i) Straight and level flight, using needle, ball, and airspeed only.
  - (ii) Turns, climbs, and descents, using needle, ball, and airspeed only.
  - (iii) Stalls, and maneuvering at approach speeds.
  - (iv) Steep turns.
  - (v) Recovery from unusual attitudes, using needle, ball, and airspeed only.
  - (vi) Engine-out procedures, if test is in multi-engine airplane.
- (3) Phase III—radio navigation and approach procedures test:
  - (i) Radio navigation, including orientation using LF, OMNI range, or ADF.
  - (ii) Using radio for voice communication.
  - (iii) Standard instrument approach to authorized IFR weather minimums (not more than 500 feet and 1 mile), including holding procedures.
  - (iv) Missed approach procedures.
  - (v) Emergencies, such as radio or instrument malfunctions.
  - (vi) Compliance with air traffic control instructions and procedures.

#### § 61.39 Pilot logbooks: Except airline transport pilots.

(a) *General.* The flight time used to meet the experience requirements for any pilot certificate or rating, or to meet the recent flight experience requirements of § 61.47 or § 61.177(c), must be shown by a reliable record. The logging of other flight time is not required. The instructor of a lighter-than-air pilot shall certify each entry on flight instruction that he gave to that pilot. Each pilot who keeps a logbook under this section shall enter into it the following information as to each flight:

- (1) *General.* (i) Date;
- (ii) Duration;
- (iii) Points of departure and arrival; and
- (iv) Identification mark of the aircraft.
- (2) *Type of piloting time.* (i) Pilot in command or solo;
  - (ii) Second in command;
  - (iii) Synthetic trainer; or
  - (iv) Flight instruction from an appropriately rated flight instructor, in the case of airplanes or rotorcraft; from an appropriately rated flight instructor or commercial glider pilot, in the case of glider pilots; or from a commercial

lighter-than-air pilot, in the case of lighter-than-air pilots.

(3) *Conditions of flight.* (i) Day or night;

- (ii) Actual instrument flight; or
- (iii) Simulated instrument flight.

(4) If, in the case of a lighter-than-air pilot, the flight resulted in serious damage to the aircraft, an entry to that effect.

(b) *Solo flight time.* A student, private, or commercial pilot may log as solo only that flight time during which he is the only occupant of the aircraft.

(c) *Pilot in command time.* A private or commercial pilot may log as pilot in command only the flight time during which he is the only manipulator of the controls of an aircraft for which he is rated or the flight time during which he is the only occupant of the aircraft. A flight instructor may log as pilot in command time all flight time during which he is serving as a flight instructor.

(d) *Second in command time.* A private or commercial pilot may log as second in command that flight time during which he is performing the duties of a second in command. He may be credited with not more than 50 percent of that kind of flight time toward the total flight time required for a higher certificate or rating. However, a private pilot may not be credited with more than 50 hours of flight time under this paragraph.

(e) *Instrument time.* The pilot manipulating the controls of an aircraft during the time it is flown solely by reference to instruments under instrument weather conditions or simulated instrument flight conditions may log that time as instrument flight time.

(f) *Lighter-than-air.* A lighter-than-air pilot who keeps a logbook under this section shall present it for inspection upon the request of, and after reasonable notice by, the Administrator, an authorized representative of the Civil Aeronautics Board, or any State or local law enforcement officer.

(g) *Inapplicability.* This section does not apply to airline transport pilots.

#### § 61.41 Pilot logbooks: Airline transport pilots.

(a) Each airline transport pilot shall keep an accurate and legible record, in ink or indelible pencil, of his flying time in a bound logbook that is arranged for easy reference. Such a pilot must certify his solo flying time entries and the entries on instruction must be certified to by his instructor.

(b) Each person who is required to keep a logbook under this section shall enter into it the following information as to each flight:

- (1) The date.
- (2) The category, class, and type of the aircraft he flew.
- (3) The aircraft certificate number.
- (4) The type of piloting time—pilot in command, flight instruction (from an appropriately rated flight instructor or an airline transport pilot), on instruments, or night flying time.
- (5) The duration.
- (6) The points or arrival and departure.

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(7) If the flight resulted in serious damage to the aircraft, a statement to that effect.

The person giving the flight instruction must make complete entries in the logbook of his student showing the nature of each maneuver in which instruction was given and the time spent thereon. The instructor must attest each entry with his initials, pilot certificate number, and pertinent rating. The pilot shall present the logbook for inspection upon the demand and reasonable notice of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

(c) An airline transport pilot may log all flight times during which he acts as pilot in command or second in command.

(d) An airline transport pilot may log instrument flight time as such only when he flies the aircraft solely by reference to instruments under instrument weather conditions or simulated instrument flight conditions. He may not log over-the-top flying as instrument flight time.

(e) Each airline transport pilot shall furnish to the authorized airline medical examiner at the time of each physical examination a report of the amount and type of his aeronautical experience and any other information the Administrator may require covering the period since the last report of that pilot. Reports under this paragraph shall be forwarded to the Administrator.

### § 61.43 Medical certificates: Duration.

(a) A first-class medical certificate expires at the end of the last day of—

(1) The sixth month after the month in which it is issued, for operations requiring an airline transport pilot certificate;

(2) The 12th month after the month in which it is issued, for operations requiring only a commercial pilot certificate; and

(3) The 24th month after the month in which it is issued, for operations requiring only a private or student pilot certificate.

(b) A second-class medical certificate expires at the end of the last day of—

(1) The 12th month after the month in which it is issued, for operations requiring a commercial pilot certificate; and

(2) The 24th month after the month in which it is issued, for operations requiring only a private or student pilot certificate.

(c) A third-class medical certificate expires at the end of the last day of the 24th month after the month in which it is issued, for operations requiring a private, student, or free balloon pilot certificate.

### § 61.45 Operations during physical deficiency.

No person may act as pilot in command of an aircraft, and no person holding an airline transport pilot certificate may fly an aircraft, when he has a known physical deficiency, or increase of known physical deficiency, that would make him unable to meet the physical requirements of a current medical certificate.

### § 61.47 Recent flight experience.

(a) *General.* No person may act as pilot in command of an aircraft carrying passengers unless, within the preceding 90 days, he has made at least five takeoffs and five landings to a full stop in an aircraft of the same category, class, and type. This paragraph does not apply to operations requiring an airline transport pilot certificate.

(b) *Night experience.* No person may act as pilot in command of an aircraft carrying passengers during the period beginning 1 hour after sunset and ending 1 hour before sunrise (as published in the American Air Almanac) unless, within the preceding 90 days, he has made at least five takeoffs and five landings to a full stop during that period of the day. This paragraph does not apply to operations requiring an airline transport pilot certificate.

(c) *Airline transport.* An airline transport pilot may not pilot an aircraft in operations for which an airline transport pilot certificate is required, if it carries any person other than members of its crew, certificated airmen on board in furtherance of their duties, or certificated instructors rated for that aircraft unless, within the preceding 90 days he has made at least three takeoffs, and three landings to a full stop, in an aircraft of the same category, class, and type.

(d) *Instrument.* A pilot may not act as pilot in command of an aircraft under IFR or in weather conditions less than prescribed VFR minimums unless, within the preceding 6 calendar months, he has had at least 6 hours of instrument flight under actual or simulated instrument flight conditions. Not more than 3 hours in a synthetic instrument trainer acceptable to the Administrator may be substituted for 3 of the 6 hours of instrument flight time required. This paragraph does not apply to operations requiring an airline transport pilot certificate.

(e) *Instrument; airline transport.* An airline transport pilot who has not had at least 2 hours of instrument flight time under instrument weather conditions or simulated instrument flight conditions within the preceding 6 months may not pilot an aircraft under those conditions in operations for which an airline transport pilot certificate is required until he has had at least 2 hours of flight time under those conditions, accompanied by a pilot with at least a private pilot certificate who holds an appropriate category, class, and type rating for the aircraft concerned and an instrument rating.

(f) *Glider aero-tow flights.* No person may act as pilot in command of a glider carrying passengers in aero-tow flight unless, within the preceding 12 months, he has made at least six aero-tow flights totaling at least 1 hour, during which he met the requirements of paragraph (a) of this section.

### § 61.49 Cooperation during inspection or test.

Each applicant for an airline transport or lighter-than-air pilot certificate, and each person who holds such a cer-

tificate, shall cooperate fully in any inspection or tests made of him by the Administrator.

### § 61.51 Change of address.

Within 30 days after any change in his permanent mailing address, the holder of a pilot or instructor certificate shall notify the FAA Airman Certification Branch, Oklahoma City, Okla., in writing, of his new address.

## Subpart B—Student Pilots

### § 61.61 Eligibility requirements: General.

(a) To be eligible for a student pilot certificate, a person must—

(1) Be at least 14 years of age for a certificate authorizing him to pilot a glider, or at least 16 years of age for a certificate authorizing him to pilot any other aircraft;

(2) Be able to read, speak, and understand the English language, or have such operating limitations on his student pilot certificate as are necessary for the safe operation of aircraft, to be removed when he shows that he can read, speak, and understand the English language; and

(3) Hold at least a third-class medical certificate issued under Part 67 of this chapter within the preceding 24 months, or, in the case of glider operations, certify that he has no known physical defect that makes him unable to pilot a glider.

(b) An unmarried applicant under 21 years of age who is not a member of an Armed Force of the United States or enrolled in an ROTC or other training program of such an Armed Force, must submit with his application the written consent of either parent or his guardian. No consent is required for a married male applicant under 21 years of age. A married female applicant under 21 years of age must submit the written consent of her husband, regardless of his age.

(c) An applicant under 21 years of age who is a member of an Armed Force of the United States or enrolled in an ROTC or other training program of such an Armed Force must state his membership and serial number on the application or attach to it a written statement from his commanding officer stating that he is a member of that Armed Force or is enrolled in that training program.

### § 61.63 Requirements for solo flight.

(a) A student pilot may not operate an aircraft in solo flight until—

(1) He is familiar with the general and visual flight rules of Part 61 of this chapter [Present Part 60];

(2) He has had—

(i) In the case of an airplane category, flight instruction (from an appropriately rated flight instructor) in preparatory and flight procedures such as preflight inspection, starting, warming up, and operating and stopping the engine; in taxiing, takeoff, landing, and parking; in traffic pattern procedures; level flight, turns, climbs, and glides; and in stalls and emergency landings;

(ii) In the case of a rotorcraft category, flight instruction (from an appro-

appropriately rated flight instructor) in preparatory and flight procedures such as preflight inspection, starting, warming up, and operating and stopping the engine; taxiing, takeoff, hovering (helicopter class only), landing, and parking; in traffic pattern procedures; and in emergency procedures including engine failure; or

(iii) In the case of a glider category, flight instruction (from an appropriately rated flight instructor or a commercial glider pilot) in takeoff, landing, glide, and gliding turns; and in recovery from stalls entered into from all normally anticipated attitudes; and

(3) An appropriately rated flight instructor (or a commercial glider pilot in the case of gliders), finds that the student has complied with this section and is otherwise able to make solo flights, and has endorsed his student certificate to that effect.

(b) This section does not apply to student lighter-than-air pilots.

#### § 61.65 Airplane operations: Flight area limitations.

A student pilot may not operate an airplane in solo flight outside of a local area designated by his flight instructor until—

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

(b) He has received flight instruction (from an appropriately rated flight instructor) in—

(1) Crosswind and simulated soft field takeoffs and landings;

(2) Climbing and gliding turns at minimum safe speeds;

(3) Cross-country navigation by reference to aeronautical charts;

(4) Safe operating procedures in simulated emergencies such as engine failure, loss of flying speed, marginal visibility, deteriorating weather, getting lost, and similar critical situations;

(5) Conforming with air traffic control instructions by radio and lights; and

(6) The proper use of two-way radio communications and VFR navigational procedures and techniques; and

(c) His student pilot certificate is endorsed by an appropriately rated flight instructor who finds that the student has complied with this section and is otherwise able to make solo cross-country flights.

If ground electronic equipment and navigation aids are not available within 100 miles of the base of operations, a synthetic trainer may be used for training in air traffic procedures, phraseology, and radio navigation.

#### § 61.67 Rotorcraft operations: Flight area limitations.

A student pilot may not operate a rotorcraft in solo flight outside of a local area designated by his flight instructor until—

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

(b) He has received flight instruction (from an appropriately rated flight instructor) in—

(1) Pilotage by reference to aeronautical charts;

(2) Conforming to air traffic control instructions furnished by radio or lights, as appropriate; and

(3) Safe operating practice in simulated emergencies that might occur due to engine failure, deteriorating weather, getting lost, and similar situations; and

(c) His student pilot certificate is endorsed by an appropriately rated flight instructor who finds that the student has complied with this section and is otherwise able to make solo cross-country flights.

#### § 61.69 Glider operations: Flight area limitations.

A student pilot may 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 (from an appropriately rated flight instructor or a commercial glider pilot) in cross-country navigation by reference to aeronautical charts; and

(c) His student pilot certificate is endorsed by an appropriately rated flight instructor, or a commercial glider pilot, who finds that the student has complied with this section and is otherwise able to make solo cross-country flights.

#### § 61.71 Lighter-than-air operations: Flight limitations.

(a) A student pilot (lighter-than-air) may not pilot an airship in solo flight until—

(1) He is familiar with, and passes a written test on as much of Part ---- [Present Part 60] of this chapter as relates to VFR flying, as certified to on his pilot certificate by his instructor;

(2) He has had six instruction flights, totaling at least six hours, in free balloons and has logged at least 1 hour of solo flight in a free balloon, as certified to on his certificate by his instructor; and

(3) He has had at least 35 hours of flight instruction in an airship, including level flight, right and left turns, landings and takeoffs, and is able to make a flight as pilot in command, as certified to on his certificate by his instructor.

Subparagraph (2) of this paragraph does not apply to a student pilot who has a free balloon pilot certificate.

(b) A student pilot (lighter-than-air) may not pilot a lighter-than-air aircraft carrying any person other than a commercial lighter-than-air pilot, a crewmember, or another student lighter-than-air pilot whose presence in the aircraft is authorized by the instructor under whose direction the flight is being made.

(c) A student pilot (lighter-than-air) may not operate a free balloon as pilot in command until his instructor certifies on his certificate that he has—

(1) Passed a written test on so much of Part ---- [Present Part 60] of this chapter as relates to VFR flying; and

(2) Except for an applicant for a certificate that is limited to operating hot-

air balloons, had at least six instruction flights, totaling at least six hours, in free balloons.

#### § 61.73 General limitations.

(a) Except as provided in paragraph (b) of this section, a student pilot may not act as pilot in command of an aircraft—

(1) That is carrying a passenger;

(2) That is on an international flight;

(3) For compensation or hire;

(4) In furtherance of a business; or

(5) Other than the make and model endorsed on his certificate by his certificated flight instructor.

(b) Notwithstanding paragraph (a) (2) of this section, a student pilot may make international flights for the purpose of solo cross-country training from the Haines, Gustavus, or Juneau Airports, Alaska, to White Horse, Yukon Territory, over the Province of British Columbia, and return.

(c) A student pilot who has not acted as pilot in command of a powered aircraft within the preceding 90 days, may not pilot such an aircraft in solo flight until he has passed a flight check given by a certificated flight instructor who so endorses his student pilot logbook.

#### Subpart C—Private Pilots

#### § 61.81 Eligibility requirements: General.

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

(a) Be at least 16 years of age for a glider rating, at least 18 years of age for a lighter-than-air rating, and at least 17 years of age for any other rating;

(b) Be able to read, speak, and understand the English language, or have such operating limitations placed on his pilot certificate as are necessary for the safe operation of aircraft, to be removed when he shows that he can read, speak, and understand the English language;

(c) Hold at least a third-class medical certificate issued under Part 67 of this chapter within the preceding 24 months, or, in the case of a glider rating, certify that he has no known physical defect that makes him unable to pilot a glider; and

(d) Comply with the sections of this part that apply to the rating he seeks.

#### § 61.83. Aeronautical knowledge.

An applicant for a private pilot certificate must pass a written test on—

(a) The regulations of this chapter governing private pilot privileges and limitations, the general operating and air traffic rules, and the rules of the Civil Aeronautics Board governing accident reporting;

(b) Practical cross-country flying including, for airplane or rotorcraft rating, flight planning, map reading, pilotage, and radio communication procedures, and for airplane rating, radio navigation and emergency procedures;

(c) Recognizing dangerous weather conditions and evaluating weather reports; and

(d) General safety practices in operating airplanes, rotorcraft, or gliders, as the case may be.

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## § 61.85 Airplane rating: Aeronautical experience.

(a) An applicant for a private pilot certificate (airplane) must hold a student pilot certificate endorsed for solo and cross-country flights and must have had—

- (1) A total of at least 40 hours of flight instruction (from an appropriately rated flight instructor) and solo flight time;
- (2) At least 20 hours of solo flight time of which at least 15 were in an airplane;
- (3) At least 10 hours of solo cross-country flight time, during which each flight included a landing at a place more than 25 miles from the place of departure, and, except as provided in paragraph (b) of this section, during which at least one flight included a landing at a place more than 100 miles from the place of departure;
- (4) At least 3 hours of flight instruction (from an appropriately rated flight instructor) after his first solo cross-country flight, including a review of procedures and maneuvers previously learned and additional instruction in preparation for the private pilot flight test; and
- (5) Flight instruction, from a certificated flight instructor with an airplane rating, in controlling an airplane by instruments only, in an airplane with at least a sensitive altimeter, turn and bank indicator, and a means of simulating instrument flight.

The instrument instruction required by subparagraph (5) of this paragraph must be integrated with the flight instruction in primary flight maneuvers given before and after solo.

(b) That part of paragraph (a) (3) of this section requiring a flight including a landing at a place more than 100 miles from the place of departure does not apply to an applicant who shows, on the Island of Okinawa, Ryukyu Islands, that he is otherwise entitled to a private pilot certificate and has completed a solo cross-country flight between those airports on the Island of Okinawa that are the farthest apart. However, the pilot certificate issued to a person who qualifies under this paragraph must contain the following limitation:

The holder may not pilot any aircraft carrying passengers except on flights over the Island of Okinawa, within a radius of 40 miles of the airport of takeoff.

(c) The holder of a private pilot certificate with the limitation prescribed in paragraph (b) of this section, is entitled to have that limitation removed if he passes the test prescribed by § 61.87 (b) (3) and presents satisfactory evidence to an FAA inspector that he has complied with the 100-mile flight requirements of paragraph (a) (3) of this section.

## § 61.87 Airplane rating: Aeronautical skill.

(a) *General.* An applicant for a private pilot certificate (airplane) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is given in three phases, an oral operation test, a basic

piloting technique test, and a cross-country test.

(b) *Procedures and maneuvers.* The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—oral operational test:
  - (i) Airplane registration, airworthiness, and equipment documents.
  - (ii) Airplane logbooks and airworthiness inspection reports.
  - (iii) Airplane performance, range, and operation.
  - (iv) Airplane loading, including fuel, oil, and baggage capacities.
  - (v) Airplane line check.
  - (vi) Use of radio for voice communication.
- (2) Phase II—basic piloting technique test:
  - (i) Preflight operations.
  - (ii) Taxing or sailing and docking.
  - (iii) Normal and crosswind takeoffs and landings.
  - (iv) Climbs, level flight, and descents at normal speeds and at minimum controllable speeds.
  - (v) Stalls from all normally anticipated flight attitudes, with and without power.
  - (vi) 720° steep turns about a point.
  - (vii) Wheel landings in tailwheel-type airplanes, and full stall landings in tricycle-type airplanes.
  - (viii) Short field takeoff and power approach and landing.
  - (ix) Soft field takeoff and landing.
  - (x) Slips and a slip to a landing (if a three control airplane is used).
  - (xi) Emergency operation of airplane equipment.
  - (xii) Engine-out emergencies, if a multiengine airplane is used, including—
    - (a) Maneuvering with one engine out (feathered if possible);
    - (b) Engine-out minimum control speed demonstration;
    - (c) Use of engine-out best rate-of-climb speed;
    - (d) Effect on engine-out performance of failing to feather, extension of gear and flaps, and combinations of them; and
    - (e) Approach and landing with an engine set for zero thrust, or the drag of a feathered propeller, as applicable.
- (3) Phase III—cross-country test:
  - (i) Cross-country flight planning.
  - (ii) Cross-country flying.
  - (iii) Cross-country emergencies (lost, weather, overheating engine, power failure, etc.).
  - (iv) Use of radio aids to VFR navigation.

(c) *Instrument flight.* In addition, during Phase III of the practical test, the applicant must demonstrate, in simulated instrument flight, his ability to safely control an aircraft manually solely by reference to instruments, including the following:

- (1) Recovery from the start of a power-on spiral.
- (2) Recovery from the approach to a climbing stall.
- (3) Normal turns of at least 180° left and right to within  $\pm 20^\circ$  of a preselected heading.
- (4) Shallow climbing turns to a predetermined altitude.

- (5) Shallow descending turns at reduced power to a predetermined altitude.
- (6) Straight and level flight.

## § 61.89 Rotorcraft rating: Aeronautical experience.

An applicant for a private pilot certificate (rotorcraft) must hold a student pilot certificate that is endorsed for solo and cross-country flights and must have had at least—

- (a) A total of 40 hours of flight instruction (from an appropriately rated flight instructor) and solo flight time;
- (b) 15 hours of solo flight time in rotorcraft; and
- (c) 3 hours of solo cross-country flying, including a landing at an airport that is more than 25 miles from the place of departure.

## § 61.91 Rotorcraft rating: Aeronautical skill.

(a) An applicant for a private pilot certificate (rotorcraft) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is given in two phases, basic techniques, and precision maneuvers. An applicant for a flight test in an autogiro is required to perform competently the maneuvers required for the practical test in airplanes.

(b) The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—basic techniques:
  - (i) Preflight check and oral equipment test.
  - (ii) Preflight operations.
  - (iii) Taxing (if rotorcraft equipped to taxi on the surface).
  - (iv) Normal and crosswind takeoffs and landings.
  - (v) High altitude takeoffs and roll-on landings.
  - (vi) Climbs and descents.
  - (vii) Emergencies, including autorotative approaches.
- (2) Phase II—precision maneuvers:
  - (i) Hovering—upwind, downwind, and crosswind.
  - (ii) Hovering turns—180° and 360°, right and left.
  - (iii) Turns with medium banks.
  - (iv) S turns.
  - (v) Pattern flying with constant heading.
  - (vi) Rapid flying decelerations (quick stops).

## § 61.93 Glider rating: Aeronautical experience.

An applicant for a private pilot certificate (glider) must hold a student pilot certificate that is endorsed for solo and cross-country flights and must have had at least—

- (a) 1 hour of flight instruction in a powered airplane or a glider in recovery from stalls entered into from all normally anticipated flight attitudes; and
- (b) At least one of the following:
  - (1) 100 glider flights, including 25 flights during which a 360° turn was made;
  - (2) 10 hours of glider flight time, including 50 glider flights, or 30 glider flights in which aero tows were used; or
  - (3) 3 hours of instruction from an appropriately rated flight instructor in

light airplanes directed toward glider training and seven hours of glider flight time including 50 gliding flights.

If the instruction required by paragraph (a) of this section was received in a powered airplane, it must have been given by a flight instructor with an airplane instructor rating. If received in a glider, it must have been given by an appropriately rated flight instructor or a commercial glider pilot.

#### § 61.95 Glider rating: Aeronautical skill.

(a) *General.* An applicant for a private pilot certificate (glider) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is in two phases, basic techniques and special maneuvers.

(b) *Procedures and Maneuvers.* The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—basic techniques:
  - (i) Preflight check and oral equipment test.
  - (ii) Preflight operations.
  - (iii) Auto, pulley, or winch tow; or airplane tow.
  - (iv) 180° approaches to landings in the direction of the prescribed traffic pattern flow, landing within 200 feet beyond a designated mark.
- (2) Phase II—stalls and slow flight in a glider.

#### § 61.97 Lighter-than-air rating: Aeronautical experience.

An applicant for a private pilot certificate (lighter-than-air) must have at least 50 hours of flight time at the controls of an airship, including at least 5 hours as pilot in command, at least 5 hours of cross-country flight, and at least 5 hours of flight time at the controls of an airship within the 60 days before the date he applies.

#### § 61.99 Lighter-than-air rating: Aeronautical skill.

An applicant for a private pilot certificate (lighter-than-air) must—

(a) Exercise smoothness in required flight maneuvers and exercise reasonable judgment in them by complying with Part \_\_\_\_ of this chapter [Present Part 60], avoiding critical situations that require corrective action by the person giving the test to maintain safe operations, and observing accepted good operating practices for flight conditions encountered; and

(b) Pass a flight test on the following maneuvers:

- (1) Ground handling and mooring.
- (2) Preflight checks.
- (3) Runups.
- (4) Takeoffs.
- (5) Ascents.
- (6) Turns (right and left) and figure eights.
- (7) Straight and level flight.
- (8) Descents.
- (9) Landings (positive static balance).
- (10) Landings (negative static balance).

#### § 61.101 General privileges and limitations.

(a) *Compensation or hire.* Except as provided in paragraph (f) of this section,

a private pilot may not act as pilot in command of an aircraft for compensation or hire. However, an aircraft salesman who is a private pilot with at least 200 hours of flight time may demonstrate aircraft in flight to a prospective buyer.

(b) *Exception.* A private pilot may act as pilot in command of an aircraft in connection with any business or employment if the flight is only incidental to it and does not carry persons or property for compensation or hire.

(c) *Charitable organization airlift.* A private pilot may act as pilot in command of an aircraft used in a passenger-carrying airlift sponsored by a charitable organization, and for which the passengers make a donation to the organization, if—

(1) The sponsor of the airlift notifies the FAA General Aviation District Office having jurisdiction over the area concerned, at least 7 days before the flight, and furnishes any essential information that the Office requests;

(2) The flight is conducted from a public airport adequate for the aircraft used, or from another airport that has been approved for the operation by an FAA inspector;

(3) He has logged at least 200 hours of flight time;

(4) No acrobatic or formation flights are conducted;

(5) Each aircraft used is certificated in the standard category and complies with the 100-hour inspection requirement of § \_\_\_\_ of this chapter [Present § 43.22]; and

(6) The flight is made under VFR during the day. For the purposes of this paragraph, a "charitable organization" means an organization listed in Publication No. 78 of the Department of the Treasury called the "Cumulative List, Organizations Described in section 170(c) of the Internal Revenue Code of 1954", as amended.

(d) *Category; class; type.* A private pilot may not serve as pilot in command of an aircraft carrying passengers, other than in an aircraft of the category and class for which he is rated, and in the case of large aircraft, of the type for which he is rated.

(e) *Exception.* Unless prohibited by a limitation on his certificate, a private pilot may serve as pilot in command of an aircraft for which he is not rated when it is operated without passengers or remuneration.

(f) *Lighter-than-air.* A private pilot (lighter-than-air) may not give flight or instrument instruction in an airship. However, he may pilot a free balloon for compensation or hire and give instruction therein.

#### Subpart D—Commercial Pilots

##### § 61.111 Eligibility requirements: General.

To be eligible for a commercial pilot certificate, a person must—

- (a) Be at least 18 years of age;
- (b) Be able to read, speak, and understand the English language, or have such operating limitations on his pilot certificate as are necessary for the safe operation of aircraft, to be removed when he shows that he can read, speak, and understand the English language;

(c) Hold at least a second-class medical certificate issued under Part 67 of this chapter during the preceding 12 months, or, in the case of a glider rating, certify that he has no known physical defect that makes him unable to pilot a glider; and

(d) Comply with the sections of this part that apply to the rating he seeks.

##### § 61.113 Aeronautical knowledge.

(a) An applicant for a commercial pilot certificate must pass a written test on—

(1) The regulations in this chapter relating to the privileges and limitations of a commercial pilot, the general operating and air traffic rules, and the rules of the Civil Aeronautics Board governing accident reporting;

(2) Meteorology, including recognizing basic weather conditions and trends, and acquiring and using weather information furnished by the U.S. Weather Bureau, such as hourly sequence reports, terminal forecasts, winds aloft reports, and reading and interpreting weather maps;

(3) Navigation, including pilotage and—

(i) For an airplane rating, dead reckoning, using instruments and radio aids to air navigation, proper radio frequency utilization, radiotelephone procedures and techniques, flight planning, emergency procedures, preflight and in-flight services for pilots, and notices to airmen;

(ii) For a rotorcraft rating or lighter-than-air rating, dead reckoning, and using instruments and radio aids to air navigation; and

(iii) For a glider rating, using navigational instruments; and

(4) Principles of safe flight operations, including flight theory, operating and maintaining airplanes, rotorcraft, gliders, or lighter-than-air aircraft, as the case may be, and (except for glider rating) general safety practices and procedures for emergencies and critical situations.

(b) An applicant for a commercial pilot certificate (lighter-than-air) must pass the written test prescribed in paragraph (a) of this section before taking the flight test required by § 61.129(a). However, an applicant who holds a heavier-than-air commercial pilot certificate is required to pass only that part of the test relating to instruments and the general servicing and operation of airships, or, if he also holds an instrument rating, he is required to pass only that part relating to the general servicing and operation of airships.

##### § 61.115 Airplane rating: Aeronautical experience.

(a) *Flight time.* An applicant for a commercial pilot certificate (airplane) must have at least 200 hours of flight time, including at least—

(1) 100 hours of flight time in powered aircraft, including 50 hours in airplanes of which at least 15 hours were solo;

(2) 100 hours of flight time as pilot in command, including—

(i) 50 hours of cross-country, each flight including a landing more than 25 miles from the place of departure;

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(ii) Takeoffs and landings from at least two different airports under two-way radio instruction from an airport control tower; and

(iii) One cross-country flight of at least 350 miles including landings at three points, one of which is at least 150 miles from the place of departure;

(3) 10 hours flight instruction in airplanes from an appropriately rated flight instructor, preparing for the commercial pilot flight test, within the six months immediately before the flight test, in addition to any flight instruction received before his private pilot certificate was issued to him; and

(4) 10 hours of instruction in operating an airplane by instruments only, including at least 5 hours of flight instruction from a rated instrument flight instructor and the remaining hours if any, from a flight instructor with an airplane rating.

The holder of a commercial pilot certificate who did not meet the requirements of subparagraph (4) of this paragraph, and whose certificate was endorsed to that effect, is entitled to have that endorsement removed if he presents written evidence showing that he has met those requirements and has passed the skill test prescribed by § 61.117(c).

(b) *ICAO requirements.* If an applicant for a commercial pilot certificate has not had at least 5 hours of flight time at night, including at least 10 takeoffs and 10 landings as pilot in command and as the only manipulator of the controls, his pilot certificate will be endorsed as follows:

Holder does not meet the night flight requirements of ICAO.

#### § 61.117 Airplane rating: Aeronautical skill.

(a) *Practical test.* An applicant for a commercial pilot certificate (airplane) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is given in four phases, an oral operational test, basic techniques, precision maneuvers, and cross-country flight.

(b) *Procedures and maneuvers.* The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—oral operational test:
  - (i) Airplane registration, airworthiness, and equipment documents.
  - (ii) Airplane logbooks and airworthiness inspection reports.
  - (iii) Airplane performance, range, and operation.
  - (iv) Airplane loading, including fuel, oil, and baggage capacities.
  - (v) Airplane line check.
  - (vi) Use of radio for voice communication.

- (2) Phase II—basic techniques:
  - (i) Preflight operations.
  - (ii) Taxiing.
  - (iii) Takeoffs and landings including—
    - (a) A slip to a landing, if a three-control airplane is used;
    - (b) Crosswind takeoff and landing;
    - (c) Short field takeoff and power approach and landing;
    - (d) Soft field takeoff and landing;

(e) Wheel landings in a tailwheel-type airplane, or stall landings in a tricycle-type airplane; and

(f) Three accuracy landings within 200 feet beyond a designated mark (which may be integrated with any three of the landings required by (a) through (e) of this subdivision).

(iv) Airport traffic patterns.  
 (v) Forced landings (single-engine only) and simulated emergencies.  
 (vi) Emergency operation of airplane equipment.

(vii) Engine-out emergencies, if a multiengine airplane is used, including—

(a) Engine-out minimum control speed demonstration;

(b) Use of engine-out best rate-of-climb speed;

(c) Maneuvering with one engine out (feathered if possible, otherwise cut off and windmilling);

(d) Effect on engine-out performance of failure to feather, extension of gear and flaps, and various combinations of these; and

(e) Approach and landing with one engine set to zero thrust, or the drag of a feathered propeller, as applicable.

(3) Phase III—precision maneuvers:

(i) Gliding spirals about a point on the ground.

(ii) Three consecutive shallow on-pylon eights.

(iii) Three consecutive steep on-pylon eights.

(iv) One right and one left 720° steep power turn.

(v) Lazy eights.

(vi) Chandelles.

(vii) Maneuvering at minimum controllable airspeed.

(viii) Stalls from all normally anticipated flight attitudes with and without power.

(4) Phase IV—cross-country flight.

(i) Cross-country flight planning.

(ii) Cross-country flying.

(iii) Cross-country flying emergencies.

(iv) Use of radio aids to VFR navigation.

(v) Two-way communications.

(c) *Instrument flight.* In addition, during Phase IV of the practical test, the applicant must demonstrate in simulated instrument flight his ability to safely control an aircraft manually solely by reference to instruments, including the following:

(1) Recovery from a well-developed power-on moderate turn spiral in a medium banked attitude.

(2) Recovery from a high angle climb in a turn.

(3) Standard rate turns of 180° and 360° duration to within ±10° and ±20°, respectively, of proper heading and ±150 feet of altitude.

(4) Maximum safe performance climbing turns of 180° duration followed by continued straight climb to predetermined altitude requiring not less than one minute straight climb performed within ±10 knots of airspeed and ±10° of proper heading.

(5) Two consecutive descending 90° turns using normal approach power for reducing altitude performed within ±10°

of proper heading and at completion of first 90° turn continue straight descent for 1 minute, then complete second 90° descending turn and continue straight descent for 1½ minutes.

(6) Straight and level flight performed within ±10° of proper heading, 100 feet of altitude and 10 knots of airspeed.

#### § 61.119 Rotorcraft rating: Aeronautical experience.

(a) An applicant for a commercial pilot certificate (rotorcraft) must have at least 150 hours of flight time, including at least—

(1) 100 hours in powered aircraft, including 50 hours in rotorcraft of which at least 15 hours were solo;

(2) 100 hours as pilot in command, including 20 hours of cross-country; and

(3) 10 hours of flight instruction, from an appropriately rated flight instructor, in rotorcraft preparing for the commercial pilot flight test.

(b) A commercial pilot certificate (rotorcraft) issued under this part to a pilot who either does not have at least 200 hours of flight time or has not graduated from an approved commercial rotorcraft pilot training course, will be endorsed as follows:

Holder does not meet the flight time requirements of ICAO.

#### § 61.121 Rotorcraft rating: Aeronautical skill.

(a) An applicant for a commercial pilot certificate (rotorcraft) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is given in two phases, basic techniques and precision maneuvers. An applicant for a flight test in an autogiro is required to perform competently the maneuvers required for the practical test in airplanes.

(b) The applicant must perform the following procedures and maneuvers competently:

(1) Phase I—basic techniques:

(i) Preflight check and oral equipment test.

(ii) Preflight operations.

(iii) Taxiing (in rotorcraft equipped to taxi on the surface).

(iv) Normal takeoffs and landings.

(v) Crosswind takeoffs and landings.

(vi) High altitude takeoffs and roll-on landings.

(vii) Climbs and descents.

(viii) Emergencies, including autorotative approaches (landing optional, as appropriate).

(2) Phase II—precision maneuvers:

(i) Hovering upwind, downwind, and crosswind.

(ii) Pattern flying with constant and with changing headings.

(iii) Hovering turns—180° and 360°, right and left.

(iv) S turns.

(v) Turns with medium banks.

(vi) Rapid decelerations (quick stops).

#### § 61.123 Glider rating: Aeronautical experience.

An applicant for a commercial pilot certificate (glider) must have at least

25 hours of flight time, including at least—

- (a) 20 hours of flight time in gliders;
- (b) 2 hours of flight instruction (from an appropriately rated flight instructor or a commercial glider pilot) preparing for the commercial pilot flight test;
- (c) 100 flights in gliders as pilot in command; and
- (d) 25 glider flights each of which includes a 360° turn.

**§ 61.125 Glider rating: Aeronautical skill.**

(a) *General.* An applicant for a commercial pilot certificate (glider) must pass a practical test on the procedures and maneuvers listed in paragraph (b) of this section. The test is given in two phases, basic techniques and special maneuvers.

(b) *Procedures and maneuvers.* The applicant must perform the following procedures and maneuvers competently:

- (1) Phase I—basic techniques:
  - (i) Preflight check and oral equipment test.
  - (ii) Preflight operations.
  - (iii) Auto, pulley, or winch tow.
  - (iv) Airplane tow; above, below, and to one side of slipstream.
  - (v) 180° approaches to landings in the direction of the prescribed traffic pattern flow, landing within 100 feet beyond a designated line or mark.
- (2) Phase II—special maneuvers:
  - (i) Three-turn spirals, right and left, with bank at least 45°.
  - (ii) Stalls and slow flight (must be demonstrated in a glider).

**§ 61.127 Lighter-than-air rating: Aeronautical experience.**

An applicant for a commercial pilot certificate (lighter-than-air) must have at least 200 hours of flight time at the controls of an airship including—

- (a) At least 5 hours within the 60 days before the date he applies;
- (b) At least 50 hours as pilot in command;
- (c) At least 10 hours of cross-country;
- (d) At least 10 hours at night;
- (e) At least 20 hours of instrument instruction and practice in flight, including, when approved by the Administrator, not more than 10 hours of instruction and practice under simulated conditions not in flight; and
- (f) In place of not more than 50 hours of the 200-hour total flight requirement, an equal or greater amount of flight time as a crewmember, upon approval by the Administrator.

**§ 61.129 Lighter-than-air rating: Aeronautical and radio skills.**

(a) An applicant for a commercial pilot certificate (lighter-than-air) must—

- (1) Exercise reasonable judgment in performing flight maneuvers by complying with Part ---- of this chapter [Present Part 60], avoiding critical situations that require corrective action by the person giving the test to maintain safe operations, and observing accepted good operating practices for flight conditions encountered; and

(2) Pass a flight test on the following maneuvers:

- (i) Ground handling and mooring.
- (ii) Preflight check.
- (iii) Runups.
- (iv) Takeoffs.
- (v) Ascents.
- (vi) Turns (right and left) and figure eights.
- (vii) Precision turns (180° and 360°).
- (viii) Straight and level flight.
- (ix) Climbing turns.
- (x) Diving turns.
- (xi) Descents.
- (xii) In-flight ETA computations.
- (xiii) Radio operation and tuning.
- (xiv) Radio orientation.
- (xv) Beam bracketing and tracking.
- (xvi) Locating cone of silence.
- (xvii) Traffic control and approach procedure.
- (xviii) Landings (positive and negative static balance).

(b) In performing the maneuvers required by paragraph (a) (2) of this section that involve radio skills, the applicant need not follow final approach procedures for airplanes. He may elect to consider his initial approach as a final approach and go directly to the airport, if that procedure does not require more than 90° of turn over the station. He may make his orientation and approach using either LF or VHF range facilities.

**§ 61.131 General privileges and limitations.**

(a) Subject to paragraph (b) of this section, a commercial pilot may serve as pilot in command of an aircraft for compensation or hire.

(b) A commercial pilot may not serve as pilot in command of an aircraft carrying passengers or operated for remuneration other than one of the category and class for which he is rated, and in the case of large aircraft, of the type for which he is rated.

(c) Unless prohibited by a limitation on his certificate, a commercial pilot may serve as pilot in command of an aircraft for which he is not rated when it is operated without passengers or remuneration.

(d) A commercial glider pilot may give flight instruction in gliders. A commercial lighter-than-air pilot may give flight instruction in lighter-than-air aircraft.

**Subpart E—Airline Transport Pilots**

**§ 61.141 Eligibility requirements: General.**

To be eligible for an airline transport pilot certificate, a person must—

- (a) Be at least 23 years of age;
- (b) Be of good moral character;
- (c) Be able to read, write, and understand the English language and speak it without accent or impediment of speech that would interfere with two-way radio conversation;
- (d) Be a high school graduate, or its equivalent in the Administrator's opinion, based on the applicant's general experience and aeronautical experience, knowledge, and skill;
- (e) Have a first-class medical certificate issued under Part 67 of this chap-

ter within the 6 months before the date he applies; and

(f) Comply with the sections of this part that apply to the rating he seeks.

**§ 61.143 Airplane rating: aeronautical knowledge.**

An applicant for an airline transport pilot certificate with an airplane rating must, after meeting the requirements of §§ 61.141 and 61.145, make a grade of at least 70 percent on a written test on—

(a) The sections of this part relating to airline transport pilots and Parts ----, ----, ----, and ---- of this chapter [Present Parts 1, 27, 40, and 60] and so much of Parts ---- and ---- of this chapter [Present Parts 4a and 4b] as relate to the operations of air carrier aircraft;

(b) The fundamentals of air navigation and use of formulas, instruments, and other navigational aids, both in aircraft and on the ground, that are necessary for navigating aircraft by instruments;

(c) The general system of weather collection and dissemination;

(d) Weather maps, weather forecasting, and weather sequence abbreviations, symbols, and nomenclature;

(e) Elementary meteorology, including knowledge of cyclones as associated with fronts;

(f) Cloud forms;

(g) Department of Commerce Weather Bureau Circular N, "Manual of Surface Observations", as amended;

(h) Weather conditions, including icing conditions and upper-air winds, that affect aeronautical activities;

(i) Air navigation facilities used on Federal airways, including rotating beacons, course lights, radio ranges, and radio marker beacons;

(j) Information from airplane weather observations and meteorological data reported from observations made by pilots on air carrier flights;

(k) The influence of terrain on meteorological conditions and developments, and their relation to air carrier flight operations;

(l) Radio communication procedure in aircraft operations; and

(m) Basic principles of loading and weight distribution and their effect on flight characteristics.

**§ 61.145 Airplane rating: Aeronautical experience.**

(a) An application for an airline transport pilot certificate with an airplane rating must hold a commercial pilot certificate or a foreign airline transport pilot or commercial pilot license without limitations, issued by a member state of ICAO, or he must be a pilot in an Armed Force of the United States whose military experience qualifies him for a commercial pilot certificate under § 61.31.

(b) An applicant must have had—

- (1) At least 250 hours of flight time as pilot in command, or as copilot performing the duties and functions of a pilot in command under the supervision of a pilot in command, or any combination thereof, at least 100 hours of which

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were cross-country time and 25 hours of which were night flight time; and

(2) At least 1200 hours of flight time as a pilot within the 8 years before the date he applies, including at least—

(i) 5 hours within the 60 days before the date he applies;

(ii) 500 hours of cross-country flight time;

(iii) 100 hours of night flight time; and

(iv) 75 hours of actual or simulated instrument time, at least 50 hours of which were in actual flight.

Flight time used to meet the requirements of subparagraph (1) of this paragraph may also be used to meet the requirements of subparagraph (2) of this paragraph.

(c) If an applicant with less than 250 hours of pilot-in-command time otherwise meets the requirements of paragraph (b) (1) of this section, his certificate will be endorsed "Holder does not meet the pilot-in-command flight experience requirement of ICAO", as prescribed by article 39 of the "Convention on International Civil Aviation." Whenever he presents satisfactory written evidence that he has accumulated the 250 hours of pilot-in-command time, he is entitled to a new certificate without the endorsement.

#### § 61.147 Airplane rating: Aeronautical skill.

(a) An applicant for an airline transport pilot certificate with a single engine or multiengine class rating must pass a flight test involving the following maneuvers:

- (1) Equipment test (oral).
- (2) Preflight check.
- (3) Taxiing, or sailing and docking.
- (4) Runups.
- (5) Takeoffs.
- (6) Climbs and climbing turns (if he does not hold an instrument rating).
- (7) Maneuvering at slow speed.
- (8) Stalls (single engine rating only) or approaches to stalls (multiengine rating only).
- (9) Airport traffic pattern.
- (10) Accuracy approaches and spot landings (single engine rating only).
- (11) Landing technique.
- (12) Cross-wind takeoff and landing.
- (13) Traffic control procedure.
- (14) Steep turns.
- (15) Timed turns (if he does not hold an instrument rating).
- (16) Recovery from unusual attitudes.
- (17) Use of radio equipment.
- (18) Orientation.
- (19) Beam bracketing.
- (20) Cone (station) identification.
- (21) Instrument approach procedures.
- (22) Missed approach procedures.
- (23) Use of directional radio.
- (24) Rapid descent and pullup.
- (25) Engine(s)-out procedure (multiengine rating only).
- (26) Maneuvering with engine(s)-out (multiengine rating only).
- (27) Maneuvering for landing at weather minimums.
- (28) Takeoff and landing with simulated engine(s) failure (multiengine rating only).
- (29) Emergencies.

(30) Smoothness and coordination.

(31) Judgment.

The maneuvers described in subparagraph (6), (7), (8), (14), (15), (16), (18) through (24), and (26) of this paragraph must be performed solely by reference to instruments.

(b) An applicant for an additional type rating to his airline transport pilot certificate with a multiengine rating must pass a flight test involving the maneuvers listed in subparagraphs (1) through (5), (7) through (9), (11) through (14), (16), (17), (21), (22), and (24) through (31) of paragraph (a) of this section.

(c) Any maneuver required by this section may be modified by the examining inspector as necessary for the reasonable and safe operation of the aircraft being used.

#### § 61.149 Rotorcraft rating: General requirements.

An applicant for an airline transport pilot certificate with a rotorcraft rating authorizing the piloting of rotorcraft under VFR only, must meet the requirements of §§ 61.151 through 61.155 in place of those in §§ 61.143 through 61.147.

#### § 61.151 Rotorcraft rating: Aeronautical knowledge.

An applicant for an airline transport pilot certificate with a rotorcraft rating must pass a written test on—

- (a) So much of this chapter as relates to air carrier rotorcraft operations;
- (b) Rotorcraft design, components, systems, and performance limitations;
- (c) Basic principles of loading and weight distribution and their effect on rotorcraft flight characteristics;
- (d) Air traffic control systems and procedures relating to rotorcraft;
- (e) Procedures for operating rotorcraft in potentially hazardous meteorological conditions; and
- (f) Flight theory as applicable to rotorcraft.

#### § 61.153 Rotorcraft rating: Aeronautical experience.

(a) An applicant for an airline transport pilot certificate with a rotorcraft rating must hold a commercial pilot certificate, or its equivalent as determined by the Administrator.

(b) In addition, such an applicant must have had at least 1200 hours of flight time as a pilot within the 8 years before the date he applies including at least—

- (1) 5 hours in rotorcraft within the 60 days before that date;
- (2) 500 hours of cross-country flight time;
- (3) 100 hours at night, including at least 15 hours in rotorcraft; and
- (4) 200 hours in rotorcraft, including at least 75 hours as pilot in command or as second in command performing the duties and functions of a pilot in command under the supervision of a pilot in command, or any combination thereof.

#### § 61.155 Rotorcraft rating: Aeronautical skill.

An applicant for an airline transport pilot certificate with a rotorcraft rating must show his ability to satisfactorily

pilot rotorcraft by performing at least the following:

(a) Normal takeoffs and landings, crosswind landings, climbs and climbing turns, steep turns, maneuvering at minimum speed, rapid descent, and quick stops.

(b) Simulated emergency procedures, including failure of an engine, or other component or system, fire, ditching, evacuation, and operating emergency equipment.

(c) Autorotative approaches and landings with simulated one engine inoperative.

(d) Any other maneuvers considered necessary to show his ability.

#### § 61.157 Additional category ratings.

(a) *VFR rotorcraft rating.* The holder of an airline transport pilot certificate (airplane rating) who applies for a rating authorizing him to pilot a rotorcraft under VFR only, must comply with §§ 61.151 and 61.155 and—

(1) Have at least 100 hours, including at least 15 hours at night, of rotorcraft flight time as pilot in command or as second in command performing the duties and functions of a pilot in command under the supervision of a pilot in command who holds an airline transport pilot certificate with an appropriate rotorcraft rating, or any combination thereof; or

(2) Complete a training program conducted by a certificated air carrier or other approved agency requiring at least 75 hours of rotorcraft flight time as pilot in command, second in command, or as flight instructor from an appropriately rated flight instructor or an airline transport pilot, or any combination thereof, including at least 15 hours of night flight time.

(b) *Airplane rating.* The holder of an airline transport pilot certificate (rotorcraft rating) who applies for an airplane rating, must comply with §§ 61.143 through 61.147 and—

(1) Have at least 100 hours, including at least 15 hours at night, of airplane flight time as pilot in command or as second in command performing the duties and functions of a pilot in command under the supervision of a pilot in command who holds an airline transport pilot certificate with an appropriate airplane rating, or any combination thereof; or\*

(2) Complete a training program conducted by a certificated air carrier or other approved agency requiring at least 75 hours of airplane flight time as pilot in command, second in command, or as flight instructor from an appropriately rated flight instructor or an airline transport pilot, or any combination thereof, including at least 15 hours of night flight time.

#### § 61.159 Aircraft ratings.

The category and class of aircraft and type, if it is a large aircraft, that an applicant for an airline transport pilot certificate is authorized to pilot are placed on his certificate. For unconventional aircraft the description must clearly define the aircraft that the applicant is authorized to pilot. He must show that he is able to pilot aircraft of

the category and class and, if appropriate, the type, for which he seeks a rating, by performing the maneuvers listed in § 61.147(b).

#### § 61.161 Tests.

(a) Each applicant for an airline transport pilot certificate must pass each practical and theoretical test to the satisfaction of the Administrator. The minimum passing grade in each subject is 70 percent. Each flight maneuver is graded separately. Other tests are graded as a whole.

(b) Information collected incidentally to such a test shall be treated as a confidential matter by the persons giving the test and by employees of the FAA.

#### § 61.163 Instruction in air transportation service.

An airline transport pilot may instruct other pilots in air transportation service in aircraft of the category, class, and type for which he is rated. However, he may not instruct for more than 8 hours in one day nor more than 36 hours in any 7-day period. He may instruct under this section only in aircraft with functioning dual controls. Unless he has a flight instructor certificate, an airline transport pilot may instruct only as provided in this section.

#### § 61.165 General privileges and limitations.

(a) An airline transport pilot has the privileges of a commercial pilot with an instrument rating. The holder of a commercial pilot certificate who qualifies for an airline transport pilot certificate retains the ratings on his commercial pilot certificate, but he may exercise only the privileges of a commercial pilot with respect to them.

(b) An airline transport pilot may not operate any aircraft other than in accordance with the rating limitations on his pilot certificate.

However, he may pilot an airplane as a—

- (1) Second in command, without a class or type rating for that airplane; or
- (2) Pilot in command, without a class or type rating for that airplane, if the airplane does not carry any person other than members of its crew, certificated airmen on board in furtherance of their duties, or certificated instructors rated for that airplane.

#### Subpart F—Flight Instructors

#### § 61.171 Flight instructor certificate: Requirements.

(a) *General.* An applicant for a flight instructor certificate with an airplane, rotorcraft, glider, or instrument rating must—

- (1) Hold an airline transport pilot or commercial pilot certificate, or hold a private pilot certificate and meet the aeronautical knowledge, skill, and experience requirements of this part for a commercial pilot certificate;
- (2) Pass a written test on the fundamentals of flight instruction and the performance and analysis of flight training maneuvers, appropriate to the rating sought; and
- (3) Pass the test listed in paragraph (d) of this section, to show his ability

to give accurate, effective flight instruction, appropriate to the rating sought.

A certificate issued under this section bears the same number as the applicant's pilot certificate.

(b) *Additional category rating.* The holder of a flight instructor certificate may obtain additional category ratings on his flight instructor certificate by passing a written test on the performance and analysis of flight training maneuvers, and the tests listed in paragraph (d) of this section, appropriate to the rating he seeks.

(c) *Limited certificate.* A limited flight instructor certificate that is valid on October 31, 1962, is equal to a flight instructor certificate until it expires or is exchanged, as provided in § 61.9.

(d) *Flight tests.* The applicant must pass the following oral and applicable flight tests:

- (1) Oral test, all ratings:
  - (i) Application of effective flight instruction methods.
  - (ii) Knowledge of safe flying practices and principles.
  - (iii) Correctness and clarity of explanations.
  - (iv) Recognition of student errors (in flight and in postflight discussion).
  - (v) Cross-country flight planning.
- (2) Flight test, airplanes:
  - (i) Preflight check and oral equipment test.
  - (ii) Preflight operations.
  - (iii) Taxiing, or sailing and docking.
  - (iv) Straight flight and turns in climbs, glides, and level flight.
  - (v) Normal takeoffs and accuracy landings.
  - (vi) Crosswind takeoffs and landings.
  - (vii) Short-field takeoff and power approach with landing.
  - (viii) Soft-field takeoff and landing.
  - (ix) Slips to landings.
  - (x) Wheel landings in tailwheel type airplanes, or full stall landings in tricycle types.
  - (xi) Stalls from all normally anticipated flight attitudes, with and without power.
  - (xii) Maneuvering at minimum controllable airspeed.
  - (xiii) Spins, right and left.
  - (xiv) 720° power turns.
  - (xv) Chandelles.
  - (xvi) Lazy eights, shallow and steep.
  - (xvii) Pylon eights, shallow and steep.
  - (xviii) Airport traffic patterns-rectangular courses and S-turns.
  - (xix) Using radio for voice communication-traffic control procedures.
  - (xx) Emergency operation of airplane equipment; forced landings.
- (3) Flight test, rotorcraft:
  - (i) Preflight check and oral equipment test.
  - (ii) Preflight operations.
  - (iii) Taxiing (if rotorcraft used is appropriately equipped).
  - (iv) Normal takeoffs and landings.
  - (v) Crosswind takeoffs and landings.
  - (vi) High altitude takeoffs and roll-overs.
  - (vii) Climbs and descents.
  - (viii) Hovering upwind, crosswind, and downwind.
  - (ix) Hovering 360° turns.

(x) Pattern flying with constant and with changing headings.

- (xi) S-turns.
- (xii) Rapid decelerations.
- (xiii) Autorotative landings.
- (xiv) Emergency operation of rotorcraft equipment.

(4) Flight test, gliders:

- (i) Preflight check and oral equipment test.
- (ii) Preflight operations.
- (iii) Auto, pulley, or winch tow.
- (iv) Airplane tow, above, below, and to one side of slipstream.
- (v) 180° approaches to landings in the direction of the prescribed traffic pattern flow, landing within 200 feet beyond a designated line or mark.
- (vi) Three-turn spirals, right and left, at banks of at least 45°.
- (vii) Stalls and slow flight.
- (viii) Spins, right and left.
- (5) Flight test, instrument:
  - (i) Instrument flight planning.
  - (ii) Preparing and filing an instrument flight plan.
  - (iii) Aircraft performance, range, and fuel requirements.
  - (iv) Required instruments and equipment, and their proper use.
  - (v) Straight and level flight.
  - (vi) Turns, climbs and descents.
  - (vii) Stalls and maneuvering at approach speeds.
  - (viii) Steep turns.
  - (ix) Recovery from unusual attitudes.
  - (x) Engine-out procedures, if test is given in multiengine airplane.
  - (xi) Radio navigation, including orientation using LF, OMNI range, or ADF.
  - (xii) Using radio for voice communication.
- (xiii) Standard instrument approach to authorized IFR weather minimums (not more than 500 feet and 1 mile) including holding procedures.
- (xiv) Missed approach procedures.
- (xv) Emergencies, such as radio or instrument malfunctions.
- (xvi) Compliance with air traffic control instructions and procedures.

(e) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(f) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(g) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(h) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(i) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(j) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(k) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(l) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(m) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(n) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(o) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(p) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(q) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(r) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(s) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(t) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(u) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

(v) *Substitution of dual instruction.* The inspector may omit the flight tests specified in subparagraphs (2) (xiii) and (4) (viii) of paragraph (d) of this section in the case of an applicant who presents satisfactory written evidence of flight instruction, in spin entries and recoveries, from an appropriately rated flight instructor, or in the case of gliders, a commercial glider pilot.

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as he continues to be a flight instructor, or for 3 years, whichever is shorter.

**§ 61.175 Flight instructor ratings.**

A person who has a flight instructor rating endorsed on his pilot certificate may not exercise the privileges of that rating, but may exchange it for a flight instructor certificate if he passes the appropriate test prescribed in § 61.171(d).

**§ 61.177 Limitations.**

(a) A flight instructor may endorse the certificate of a student pilot for solo flight or flight in a different make or model of aircraft only if he determines that the student can make the flight safely. He may endorse such a certificate for cross-country flight only if he determines that the student has an elementary knowledge of aeronautical charts, meteorological data, and the use of a magnetic compass.

(b) A flight instructor may instruct only in the category of aircraft for which he is rated.

(c) A flight instructor may not exercise the privileges of his certificate unless, within the preceding 12 months, he has—

(1) Given at least 10 hours of flight instruction while appropriately rated; or  
 (2) Shown his continued proficiency to the Administrator.

(d) A flight instructor may not give more than 8 hours of flight instruction in a day nor more than 36 hours in any 7-day period.

**Subpart G—Free Balloon Pilot Certificate**

**§ 61.181 General requirements.**

(a) To be eligible for a free balloon pilot certificate, a person must—

(1) Hold a student lighter-than-air pilot certificate;  
 (2) Be at least 17 years of age;  
 (3) Be able to read, speak, and understand the English language;

(4) Hold at least a third-class medical certificate issued under Part 67 of this chapter;

(5) Within 24 months before his certificate is issued, pass a written test on the following by answering 45 out of 50 questions correctly within 1 hour:

(i) So much of Parts ---- and ---- of this chapter [Present Parts 1 and 60] as relate to his certificate.

(ii) Prevailing weather conditions in the United States that are met in flying and the forecasting thereof.

(iii) Analyzing weather maps and sequence reports furnished by the U.S. Weather Bureau.

(iv) Practical air navigation problems using maps.

(v) Navigation by terrain and by dead reckoning, including using instruments and other aids to navigation in visual contact flying.

(vi) The general operation of free balloons.

(6) Have made at least eight ascents averaging 2 hours in duration, substantiated by a logbook, including six ascents under the supervision of a certificated free balloon pilot, one ascent in control to an altitude of 10,000 feet under that supervision and one solo ascent;

(7) Successfully perform the following maneuvers:

- (i) Ground handling and mooring.
- (ii) Preflight checks.
- (iii) Takeoffs.
- (iv) Ascents.
- (v) Descents.
- (vi) Landings (positive static balance); and
- (8) Show his ability to satisfactorily pilot and maneuver a free balloon in solo flight.

Subparagraphs (5) and (6) of this paragraph do not apply to an applicant for a certificate that is limited to operating hot air balloons.

(b) The applicant must show his ability to exercise reasonable judgment in the flight maneuvers required by paragraph (a) (7) and (8) of this section, by complying with Part ---- of this chapter [Present Part 60], avoiding critical situations, and observing accepted good operating practices for the flight conditions encountered.

**§ 61.183 Privileges and limitations.**

The holder of a free balloon pilot certificate may not pilot any lighter-than-air aircraft except a free balloon. He may pilot a free balloon for hire carrying passengers or property and may give flight instruction in a free balloon.

**PART 61—DISTRIBUTION TABLE**

Former section	Revised section	Former section	Revised section
20.1-----	61.1	20.35-1(a) (1)	
20.2-----	( <sup>1</sup> )	(1st sen-	
20.5-----	( <sup>2</sup> )	tence) and	
20.10(d)-----	61.19	(3)-----	61.87
20.10 (less		20.35-1 (a) (1)	
(d))-----	61.5	(less 1st sen-	
20.10-1-----	61.5	tence) and	
20.10-3-----	61.11	(2), and	
20.10-4-----	61.13	(b)-----	61.23
20.10-5-----	61.13	20.40-----	61.111
20.10-6-----	61.5	20.41-----	61.111
20.11(c)-----	61.7	20.41-1-----	61.111
20.11 (less		20.42-----	61.111
(c))-----	61.9	20.42-1-----	61.111
20.11-1-----	61.11	20.43-----	61.113
20.11-2-----	61.9	20.43-1-----	( <sup>4</sup> )
20.11-3-----	61.7	20.44-----	61.115
20.12-----	( <sup>4</sup> )	20.44-1-----	( <sup>4</sup> )
20.13-----	61.27	20.44-2-----	61.115
20.13-1-----	61.27	20.44-3-----	61.115
20.14-----	61.21	20.44-4-----	61.115
20.15-----	61.25	20.45-----	61.117
20.15-1-----	61.25	20.45-1 (a) (1)	
20.15-2-----	61.25	(1st sen-	
20.16-----	61.39	tence) and	
20.16-1-----	61.39	(3)-----	61.117
20.17-----	61.39	20.45-1 (a) (1)	
20.18-----	61.51	(less 1st sen-	
20.20-----	61.61	tence) and	
20.20-1-----	( <sup>4</sup> )	(2), and	
20.20-2-----	61.61	(b)-----	61.23
20.20-3-----	61.61	20.50-----	61.61
20.21-----	61.61	20.50-1-----	61.61
20.21-1-----	61.61	20.51-----	61.61
20.22-----	61.61	20.51-1-----	61.61
20.22-1-----	61.61	20.52-----	61.61
20.23-----	61.63	20.52-1-----	61.61
20.24-----	61.65	20.53-----	61.63
20.30-----	61.81	20.54-----	61.67
20.31-----	61.81	20.60-----	61.81
20.31-1-----	61.81	20.61-----	61.81
20.32-----	61.81	20.61-1-----	61.81
20.32-1-----	61.81	20.62-----	61.81
20.33-----	61.83	20.62-1-----	61.81
20.33-1-----	( <sup>4</sup> )	20.63-----	61.83
20.34-----	61.85	20.63-1-----	( <sup>4</sup> )
20.34-1-----	( <sup>4</sup> )	20.64-----	61.89
20.35-----	61.87	20.64-1-----	( <sup>4</sup> )

See footnotes at end of table.

**PART 61—DISTRIBUTION TABLE—Continued**

Former section	Revised section	Former section	Revised section
20.65-----	61.91	20.112-2-----	61.33
20.65-1(a) (1)		20.120-----	61.15
(1st sen-		20.120-1-----	61.15
tence) and		20.120-2-----	61.15
(3)-----	61.91	20.121-----	61.17
20.65-1(a) (1)		20.121-1-----	61.17
(less 1st		20.122-----	61.15
sentence)		20.125-----	61.35
and (2),		20.126-----	61.35
and (b)-----	61.23	20.126-1-----	( <sup>4</sup> )
20.70-----	61.111	20.127-----	61.35
20.71-----	61.111	20.127-1-----	61.35
20.71-1-----	61.111	20.127-2-----	( <sup>4</sup> )
20.72-----	61.111	20.128-----	61.37
20.72-1-----	61.111	20.128-1(a)	
20.73-----	61.113	(1)-----	61.25
20.73-1-----	( <sup>4</sup> )	20.128-1(a) (2)	
20.74-----	61.119	(less 1st	
20.74-1-----	( <sup>4</sup> )	sentence)	
20.74-2-----	61.119	and (3),	
20.75-----	61.121	and (b) (1st	
20.75-1(a) (1)		sentence)-----	61.23
(1st sen-		20.128-1(a) (2)	
tence) and		(1st sen-	
(3)-----	61.121	tence) and	
20.75-1(a) (1)		(4), and	
(less 1st sen-		(b) (less 1st	
tence) and		sentence)-----	61.37
(2), and		20.130-----	61.171
(b)-----	61.23	20.130-1-----	61.171
20.80-----	61.61	20.130-2-----	( <sup>4</sup> )
20.80-1-----	61.61	20.131-----	61.9
20.80-2-----	61.61	20.136-----	61.173
20.81-----	61.61	20.136-1-----	61.173
20.81-1-----	61.61	20.138-----	61.175
20.82-----	61.61	20.138-1-----	61.175
20.82-1-----	61.61	21.1-----	( <sup>4</sup> )
20.83-----	61.63	21.5-----	( <sup>2</sup> )
20.84-----	61.69	21.6-----	61.13
20.90-----	61.81	21.9-----	61.141
20.90-1-----	61.81	21.10-----	61.141
20.91-----	61.81	21.11-----	61.141
20.91-1-----	61.81	21.12-----	61.141
20.92-----	61.81	21.13-----	61.141
20.92-1-----	61.81	21.14-----	61.141
20.93-----	61.83	21.15-----	61.143
20.93-1-----	( <sup>4</sup> )	21.15-1-----	61.21
20.94-----	61.93	21.16-----	61.145
20.94-1-----	61.93	21.16-1 (less	
20.95-----	61.95	(b))-----	61.145
20.95-1(a) (1)		21.16-1(b)-----	61.147
(1st sen-		21.16-2-----	61.145
tence) and		21.16-3-----	61.145
(3)-----	61.95	21.17-----	61.147
20.95-1(a) (1)		21.17-1(a)-----	61.21
(less 1st		21.17-1 (less	
sentence)		(a))-----	61.147
and (2),		21.18(a)-----	61.149
and (b)-----	61.23	21.18(b) (1st	
20.100-----	61.111	sentence)-----	61.149
20.101-----	61.111	21.18(b) (less	
20.101-1-----	61.111	1st sen-	
20.102-----	61.111	tence)-----	61.147
20.102-1-----	61.111	21.19-----	61.149
20.103-----	61.118	21.19a-----	61.151
20.103-1-----	( <sup>4</sup> )	21.19b-----	61.153
20.104-----	61.123	21.19c-----	61.155
20.105-----	61.125	21.19d-----	61.157
20.105-1(a) (1)		21.20-----	61.159
(1st sen-		21.20-1-----	61.159
tence) and		21.21-----	61.5
(3)-----	61.125	21.21-1-----	( <sup>4</sup> )
20.105-1(a) (1)		21.21-2-----	( <sup>4</sup> )
(less 1st		21.22 (Intro-	
sentence)		ductory	
and (2),		paragraph)-----	61.5
and (b)-----	61.23	21.22(a)-----	61.7
20.110-----	61.29	21.22 (less in-	
20.111-----	61.31	troductory	
20.111-1-----	61.31	paragraph	
20.111-2-----	61.31	and less	
20.111-3-----	61.31	(a))-----	61.163
20.112 (last		21.22-1-----	( <sup>4</sup> )
sentence)-----	61.9	21.23-----	61.3
20.112 (less		21.24 (a) and	
last sen-		(c)-----	61.9
tence)-----	61.33	21.24(b)-----	61.7
20.112-1-----	( <sup>4</sup> )	21.24-1-----	61.11

PART 61—DISTRIBUTION TABLE—Continued

Former section	Revised section	Former section	Revised section
21.25	(*)	22.18-1	61.181
21.26	61.45	22.18-2	61.181
21.27	61.9	22.18-3	61.181
21.28	61.27	22.18-4	61.181
21.28-1	61.27	22.18-5	61.181
21.28-2	61.27	22.18-6	61.21
21.29	61.51	22.20	61.5
21.30	61.25	22.20-1	(*)
21.31	61.141	22.21 (less	
21.32	61.19	(d))	61.9
21.33	61.25	22.21(d)	61.7
21.33-1	61.25	22.21-1	(*)
21.34	61.15	22.21-2	61.7
21.35	61.15	22.22	61.47
21.36	61.49	22.23	(*)
21.37	61.161	22.24(b) (less	
21.38	61.161	(2))	61.81
21.40 (less		22.24(b) (2)	61.111
(c))	61.165	22.24(c)	61.27
21.40(c)	61.43	22.24(d)	61.25
21.40-1 (last		22.24 (less	
sentence)	61.43	(b)-(d))	61.19
21.40-1 (less		22.24-1	(*)
last sen-		22.25	61.51
tence)	61.165	22.26	(*)
21.41	61.47	22.27	61.11
21.42	61.47	22.28	61.18
21.43	61.163	22.29	61.33
21.44	61.41	22.31(a)	61.71
22.1	(*)	22.31(b)	61.101
22.10	61.61	22.31(c)	61.181
22.10-1	(*)	22.31(d)	61.183
22.10-2	61.61	22.31(e)	61.43
22.10-3	61.61	22.32(a) (1)	61.43
22.10-4	61.61	22.32(a) (less	
22.11 (a)-(e)	61.81	(1))	61.3
22.11(f)	61.83	22.32(b)	61.9
22.11(g)	61.97	22.32(c)	61.45
22.11(h)	61.99	22.32(d)	61.49
22.11(i)	61.31	22.32(e)	(*)
22.11-1	61.81	22.32(f)	61.39
22.11-2	61.81	22.40	(*)
22.11-3 (1st		22.41	(*)
and last		22.42	(*)
sentences)	61.21	22.43	(*)
22.11-3 (less		22.44	(*)
1st and last		22.45	(*)
sentences)	61.83	43.40	61.3
22.11-5	61.97	43.41 (less 1st	
22.11-6	61.99	sentence)	61.43
22.11-7	61.99	43.41 (1st	
22.11-8	(*)	sentence)	61.3
22.11-9	61.31	43.41-1	61.43
22.11-10	61.31	43.42	61.45
22.11-11	61.31	43.52	61.73
22.12 (a)-(e)	61.111	43.55	61.73
22.12(f)	61.113	43.56	61.73
22.12(g)	61.127	43.60	61.101
22.12 (h) and		43.61	61.131
(i))	61.129	43.62	61.165
22.12(j)	61.31	43.63 (as ap-	
22.12-1	61.111	plicable to	
22.12-2	61.111	private	
22.12-3	61.113	pilots)	61.101
22.12-4 (b)	61.21	43.63 (as ap-	
22.12-4 (less		plicable to	
(b))	61.113	commercial	
22.12-6	61.127	pilots)	61.131
22.12-7	61.129	43.64 (b), (c),	
22.12-8	61.129	and (d))	61.177
22.12-9	(*)	43.65	61.3
22.12-10	61.129	43.68(c)	61.179
22.12-11	61.31	43.68 (less	
22.12-12	61.31	(c))	61.47
22.12-13	61.31	SR 428	61.73
22.13	61.181	SR 434	61.85

1 Executed.  
 2 Transferred to Part 1.  
 3 Surplusage.  
 4 Not a rule.  
 5 Obsolete.  
 6 Transferred to Part 91.

PART 63—CERTIFICATION: FLIGHT CREW MEMBERS OTHER THAN PILOTS [NEW]

Subpart A—General

- Sec.  
 63.1 Applicability.  
 63.3 Certificates required.  
 63.11 Application and issue.  
 63.13 Temporary certificate.  
 63.15 Duration of certificates.  
 63.17 Tests: General procedure.  
 63.19 Operations during physical deficiency.  
 63.21 Change of address.

Subpart B—Flight Engineers

- 63.31 Eligibility requirements: General.  
 63.33 Knowledge requirements.  
 63.35 Experience requirements.  
 63.37 Skill requirements.  
 63.39 Re-testing after failure.  
 63.41 Limited certificates.

Subpart C—Flight Navigators

- 63.51 Eligibility requirements: General.  
 63.53 Knowledge requirements.  
 63.55 Experience requirements.  
 63.57 Skill requirements.  
 63.59 Re-testing after failure.  
 63.61 Flight navigator courses.

AUTHORITY: §§ 63.1 to 63.61 Issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958; 49 U.S.C. 1354(a), 1355, 1421, and 1427.

Subpart A—General

§ 63.1 Applicability.

This part prescribes the requirements for issuing flight engineer and flight navigator certificates and the general operating rules for holders of those certificates.

§ 63.3 Certificates required.

(a) No person may serve as a flight engineer assisting a pilot in the mechanical operation of an aircraft of U.S. registry as his primary assigned duty in flight in air commerce unless he has in his personal possession a current flight engineer certificate issued to him under this part and a current second-class (or higher) medical certificate issued to him under Part 67 of this chapter.

(b) No person may serve as a flight navigator on an aircraft of U.S. registry in air commerce unless he has in his personal possession a current flight navigator certificate issued to him under this part and a current second-class (or higher) medical certificate issued to him under Part 67 of this chapter.

(c) Each person who holds a flight engineer or flight navigator certificate shall present it or his medical certificate, or both, for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

§ 63.11 Application and issue.

(a) An application for a certificate under this part is made on a form and in a manner prescribed by the Administrator.

(b) An applicant who meets the requirements of this part is entitled to an appropriate certificate.

§ 63.13 Temporary certificate.

A certificate effective for a period of not more than 90 days may be issued to a qualified applicant, pending review of his application and supplementary documents and the issue of the certificate for which he applied.

§ 63.15 Duration of certificates.

(a) A certificate issued under this part to a U.S. citizen is effective until it is surrendered, suspended, or revoked. A certificate issued under this part to any person other than a U.S. citizen is effective for a period of not more than 12 months after the date it is issued, but may be re-issued without further proof of technical ability.

(b) The holder of a certificate that is revoked shall return it to the Administrator. The holder of a certificate that is suspended shall, upon request of the Administrator, return it to the Administrator.

§ 63.17 Tests: General procedure.

(a) Tests prescribed by or under this part are given at times and places, and by persons, designated by the Administrator.

(b) The minimum passing grade for each test is 70 percent.

§ 63.19 Operations during physical deficiency.

No person may serve as a flight engineer or flight navigator during a period of known physical deficiency, or increase in physical deficiency, that would make him unable to meet the physical requirements for his current medical certificate.

§ 63.21 Change in address.

Within 30 days after any change in his permanent mailing address, the holder of a certificate issued under this Part shall notify the FAA Airman Certification Branch, Oklahoma City, Okla., in writing of his new address.

Subpart B—Flight Engineers

§ 63.31 Eligibility requirements: general.

To be eligible for a flight engineer certificate, a person must—

(a) Be at least 21 years of age;

(b) Be able to read, speak, and understand the English language, or have an appropriate limitation placed on his flight engineer certificate;

(c) Hold at least a second-class medical certificate issued under Part 67 of this chapter within the 12 months before the date he applies; and

(d) Comply with §§ 63.33, 63.35, and 63.37.

§ 63.33 Knowledge requirements.

(a) An applicant for a flight engineer certificate must pass a written test on the following, with respect to transport category aircraft with four or more engines or aircraft with four or more engines and a flight engineer station:

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(1) The regulations of this chapter that apply to the duties of a flight engineer.

(2) The theory of flight and elementary aerodynamics.

(3) Aircraft performance and aircraft engine operation with respect to limitations.

(4) Mathematical computations of engine operation and fuel consumption.

(5) Basic meteorology with respect to engine operations.

(6) Aircraft loading and center of gravity computations.

(7) General aircraft maintenance and operating procedures.

(8) Emergency procedures.

(b) An applicant may take the test prescribed by this section before acquiring the 5 hours of flight training required by paragraph (a), (b), or (c) of § 63.35.

### § 63.35 Experience requirements.

An applicant for a flight engineer certificate must present satisfactory documentary evidence of one of the following:

(a) At least 3 years of diversified practical experience in aircraft and aircraft engine maintenance (of which at least 1 year was in maintaining multiengine aircraft with engines rated at least at 800 horsepower each, or the equivalent in turbine-powered aircraft), and at least 5 hours of flight training in flight engineer duties on aircraft with four or more engines rated at least at 800 horsepower each, or the equivalent power in turbine-powered aircraft.

(b) Graduation from at least a 2-year specialized aeronautical training course in maintaining aircraft and aircraft engines (of which at least 6 calendar months were in maintaining multiengine aircraft with engines rated at least at 800 horsepower each, or the equivalent in turbine-powered aircraft), and at least 5 hours of flight training in flight engineer duties on aircraft with four or more engines rated at least at 800 horsepower each, or the equivalent power in turbine-powered aircraft.

(c) A degree in aeronautical, electrical, or mechanical engineering from a recognized college, university, or engineering school; at least 6 calendar months of practical experience in maintaining multiengine aircraft with engines rated at least at 800 horsepower each, or the equivalent in turbine-powered aircraft; and at least 5 hours of flight training in flight engineer duties on aircraft with four or more engines rated at least at 800 horsepower each, or the equivalent power in turbine-powered aircraft.

(d) At least 200 hours of flight time as pilot in command, of aircraft with four or more engines rated at least at 800 horsepower each, or the equivalent power in turbine-powered aircraft.

(e) At least 100 hours of flight experience in the duties of a flight engineer.

(f) Within the 90 days before the date he applies, successful completion of an approved course of instruction adequate for the training of a flight engineer.

### § 63.37 Skill requirements.

An applicant for a flight engineer certificate must pass a practical test on the duties of a flight engineer on a transport

category aircraft with four or more engines, or on an aircraft with four or more engines and a flight engineer station on the preflight inspection, servicing, starting, and pretakeoff run-up, of aircraft. In addition, he must—

(a) In flight, show that he can satisfactorily perform normal duties and procedures relating to the aircraft, aircraft engines, propellers, and appliances; and

(b) In flight, or in an approved synthetic trainer that accurately simulates the flight characteristics and performance of the aircraft, show that he can satisfactorily perform emergency duties and procedures, and recognize and take appropriate action for, malfunctioning of aircraft, aircraft engines, propellers, and appliances.

### § 63.39 Retesting after failure.

An applicant for a flight engineer certificate who fails a written or practical test for that certificate may apply for retesting—

(a) After 30 days after the date he failed that test; or

(b) Upon presenting a signed statement from a certificated flight engineer or an appropriately rated ground instructor, certifying that, in the case of a failure of a written test, he has given the applicant at least 5 hours of additional instruction in each of the subjects failed, or that, in the case of a failure of a practical test, he has given the applicant such additional instruction as the Administrator requires, and in either case, certifying that he considers that the applicant is ready for retesting.

### § 63.41 Limited certificates.

(a) A flight engineer certificate for an aircraft with less than four engines may be issued to an applicant if—

(1) The aircraft has a satisfactory flight engineer station;

(2) He complies with §§ 63.31, 63.33, 63.35, and 63.39, except that his experience does not have to include flight time in aircraft with more than two engines; and

(3) He passes a practical test as required by § 63.37 in an aircraft with less than four engines.

(b) Each certificate issued under this section contains an appropriate limitation that may be removed whenever the holder of the certificate passes the practical test prescribed in § 63.37 for an aircraft with four or more engines.

## Subpart C—Flight Navigators

### § 63.51 Eligibility requirements; general.

To be eligible for a flight navigator certificate, a person must—

(a) Be at least 21 years of age;

(b) Be able to read, write, speak, and understand the English language;

(c) Hold at least a second-class medical certificate issued under Part 67 of this chapter within the 12 months before the date he applies; and

(d) Comply with §§ 63.53, 63.55, and 63.57.

### § 63.53 Knowledge requirements.

(a) An applicant for a flight navigator certificate must pass a written test on—

(1) The regulations of this chapter that apply to the duties of a flight navigator;

(2) The fundamentals of flight navigation, including flight planning and cruise control;

(3) Practical meteorology, including analysis of weather maps, weather reports, and weather forecasts; and weather sequence abbreviations, symbols, and nomenclature;

(4) The types of air navigation facilities and procedures in general use;

(5) Calibrating and using air navigation instruments;

(6) Navigation by dead reckoning;

(7) Navigation by celestial means;

(8) Navigation by radio aids;

(9) Pilotage and map reading; and

(10) Interpretation of navigation aid identification signals.

(b) The test prescribed by paragraph (a) of this section is a multiple choice test in four sections—

(1) The regulations of this chapter;

(2) Fundamentals of air navigation;

(3) Meteorology; and

(4) Plotting and computing.

Each section is graded separately and the passing grade for each section is 70 percent.

(c) An applicant is not required to take section 3 of the test (meteorology), if he has—

(1) An airline transport pilot certificate;

(2) An instrument rating; or

(3) Satisfactorily completed, within the 24 months before the test, the subject of meteorology for such a certificate or rating.

(d) A report of the test is mailed to the applicant. A passing grade is evidence, for a period of 24 months after the test, that the applicant has complied with this section.

### § 63.55 Experience requirements.

(a) An applicant for a flight navigator certificate must be a graduate of a flight navigator course approved by the Administrator or present satisfactory documentary evidence of—

(1) Satisfactory determination of his position in flight at least 25 times by night by celestial observations and at least 25 times by day by celestial observations in conjunction with other aids; and

(2) At least 200 hours of satisfactory flight navigation, including celestial and radio navigation and dead reckoning.

A pilot who has logged 500 hours of cross-country flight time, of which at least 100 hours were at night, may be credited with not more than 100 hours for the purposes of subparagraph (2) of this paragraph.

(b) Flight time used exclusively for practicing long-range navigation methods, with emphasis on celestial navigation and dead reckoning, is considered to be satisfactory navigation experience for the purposes of paragraph (a) of this section. It must be substantiated by a logbook, by records of an armed force or a certificated air carrier, or by a letter signed by a certificated flight navigator and attached to the application.

§ 63.57 Skill requirements.

(a) An applicant for a flight navigator certificate must pass a practical test in operating flight navigation equipment, and must pass a practical test in navigating aircraft by—

- (1) Dead reckoning;
- (2) Celestial means; and
- (3) Radio aids to navigation.

(b) An applicant must pass the written test prescribed by § 63.53 before taking the test under this section. However, if a delay in taking the test under this section would inconvenience the applicant or an air carrier, he may take it before he receives the result of the written test, or after he has failed any part of the written test except the section on plotting and computing.

(c) The test requirements for this section are set forth in Appendix A of this part.

§ 63.59 Re-testing after failure.

(a) An applicant for a flight navigator certificate who fails a written or practical test for that certificate may apply for re-testing—

(1) After 30 days after the date he failed that test; or

(2) Upon presenting a signed statement, from a certificated flight navigator, certificated ground instructor, or any other qualified person approved by the Administrator, certifying that he has given the applicant at least 5 hours of additional instruction in each of the subjects failed and considers that the applicant is ready for re-testing.

(b) A statement from a certificated flight navigator, or from an operations official of an approved navigator course, is accepted, for the purposes of paragraph (a) (2) of this section, for all sections of the written test and for the ground and flight tests. A statement from a certificated ground instructor is accepted for section 1 of the written test if he is rated on the regulations in this chapter, and for section 3 of the written test if he is rated on meteorology. A statement from a supervising or check navigator with the armed forces is acceptable for sections 2, 3, and 4 of the written test and for the practical tests.

(c) If the applicant failed the flight test, the 5 hours of additional instruction must have been in flight.

§ 63.61 Flight navigator courses.

An applicant for approval of a flight navigator course must submit a letter to the Administrator requesting approval, and must also submit three copies of the course outline, a description of his facilities and equipment, and a list of the instructors and their qualifications. Requirements for the course are set forth in Appendix B to this part.

PART 63—DISTRIBUTION TABLE

Former section	Revised section	Former section	Revised section
34.1-----	63.1	34.7 (less (b))	63.15
34.2-----	( <sup>1</sup> )	34.8-----	63.21
34.5-----	63.11	34.21-----	( <sup>2</sup> )
34.6(a)-----	63.11	34.22-----	63.51
34.6 (less (a))	63.13	34.23-----	63.51
34.6-1-----	63.13	34.24-----	63.17
34.7(b)-----	63.13	34.25-----	63.59

See footnotes at end of table.

PART 63—DISTRIBUTION TABLE—Continued

Former section	Revised section	Former section	Revised section
34.25-1-----	63.59	34.44-----	63.19
34.25-2-----	63.59	35.1-----	63.1
34.26-----	63.55	35.2-----	( <sup>1</sup> )
34.27-----	63.51	35.5-----	63.11
34.27-1-----	63.51	35.6(a)-----	63.11
34.31-----	63.55	35.6 (less (a))	63.13
34.31-1-----	63.55	35.7(b)-----	63.13
34.31-2-----	63.55	35.7 (less (b))	63.15
34.31-3-----	63.55	35.8-----	63.21
34.31-4-----	63.55	35.21-----	( <sup>1</sup> )
34.31-5(a)-----	63.55	35.22-----	63.31
34.31-5(b)-----	63.61	35.23-----	63.31
34.31-5 (less (a) and (b))-----	( <sup>4</sup> )	35.24-----	63.17
34.32-----	63.53	35.25-----	63.39
34.32-1-----	63.53	35.26-----	63.35
34.33-----	63.57	35.27-----	63.31
34.33-1(a)-----	63.57	35.31-----	63.35
34.33-1 (less (a))-----	( <sup>1</sup> )	35.32-----	63.33
34.41-----	63.3	35.33-----	63.37
34.42-----	63.3	35.34-----	63.41
34.43-----	63.3	35.41-----	63.3
		35.42-----	63.8
		35.43-----	63.3
		35.44-----	63.19

- <sup>1</sup> Transferred to Part 1.
- <sup>2</sup> Surplusage.
- <sup>3</sup> Appendix A.
- <sup>4</sup> Appendix B.

PART 63—APPENDIX A

TEST REQUIREMENTS FOR FLIGHT NAVIGATOR CERTIFICATE

(a) *Demonstration of skill.* An applicant will be required to pass practical tests on the prescribed subjects. These tests may be given by FAA inspectors and designated flight navigator examiners.

(b) *The examination.* The practical examination consists of a ground test and a flight test as itemized on the examination check sheet. Each item must be completed satisfactorily in order for the applicant to obtain a passing grade. Items 5, 6, 7 of the ground test may be completed orally, and items 17, 22, 23, 34, 36, 37, 38, and 39 of the flight test may be completed by an oral examination when a lack of ground facilities or navigation equipment makes such procedure necessary. In these cases a notation to that effect shall be made in the "Remarks" space on the check sheet.

(c) *Examination procedure.* (1) An applicant will provide an aircraft in which celestial observations can be taken in all directions. Minimum equipment shall include a table for plotting, a drift meter or absolute altimeter, an instrument for taking visual bearings, and a radio direction finder.

(2) More than one flight may be used to complete the flight test and any type of flight pattern may be used. The test will be conducted chiefly over water whenever practicable, and without regard to radio range legs or radials. If the test is conducted chiefly over land, a chart should be used which shows very little or no topographical and aeronautical data. The total flight time will cover a period of at least four hours. Only one applicant may be examined at one time, and no applicant may perform other than navigator duties during the examination.

(3) When the test is conducted with an aircraft belonging to an air carrier, the navigation procedures should conform with those set forth in the carrier's operations manual. Items of the flight test which are not performed during the routine navigation of the flight will be completed by oral examination after the flight or at times during flight which the applicant indicates may be used for tests on those items. Since in-flight weather conditions, the reliability of the weather forecast, and the stability of the aircraft will have considerable effect on an applicant's performance, good judgement

must be used by the agent or examiner in evaluating the tests.

(d) *Ground test.* For the ground test, in the order of the numbered items on the examination check sheet, an applicant will be required to:

(1) Identify without a star identifier, at least six navigational stars and all planets available for navigation at the time of the examination and explain the method of identification.

(2) Identify two additional stars with a star identifier or sky diagrams and explain identification procedure.

(3) Precompute a time-altitude curve for a period of about 20 minutes and take 10 single observations of a celestial body which is rising or setting rapidly. The intervals between observations should be at least one minute. Mark each observation on the graph to show accuracy. All observations, after corrections, shall plot within 8 minutes of arc from the time-altitude curve, and the average error shall not exceed 5 minutes of arc.

(4) Take and plot one 3-star fix and 3 LOP's of the sun. Plotted fix or an average of LOP's must fall within 5 miles of the actual position of the observer.

(5) Demonstrate or explain the compensation and swinging of a liquid-type magnetic compass.

(6) Demonstrate or explain a method of aligning one type of drift meter.

(7) Demonstrate or explain a method of aligning an astro-compass or periscopic sextant.

(e) *Flight test.* For the flight test, in the order of the numbered items on the examination check sheet, an applicant will be required to:

(1) Demonstrate his ability to read weather symbols and interpret synoptic surface and upper air weather maps with particular emphasis being placed on winds.

(2) Prepare a flight plan by zones from the forecast winds or pressure data of an upper air chart and the operator's data.

(3) Compute from the operator's data the predicted fuel consumption for each zone of the flight, including the alternate.

(4) Determine the point-of-no-return for the flight with all engines running and the equitime point with one engine inoperative. Graphical methods which are part of the company's operations manual may be used for these computations.

(5) Prepare a cruise control (howgozit) chart from the operator's data.

(6) Enter actual fuel consumed on the cruise control chart and interpret the variations of the actual curve from the predicted curve.

(7) Check the presence on board and operating condition of all navigation equipment. Normally a check list will be used. This check will include a time tick or chronometer comparison. Any lack of thoroughness during this check will justify this item being graded unsatisfactory.

(8) Locate emergency equipment, such as, the nearest fire extinguisher, life preserver, life rafts, exits, axe, first aid kits, etc.

(9) Recite the navigator's duties and stations during emergencies for the type of aircraft used for the test.

(10) Demonstrate the proper use of a flux gate compass or gyrocompass (when available), with special emphasis on the caging methods and the location of switches, circuit breakers, and fuses. If these compasses are not part of the aircraft's equipment, an oral examination will be given.

(11) Be accurate and use good judgment when setting and altering headings. Erroneous application of variation, deviation, or drift correction, or incorrect measurement of course on the chart will be graded as unsatisfactory.

(12) Demonstrate or explain the use of characteristics of various chart projections

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used in long-range air navigation, including the plotting of courses and bearings, and the measuring of distances.

(13) Demonstrate ability to identify designated landmarks by the use of a sectional or WAC chart.

(14) Use a computer with facility and accuracy for the computation of winds, drift correction and drift angles, ground speeds, ETA's, fuel loads, etc.

(15) Determine track, ground speed, and wind by the double drift method. When a drift meter is not part of the aircraft's equipment, an oral examination on the use of the drift meter and a double drift problem shall be completed.

(16) Determine ground speed and wind by the timing method with a drift meter. When a drift meter is not part of the aircraft's equipment, an oral examination on the procedure and a problem shall be completed.

(17) Demonstrate the use of air plot for determining wind between fixes and for plotting pressure lines of position when using pressure and absolute altimeter comparisons.

(18) Give ETA's to well defined check points at least once each hour after the second hour of flight. The average error shall not be more than 5 percent of the intervening time intervals, and the maximum error of any one ETA shall not be more than 10 percent.

(19) Demonstrate knowledge and use of D/F equipment and radio facility information. Grading on this item will be based largely on the applicant's selection of those radio aids which will be of most value to his navigation, the manner with which he uses equipment, including filter box controls, and the precision with which he reads bearings. The aircraft's compass heading and all compass corrections must be considered for each bearing.

(20) Use care in tuning to radio stations to insure maximum reception of signal and check for interference signals. Receiver will be checked to ascertain that antenna and BFO (Voice-CW) switches are in correct positions.

(21) Identify at least three radio stations using International Morse code only for identification. The agent or examiner will tune in these stations so that the applicant will have no knowledge of the direction, distance, or frequency of the stations.

(22) Take at least one radio bearing by manual use of the loop. The agent or examiner will check the applicant's bearing by taking a manual bearing on the same station immediately after the applicant.

(23) Show the use of good judgment in evaluating radio bearings, and explain why certain bearings may be of doubtful value.

(24) Determine and apply correctly the correction required to be made to radio bearings before plotting them on a Mercator chart, and demonstrate the ability to plot bearings accurately on charts of the Mercator and Lambert conformal projections.

(25) Compute the compass heading, ETA, and fuel remaining if it is assumed that the flight would be diverted to an alternate airport at a time specified by the agent or examiner.

(26) Check the counter scales of a Loran receiver for accuracy, and explain the basic (face) adjustments which affect tuning and counter alignment. A guide sheet may be used for this test.

(27) Demonstrate a knowledge of the basic principle of Loran and the ability to tune a Loran receiver, to match signals, to read time differences, to plot Loran LOP's, and to identify and use sky waves.

(28) Take and plot bearings from a consol station and explain the precautions which must be taken when tuning a radio receiver for consol signals. Also, discuss those con-

ditions which affect the reliability of consol bearings.

(29) Demonstrate the ability to properly operate and read an absolute altimeter.

(30) Determine the "D" factors for a series of compared readings of an absolute altimeter and a pressure altimeter.

(31) Determine drift angle or lateral displacement from the true headingline by application of Bellamy's formula or a variation thereof.

(32) Interpret the altimeter comparison data with respect to the pressure system found at flight level. From this data evaluate the accuracy of the prognostic weather map used for flight planning and apply this analysis to the navigation of the flight.

(33) Interpret single LOP's for most probable position, and show how a series of single LOP's of the same body may be used to indicate the probable track and ground speed. Also, show how a series of single LOP's (celestial or radio) from the same celestial body or radio station may be used to determine position when the change of azimuth or bearing is 30° or more between observations.

(34) Select one of the celestial LOP's used during the flight and explain how to make a single line of position approach to a point selected by the agent or examiner, giving headings, times, and ETA's.

(35) Demonstrate the proper use of an astro-compass or periscopic sextant for taking bearings.

(36) Determine compass deviation as soon as possible after reaching cruising altitude and whenever there is a change of compass heading of 15° or more.

(37) Take celestial fixes at hourly intervals when conditions permit. The accuracy of these fixes shall be checked by means of a Loran, radio, or visual fix whenever practicable. After allowing for the probable error of a Loran, radio, or visual fix, a celestial fix under favorable conditions should plot within 10 miles of the actual position.

(38) Select celestial bodies for observation, when possible, whose azimuths will differ by approximately 120° for a 3-body fix and will differ by approximately 90° for a 2-body fix. The altitudes of the selected bodies should be between 25° and 75° whenever practicable.

(39) Have POMAR and any other required reports ready for transmission at time of schedule, and be able to inform the pilot in command promptly with regard to the aircraft's position and progress in comparison with the flight plan.

(40) Keep a log with sufficient legible entries to provide a record from which the flight could be retraced.

(41) Note significant weather changes which might influence the drift or ground speed of the aircraft, such as, temperature, "D" factors, frontal conditions, turbulence, etc.

(42) Determine the wind between fixes as a regular practice.

(43) Estimate the time required and average ground speed during a letdown, under conditions specified by the pilot in command.

(44) Work with sufficient speed to determine the aircraft's position hourly by celestial means and also make all other observations and records pertinent to the navigation. The applicant should be able to take the observation, compute, and plot a celestial LOP within a time limit of 8 minutes; take and plot a Loran LOP within a time limit of 3 minutes for ground waves and 4 minutes for sky waves; observe the absolute and pressure altimeters and compute the drift or lateral displacement within a time limit of 3 minutes.

(45) Be accurate in reading instruments and making computations. Errors which are made and corrected without affecting the navigation will be disregarded unless they cause considerable loss of time.

An uncorrected error in computation (including reading instruments and books) which will affect the reported position more than 25 miles, the heading more than 3°, or any ETA more than 15 minutes will cause this item to be graded unsatisfactory.

(46) Be alert to changing weather or other conditions during flight which might affect the navigation. An applicant should not fail to take celestial observations just prior to encountering a broken or overcast sky condition; and he should not fail to take a bearing on a radio station, which operates at scheduled intervals and which would be a valuable aid to the navigation.

(47) Show a logical choice and sequence in using the various navigation methods according to time and accuracy, and check the positions determined by one method against positions determined by other methods.

(48) Use a logical sequence in performing the various duties of a navigator and plan work according to a schedule. The more important duties should not be neglected for others of less importance.

## PART 63—APPENDIX B

FLIGHT NAVIGATOR TRAINING COURSE  
REQUIREMENTS

(a) *Training course outline*—(1) *Format*. The ground course outline and the flight course outline shall be combined in one loose-leaf binder and shall include a table of contents, divided into two parts—ground course and flight course. Each part of the table of contents must contain a list of the major subjects, together with hours allotted to each subject and the total classroom and flight hours.

(2) *Ground course outline*. (i) It is not mandatory that a course outline have the subject headings arranged exactly as listed in this subparagraph. Any arrangement of general headings and subheadings will be satisfactory provided all the subject material listed here is included and the acceptable minimum number of hours is assigned to each subject. Each general subject shall be broken down into detail showing items to be covered.

(ii) If any agency desires to include additional subjects in the ground training curriculum, such as international law, flight hygiene, or others which are not required, the hours allotted these additional subjects may not be included in the minimum classroom hours.

(iii) The following subjects with classroom hours are considered the minimum coverage for a ground training course for flight navigators:.

<i>Subject</i>	<i>Classroom hours</i>
Federal Aviation Agency.....	5
To include Parts 63, ....., ....., ....., and .... of the chapter [Present Parts 40, 41, 42, 43 and 60.]	
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Temperature.	
Pressure.	
Winds.	
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Front weather.	
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World weather and climate.	
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To include:	
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Equitime point.	
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(3) *Flight course outline.* (i) A minimum of 150 hours of supervised flight training shall be given, of which at least 50 hours of flight training must be given at night, and celestial navigation must be used during flights which total at least 125 hours.

(ii) A maximum of 50 hours of the required flight training may be obtained in acceptable types of synthetic flight navigator training devices.

(iii) Flights should be at least four hours in length and should be conducted off civil airways. Some training on long-range flights is desirable, but is not required. There is no limit to the number of students that may be

trained on one flight, but at least one astro-dome or one periscopic sextant mounting must be provided for each group of four students.

(iv) Training must be given in dead reckoning, pilotage, radio navigation, celestial navigation, and the use of the absolute altimeter.

(b) *Equipment.* (1) Classroom equipment shall include one table at least 24" x 32" in dimensions for each student.

(2) Aircraft suitable for the flight training must be available to the approved course operator to insure that the flight training may be completed without undue delay.

The approved course operator may contract or obtain written agreements with aircraft operators for the use of suitable aircraft. A copy of the contract or written agreement with an aircraft operator shall be attached to each of the three copies of the course outline submitted for approval. In all cases, the approved course operator is responsible for the nature and quality of instruction given during flight.

(c) *Instructors.* (1) Sufficient classroom instructors must be available to prevent an excessive ratio of students to instructors. Any ratio in excess of 20 to 1 will be considered unsatisfactory.

(2) At least one ground instructor must hold a valid flight navigator certificate, and be utilized to coordinate instruction of ground school subjects.

(3) Each instructor who conducts flight training must hold a valid flight navigator certificate.

(d) *Revision of training course.* (1) Requests for revisions to course outlines, facilities, and equipment shall follow procedures for original approval of the course. Revisions should be submitted in such form that an entire page or pages of the approved outline can be removed and replaced by the revisions.

(2) The list of instructors may be revised at any time without request for approval, provided the minimum requirement of paragraph (e) of this section is maintained.

(e) *Credit for previous training and experience.* (1) Credit may be granted by an operator to students for previous training and experience which is provable and comparable to portions of the approved curriculum. When granting such credit, the approved course operator should be fully cognizant of the fact that he is responsible for the proficiency of his graduates in accordance with subdivision (i) of subparagraph (3) of this paragraph.

(2) Where advanced credit is allowed, the operator shall evaluate the student's previous training and experience in accordance with the normal practices of accredited technical schools. Before credit is given for any ground school subject or portion thereof, the student must pass an appropriate examination given by the operator. The results of the examination, the basis for credit allowance, and the hours credited shall be incorporated as a part of the student's records.

(3) Credit up to a maximum of 50 hours toward the flight training requirement may be given to pilots who have logged at least 500 hours while a member of a flight crew which required a certificated flight navigator or the Armed Forces equivalent. A similar credit may also be given to a licensed deck officer of the Maritime Service who has served as such for at least one year on ocean-going vessels. One-half of the flight time credited under the terms of this paragraph may be applied toward the 50 hours of flight training required at night.

(f) *Students records and reports.* Approval of a course shall not be continued in effect unless the course operator keeps an accurate record of each student, including a chronological log of all instruction, subjects covered and course examinations and grades, and unless he prepares and transmits

to the local Aviation Safety district office not later than January 31 of each year, a report containing the following information for the previous calendar year:

(1) The names of all students graduated, together with their school grades for ground and flight subjects.

(2) The names of all students failed or dropped, together with their school grades and reasons for dropping.

(g) *Quality of instruction.* Approval of a course shall not be continued in effect unless at least 80 percent of the students who apply within 90 days after graduation are able to qualify on the first attempt for certification as flight navigators.

(h) *Statement of graduation.* Each student who successfully completes an approved flight navigator course shall be given a statement of graduation.

(i) *Inspections.* Approved course operations will be inspected by authorized representatives of the Administrator as often as deemed necessary to insure that instruction is maintained at the required standards, but the period between inspections shall not exceed 12 months.

(j) *Change of ownership, name, or location.* (1) *Change of ownership.* Approval of a flight navigator course shall not be continued in effect after the course has changed ownership. The new owner must obtain a new approval by following the procedure prescribed for original approval.

(2) *Change in name.* An approved course changed in name but not changed in ownership shall remain valid if the change is reported by the approved course operator to the local Aviation Safety district office. A letter of approval under the new name will be issued by the regional office.

(3) *Change in location.* An approved course shall remain in effect even though the approved course operator changes location if the change is reported without delay by the operator to the local Aviation Safety District office, which will inspect the facilities to be used. If they are found to be adequate, a letter of approval showing the new location will be issued by the regional office.

(k) *Cancellation of approval.* (1) Failure to meet or maintain any of the requirements set forth in this section for the approval or operation of an approved flight navigator course shall be considered sufficient reason for cancellation of the approval.

(2) If an operator should desire voluntary cancellation of his approved course, he should submit the effective letter of approval and a written request for cancellation to the Administrator through the local Aviation Safety district office.

(l) *Duration.* The authority to operate an approved flight navigator course shall expire 24 months after the last day of the month of issuance.

(m) *Renewal.* Application for renewal of authority to operate an approved flight navigator course may be made by letter to the local Aviation Safety district office at any time within 60 days before to the expiration date. Renewal of approval will depend upon the course operator meeting the current conditions for approval and having a satisfactory record as an operator.

**PART 65—CERTIFICATION: AIRMEN OTHER THAN FLIGHT CREWMEMBERS [NEW]**

Subpart A—General

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65.13	Temporary certificate.
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 65.129 Performance standards.  
 65.131 Records.  
 65.133 Seal.

**AUTHORITY:** §§ 65.1 to 65.133 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958; 49 U.S.C. 1354(a), 1355, 1421, and 1427.

## Subpart A—General

## § 65.1 Applicability.

This part prescribes the requirements for issuing the following certificates and associated ratings and the general operating rules for the holders of those certificates and ratings:

- (a) Air-traffic control-tower operators.
- (b) Aircraft dispatchers.
- (c) Mechanics.
- (d) Repairmen.
- (e) Parachute riggers.

## § 65.11 Application and issue.

(a) An application for a certificate and rating, or for an additional rat-

ing, under this part is made on a form and in a manner prescribed by the Administrator.

(b) An applicant who meets the requirements of this part is entitled to an appropriate certificate and rating.

## § 65.13 Temporary certificate.

A certificate and ratings effective for a period of not more than 90 days may be issued to a qualified applicant, pending review of his application and supplementary documents and the issue of the certificate and ratings for which he applied.

## § 65.15 Duration of certificates.

(a) Except for repairman certificates, a certificate or rating issued under this part to a U.S. citizen is effective until it is surrendered, suspended, or revoked.

(b) Except for repairman certificates, a certificate or rating issued under this part to any person other than a U.S. citizen is effective for a period of not more than 12 months after the date on which it is issued, but may be reissued without further proof of technical ability. However, an applicant for the reissue of a mechanic certificate and associated ratings must satisfactorily prove that he meets the recent experience requirements of § 65.83.

(c) The holder of a certificate that is revoked shall return it to the Administrator. The holder of a certificate that is suspended shall, upon the request of the Administrator, return it to the Administrator.

(d) Unless it is sooner surrendered, suspended, or revoked, a repairman certificate is effective until the holder is relieved from the duties for which he was employed and certificated. The holder of such a certificate that is no longer effective shall return it to the Administrator.

## § 65.17 Tests: General procedure.

(a) Tests prescribed by or under this part are given at times and places, and by persons, designated by the Administrator.

(b) The minimum passing grade for each test is 70 percent.

## § 65.19 Retesting after failure.

An applicant who fails a written, oral, or practical test for a certificate and rating, or for an additional rating, under this part may apply for retesting—

(a) After 30 days after the date he failed the test; or

(b) Upon presenting a statement from whichever of the following persons is applicable, certifying that he has given the applicant at least 5 hours of additional instruction in each of the subjects failed and now considers that the applicant is ready for retesting:

(1) For the air-traffic control-tower operator certificate—a certificated and appropriately rated ground instructor or air-traffic control-tower operator.

(2) For the aircraft dispatcher certificate—a certificated and appropriately rated ground instructor or a certificated aircraft dispatcher.

(3) For the mechanic certificate—a certificated and appropriately rated me-

chanic or ground instructor, or a certificated repairman who is experienced in the subject failed.

(4) For any parachute rigger certificate—a certificated and appropriately rated master parachute rigger or a person holding an appropriate military rating.

## § 65.21 Change of address.

Within 30 days after any change in his permanent mailing address, the holder of a certificate issued under this part shall notify the FAA Airman Certification Branch, Oklahoma City, Oklahoma, in writing, of his new address.

## Subpart B—Air Traffic Control Tower Operators

## § 65.31 Eligibility requirements: General.

To be eligible for an air traffic control tower operator certificate, a person must—

(a) Be at least 21 years of age or, in the case of a member of the Armed Forces of the United States, at least 18 years of age;

(b) Be of good moral character;

(c) Be able to read, write, and understand the English language, and speak it without accent or impediment of speech that would interfere with two-way radio conversations;

(d) Hold at least a second-class medical certificate issued under Part 67 of this chapter within the 12 months before the date he applies; and

(e) Comply with § 65.33.

A certificate that is held by a member of an Armed Force who is less than 21 years of age is valid only while he is serving as a member in a control tower operated by an Armed Force.

## § 65.33 Knowledge requirements.

(a) Each applicant for a certificate must pass a test on—

(1) The air traffic rules in Part ---- of this chapter [Present Part 60];

(2) Airport traffic control procedures, and this subpart;

(3) En route traffic control procedures;

(4) Radio frequencies and procedures used for airport traffic control;

(5) Using radio aids to air navigation;

(6) The making of weather observations; and

(7) Applicable regulations of the Federal Communications Commission.

Subparagraph (7) of this paragraph does not apply to a person who has a restricted radio telephone operator license, or higher grade of radio telephone operator license, issued by the Federal Communications Commission.

(b) This section does not apply to a person who has passed the written test for an Air Traffic Control Specialist Certificate.

## § 65.35 Ratings.

The holder of an air traffic control tower operator certificate is entitled to a junior or senior rating, based on his qualifications to perform the duties of an operator at a particular airport.

**§ 65.37 Skill requirements: Junior rating.**

For a junior rating, an air traffic control tower operator must pass a practical test on—

- (a) The control tower, including equipment, its use, and hazards to operations;
- (b) The airport, including rules, facilities and their use, and hazards to operations;
- (c) The control zone, including prominent objects, reporting points, traffic patterns, and hazards to operations;
- (d) Notices to airmen;
- (e) Weather facilities and procedures, including weather stations, sequence reports, forecasts, and visibility check points; and
- (f) Controlling air traffic under VFR conditions.

**§ 65.39 Skill requirements: Senior rating.**

(a) For a senior rating, an air traffic control tower operator must pass the test for a junior rating, meet the requirements of paragraphs (b) and (c) of this section, and pass a practical test on—

- (1) The tower, the center, and the airways serving the airport;
- (2) Air navigation facilities, including beacons, ranges, fan markers, compass locators, and instrument landing systems and ground controlled approach if these procedures or facilities have been established;
- (3) Using the Airman's Guide;
- (4) Using the Flight Information Manual;
- (5) Holding procedures;
- (6) The standard instrument approach procedures and tower approach control procedures, if approach control has been established;
- (7) Missed approaches;
- (8) Alternate airports;
- (9) Search and rescue procedures; and
- (10) Controlling air traffic under IFR conditions.

(b) An applicant for a senior rating must have satisfactorily served—

- (1) As an operator with a senior rating for at least 6 months;
- (2) As an operator with a junior rating, for at least the 6 months before the date he applies for the rating, at the airport for which he seeks a ratings;
- (3) As an air traffic control trainee for at least 6 months in the service of the United States; or
- (4) As an operator with a junior rating, at an airport other than the one for which he seeks a rating or as an operator at a landing area under the jurisdiction of an Armed Force of the United States, for at least 1 of the 2 years before the date he applies for the rating.

(c) An applicant for a senior rating must show that he can satisfactorily supervise and manage all activities of the airport control tower, including preparing such reports as may be required by the airport manager or the Administrator.

**§ 65.41 Performance of duties.**

(a) An air traffic control tower operator shall perform his duties in accord-

ance with the limitations on his certificate and rating and the procedures and practices prescribed in air traffic control manuals of the FAA, to provide for the safe, orderly, and expeditious flow of air traffic.

(b) Whenever weather conditions are at least as good as the basic minimums prescribed for VFR flight by Part \_\_\_\_ of this chapter [Present Part 60], an operator with either a senior or junior rating may control traffic at the airport concerned. However, if the character or volume of the air traffic, the type and equipment of aircraft using the airport, or the airport facilities, require that an operator with a junior rating be supervised, an operator with a senior rating shall supervise the controlling of all air traffic at the airport.

(c) Whenever weather conditions are below the basic minimums prescribed for VFR flight by Part \_\_\_\_ of this chapter [Present Part 60], an operator with a senior rating shall supervise the controlling of all air traffic at the airport concerned. However, he may not issue an air traffic clearance for flight without advance authority from the appropriate air route traffic control center.

(d) In an emergency, an operator with a senior rating may delegate his authority to an operator with a junior rating.

**§ 65.43 Maximum hours.**

Except in an emergency, a certificated air traffic control tower operator must be relieved of all duties for at least 24 consecutive hours at least once during each 7 consecutive days. Such an operator may not serve or be required to serve—

- (a) For more than 10 consecutive hours; or
- (b) For more than 10 hours during a period of 24 consecutive hours, unless he has a rest period of at least 8 hours at or before the end of the 10 hours of duty.

**§ 65.45 General operating rules.**

(a) The holder of an air traffic control tower operator certificate shall keep it readily available when performing duties under it, and must show it for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

(b) No person may act as an air traffic control tower operator under a certificate issued to him under this part unless he has in his personal possession an appropriate current medical certificate issued under Part 67 of this chapter.

(c) An air traffic control tower operator may not perform duties under his certificate during any period of known physical deficiency that would make him unable to meet the physical requirements for his current medical certificate. However, if the deficiency is temporary, he may perform duties that are not affected by it whenever another certificated and qualified operator is present and on duty.

(d) A certificated air traffic control tower operator may not control air traffic with facilities that the Administrator has found to be inadequate.

(e) The holder of an air traffic control tower operator certificate, or an applicant for one, shall, upon the reasonable request of the Administrator, cooperate fully in any test that is made of him.

**§ 65.47 Recent experience.**

The holder of an air traffic control tower operator certificate may not perform any duties under that certificate unless—

(a) In the case of a junior operator, he has served for at least 3 of the preceding 12 months as an operator at the airport to which his rating applies;

(b) In the case of a senior operator, he has served for at least 3 of the preceding 6 months as an operator at the airport to which his rating applies; or

(c) He has shown to the satisfaction of the Administrator that he meets the standards for his certificate and rating.

**Subpart C—Aircraft Dispatchers****§ 65.51 Certificate required.**

(a) No person may serve as an aircraft dispatcher (exercising responsibility with the pilot in command in the operational control of a flight) in connection with any civil aircraft in air commerce unless he has in his personal possession a current aircraft dispatcher certificate issued under this subpart.

(b) Each person who holds an aircraft dispatcher certificate shall present it for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

**§ 65.53 Eligibility requirements: General.**

To be eligible for an aircraft dispatcher certificate, a person must—

- (a) Be at least 23 years of age;
- (b) Be able to read, speak, and understand the English language, or have an appropriate limitation placed on his certificate;
- (c) Comply with §§ 65.55, 65.57, and 65.59.

**§ 65.55 Knowledge requirements.**

(a) An applicant for an aircraft dispatcher certificate must pass a written test on—

(1) The regulations of this chapter that apply to the duties of an aircraft dispatcher;

(2) The general system of collecting and disseminating weather information;

(3) Interpreting aviation weather reports, including abbreviations and symbols, as prescribed in Department of Commerce Weather Bureau Circular N, "Manual of Surface Observations," as amended;

(4) The fundamentals of meteorology as applied to aircraft operations, particularly as to—

(i) Surface and upper air weather maps and general characteristics of air masses, pressure systems, and frontal systems, including their symbols and nomenclature;

(ii) Cloud forms and their significance; and

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(iii) Icing, turbulence, thunderstorms, fog and low ceilings, winds aloft, pressure pattern flying, the influence of terrain on meteorological conditions, and general principles of forecasting and analysis;

(5) Principles of aircraft navigation with particular respect to instrument operation and procedures;

(6) Communications facilities and procedures;

(7) Air navigation facilities and procedures; and

(8) Air traffic control procedures.

(b) A report of the test is sent to the applicant. A passing grade is evidence, for a period of 24 months after the date the test is given, that the applicant has complied with this section.

### § 65.57 Experience requirements.

An applicant for an aircraft dispatcher certificate must present documentary evidence satisfactory to the Administrator that he has the experience prescribed in any one of the following paragraphs:

(a) A total of at least 2 of the 3 years before the date he applies, in scheduled air carrier operations, scheduled military aviation operations, or any other aircraft operations that the Administrator finds provides equivalent experience—

(1) As a pilot member of a flight crew;

(2) As a flight radio operator or ground radio operator;

(3) As a flight navigator;

(4) As a meteorologist;

(5) Performing the duties of an aircraft dispatcher or his assistant; or

(6) Performing other duties that the Administrator finds provide equivalent experience.

(b) A total of at least 2 of the 3 years before the date he applies, as an air route traffic controller or a certificated air-traffic control-tower operator.

(c) A total of at least 1 of the 2 years before the date he applies, as an assistant in dispatching scheduled air carrier aircraft performing the duties of an aircraft dispatcher under the direct supervision of a certificated dispatcher.

(d) Within 90 days before the date he applies, successful completion of a course of instruction approved by the Administrator as adequate for the training of an aircraft dispatcher. An applicant is entitled to credit any combination of experience in paragraph (a), or paragraphs (a) and (b), of this section, if the aggregate of that experience is at least 2 years.

### § 65.59 Skill requirements.

An applicant for an aircraft dispatcher certificate must pass a practical test—

(a) With respect to any one type of large aircraft used in air carrier operations, on—

(1) Weight and balance limitations;

(2) Performance operating limitations;

(3) Using cruise control charts;

(4) Fuel and oil capacities and rates of consumption; and

(5) Using the operations manual;

(b) On the characteristics of air routes and airports with particular reference to—

(1) Landing areas;

(2) Lighting facilities; and

(3) Approach and landing facilities and procedures;

(c) On the use and limitations of sensitive-type altimeters;

(d) On applying available weather forecasts and reports to determine whether a flight can be made safely;

(e) On using the Airman's Guide and the Flight Information Manual;

(f) On dispatching and assisting a flight under adverse weather conditions; and

(g) On emergency procedures.

### § 65.61 Aircraft dispatcher courses.

An applicant for approval of an aircraft dispatcher course shall submit a letter to the Administrator requesting approval, and shall also submit three copies of the course outline, a description of his equipment and facilities and a list of the instructors and their qualifications. Requirements for the course and the outline are set forth in Appendix A to this part.

### Subpart D—Mechanics

#### § 65.71 Eligibility requirements: General.

(a) To be eligible for a mechanic certificate and associated ratings, a person must—

(1) Be at least 18 years of age;

(2) Be able to read, write, speak, and understand the English language, or in the case of an applicant who does not meet this requirement and who is employed outside of the United States by a U.S. air carrier, have his certificate endorsed "Valid only outside the United States";

(3) Have passed all of the prescribed tests within a period of 24 months; and

(4) Comply with the sections of this subpart that apply to the rating he seeks.

(b) A certificated mechanic who applies for an additional rating must meet the requirements of § 65.77 and, within a period of 24 months, pass the tests prescribed by §§ 65.75 and 65.79 for the additional rating sought.

(c) Notwithstanding paragraph (a) (3) of this section, an applicant for any certificate or rating under this subpart who, before May 29, 1962, has passed any part of the prescribed tests for that certificate or rating, may be credited with passing that part for a period of 24 months after that date.

#### § 65.73 Ratings.

(a) The following ratings are issued under this subpart:

(1) Airframe.

(2) Powerplant.

(b) A mechanic certificate with an aircraft or aircraft engine rating, or both, that was issued before, and was valid on, June 15, 1952, is equal to a mechanic certificate with an airframe or powerplant rating, or both, as the case may be, and may be exchanged for such a corresponding certificate and rating or ratings.

#### § 65.75 Knowledge requirements.

(a) Each applicant for a mechanic certificate or rating must pass a written test covering the construction and main-

tenance of aircraft appropriate to the rating he seeks, the regulations in this subpart, and the applicable provisions of Parts \_\_\_\_ and \_\_\_\_ of this chapter [Present Parts 18 and 43]. The basic principles covering the installation and maintenance of propellers is included in the powerplant test. A study guide for the written tests is contained in the "Airframe and Powerplant Mechanics Examination Guide" available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., at a price of 20 cents.

(b) The applicant must pass each section of the test before applying for the oral and practical tests prescribed by § 65.79. A report of the test is sent to the applicant.

#### § 65.77 Experience requirements.

Each applicant for a mechanic certificate or rating must present either an appropriate graduation certificate from a certificated mechanic school or documentary evidence, satisfactory to the Administrator, of—

(a) At least 18 months of practical experience with the procedures, practices, materials, tools, machine tools, and equipment generally used in constructing, maintaining, or altering airframes, or powerplants appropriate to the rating sought; or

(b) At least 30 months of practical experience concurrently performing the duties appropriate to both the airframe and powerplant ratings.

#### § 65.79 Skill requirements.

Each applicant for a mechanic certificate or rating must pass an oral and a practical test on the rating he seeks. The tests cover the applicant's basic skill in performing practical projects on the subjects covered by the written test for that rating. An applicant for a powerplant rating must show his ability to make satisfactory minor repairs to, and minor alterations of, propellers.

#### § 65.81 General privileges and limitations.

(a) A certificated mechanic may perform or supervise the maintenance or alteration of an aircraft or appliance, or a part thereof, for which he is rated (but excluding major repairs to, and major alterations of, propellers, and any repair to, or alteration of, instruments), and may perform additional duties in accordance with §§ 65.85, 65.87, 65.95, and ----- [Present §§ 18.10, 18.11, 18.12]. However, he may not supervise the maintenance or alteration of, or approve and return to service, any aircraft or appliance, or part thereof, for which he is rated unless he has satisfactorily performed the work concerned at an earlier date. If he has not so performed that work at an earlier date, he may show his ability to do it by performing it to the satisfaction of the Administrator or under the direct supervision of a certificated and appropriately rated mechanic, or a certificated repairman, who has had previous experience in the specific operation concerned.

(b) A certificated mechanic may not exercise the privileges of his certificate and rating unless he understands the

current instructions of the manufacturer, and the maintenance manuals, for the specific operation concerned.

**§ 65.83 Recent experience requirements.**

A certificated mechanic may not exercise the privileges of his certificate and rating unless, within the preceding 24 months—

(a) The Administrator has found that he is able to do that work; or

(b) He has, for at least 6 months—

(1) Served as a mechanic under his certificate and rating;

(2) Technically supervised other mechanics;

(3) Supervised, in an executive capacity, the maintenance or alteration of aircraft; or

(4) Been engaged in any combination of subparagraphs (1), (2), or (3) of this paragraph.

**§ 65.85 Airframe rating: Additional privileges.**

A certificated mechanic with an airframe rating may approve and return to service an airframe, or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required by Part ---- of this chapter [Present Part 43] on an airframe, or any related part or appliance, and approve and return it to service.

**§ 65.87 Powerplant rating: additional privileges.**

A certificated mechanic with a powerplant rating may approve and return to service a powerplant or propeller or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required by Part ---- of this chapter [Present Part 43] on a powerplant or propeller, or any part thereof, and approve and return it to service.

**§ 65.89 Display of certificate.**

The holder of a mechanic certificate shall keep it within the immediate area where he normally exercises the privileges of the certificate and shall present it for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

**§ 65.91 Inspection authorization.**

(a) An application for an inspection authorization is made on a form and in a manner prescribed by the Administrator.

(b) An applicant who meets the requirements of this section is entitled to an inspection authorization.

(c) To be eligible for an inspection authorization, an applicant must—

(1) Be a certificated mechanic who has held both an airframe rating and a powerplant rating for at least 3 years before the date he applies;

(2) Have been actively engaged, for at least the 2-year period before the date he applies, in maintaining aircraft certificated and maintained in accordance with this chapter;

(3) Have a fixed base of operations at which he may be located in person or by telephone during a normal working week, but it need not be the place where he will exercise his inspection authority;

(4) Have available to him the equipment, facilities, and inspection data necessary to properly inspect airframes, powerplants, propellers, or any related part or appliance; and

(5) Pass a written test on his ability to inspect according to safety standards for returning aircraft to service after major repairs and major alterations and periodic and progressive inspections performed under Part ---- of this chapter [Present Part 18].

An applicant who fails the test prescribed in subparagraph (5) of this paragraph may not apply for retesting until at least 90 days after the date he failed the test.

(d) Each inspection authorization expires on March 31 of each year.

**§ 65.93 Inspection authorization: Renewal.**

(a) To be eligible for renewal of an inspection authorization for a one-year period an applicant must present evidence at an FAA General Aviation District Office or an International Field Office during the month of March that he still meets the requirements of § 65.91(c)(1) through (4), and by showing that during the current period that he held the inspection authority he—

(1) Has performed at least one periodic inspection for each 90 days that he held the current authority;

(2) Has performed inspections of at least two major repairs or major alterations for each 90 days that he held the current authority; or

(3) Has performed or supervised and approved at least one progressive inspection in accordance with standards prescribed by the Administrator.

(b) The holder of an inspection authorization that, on the date it must be renewed, has been in effect for less than 90 days need not comply with paragraph (a) (1) through (3) of this section.

**§ 65.95 Inspection authorization: Privileges and limitations.**

(a) The holder of an inspection authorization may—

(1) Inspect and approve and return to service any aircraft, or related part or appliance (except aircraft operated under Parts --, --, or -- of this chapter [Present Parts 40, 41, or 46], or large aircraft operated under Part ---- of this chapter [Present Part 42]) after a major repair or a major alteration to it in accordance with Part ---- of this chapter [Present Part 18]; and

(2) Perform a periodic, or perform or supervise a progressive inspection according to § ---- of this chapter [Present § 18.30].

(b) When he exercises the privileges of an inspection authorization, the

holder shall keep it available for inspection by the aircraft owner, the mechanic submitting the aircraft, repair, or alteration for approval (if any), the Administrator, or an authorized representative of the Civil Aeronautics Board.

(c) If the holder of an inspection authorization changes his fixed base of operation, he may not exercise the privileges of the authorization until he has notified the FAA General Aviation District Office or International Field Office for the area in which the new base is located, in writing, of the change.

**Subpart E—Repairmen**

**§ 65.101 Eligibility requirements: General.**

To be eligible for a repairman certificate a person must—

(a) Be at least 18 years of age;

(b) Be specially qualified to perform maintenance on aircraft or components thereof, appropriate to the job for which he is employed;

(c) Be employed for a specific job requiring those special qualifications by a certificated repair station or by a certificated air carrier that is required by its operating certificate or approved operations specifications to provide a continuous airworthiness maintenance program according to its maintenance manuals;

(d) Be recommended for certification by his employer, to the satisfaction of the Administrator, as able to satisfactorily maintain aircraft or components, appropriate to the job for which he is employed;

(e) Have at least 18 months of practical experience in the procedures, practices, inspection methods, materials, tools, machine tools, and equipment generally used in the maintenance duties of the specific job for which he is to be employed and certificated; and

(f) Be able to read, write, speak, and understand the English language, or, in the case of an applicant who does not meet this requirement and who is employed outside of the United States by a certificated repair station or by a certificated United States air carrier described in paragraph (c) of this section, have his certificate endorsed "Valid only outside the United States".

**§ 65.103 Repairman certificate: Privileges and limitations.**

(a) A certificated repairman may perform or supervise the maintenance of aircraft or components thereof, appropriate to the job for which he was employed and certificated, but only in connection with duties for the repair station or air carrier by whom he was employed and recommended.

(b) A certificated repairman may not perform or supervise duties under his certificate unless he understands the current instructions of the air carrier or manufacturer of the article on which he is to perform or supervise those duties and the maintenance manuals relating to the specific operation concerned.

**§ 65.105 Display of certificate.**

The holder of a repairman certificate shall keep it within the immediate area

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where he normally exercises the privileges of the certificate and shall present it for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

**Subpart F—Parachute Riggers****§ 65.111 Certificate required.**

(a) No person may pack, maintain, or alter any personnel-carrying parachute intended for emergency use in connection with civil aircraft of the United States (including the auxiliary parachute of a dual parachute pack to be used for intentional jumping) unless he holds an appropriate current certificate and type rating issued under this subpart and complies with §§ 65.127 through 65.133.

(b) No person may pack, maintain, or alter any main parachute of a dual parachute pack to be used for intentional jumping in connection with civil aircraft of the United States unless he has an appropriate current certificate issued under this subpart. However, a person who does not hold such a certificate may pack the main parachute of a dual parachute pack that is to be used by him for intentional jumping.

(c) The holder of a parachute rigger certificate shall present it for inspection upon the request of the Administrator or an authorized representative of the Civil Aeronautics Board, or of any State or local law enforcement officer.

(d) The following parachute rigger certificates are issued under this part:

- (1) Senior parachute rigger.
- (2) Master parachute rigger.

(e) Sections 65.127 through 65.133 do not apply to parachutes packed, maintained, or altered for the use of the armed forces.

**§ 65.113 Eligibility requirements: General.**

(a) To be eligible for a parachute rigger certificate, a person must—

- (1) Be at least 18 years of age;
- (2) Be able to read, write, speak, and understand the English language, or, in the case of a citizen of Puerto Rico, or a person who is employed outside of the United States by a U.S. air carrier, and who does not meet this requirement, be issued a certificate that is valid only in Puerto Rico or while he is employed outside of the United States by that air carrier, as the case may be; and
- (3) Comply with the sections of this subpart that apply to the certificate and type rating he seeks.

(b) Except for a master parachute rigger certificate, a parachute rigger certificate that was issued before, and was valid on, October 31, 1962, is equal to a senior parachute rigger certificate, and may be exchanged for such a corresponding certificate.

**§ 65.115 Senior parachute rigger certificate: Experience, knowledge, and skill requirements.**

Except as provided in § 65.117, an applicant for a senior parachute rigger certificate must—

(a) Present evidence satisfactory to the Administrator that he has packed at least 20 parachutes of each type for which he seeks a rating, in accordance with the manufacturer's instructions and under the supervision of a certificated master parachute rigger holding a rating for that type or a person holding an appropriate military rating;

(b) Pass a written test on the following, with respect to one type of parachute in common use:

- (1) Its construction, packing, and maintenance.
- (2) Its use.
- (3) The manufacturer's instructions.
- (4) The regulations of this subpart; and

(c) Pass an oral and practical test showing his ability to pack and maintain at least one type of parachute in common use, appropriate to the type rating he seeks.

**§ 65.117 Military riggers or former military riggers: Special certification rule.**

In place of the procedure in § 65.115, an applicant for a senior parachute rigger certificate is entitled to it if he passes a written test on the regulations of this subpart and presents satisfactory documentary evidence that he—

(a) Is a member or civilian employee of an Armed Force of the United States, is a civilian employee of a regular armed force of a foreign country, or has, within the 12 months before he applies, been honorably discharged or released from any status covered by this paragraph;

(b) Is serving, or has served within the 12 months before he applies, as a parachute rigger for such an Armed Force; and

(c) Has the experience required by § 65.115(a).

**§ 65.119 Master parachute rigger certificate: Experience, knowledge, and skill requirements.**

An applicant for a master parachute rigger certificate must—

(a) Present evidence satisfactory to the Administrator that he has had at least 5 years of experience as a parachute rigger and has satisfactorily packed at least 100 parachutes of each of two types in common use;

(b) Pass an oral test on the following, with respect to two types of parachutes in common use:

- (1) Their construction, packing, and maintenance.
- (2) Their use.
- (3) The manufacturer's instructions; and

(c) Pass a practical test showing his ability to pack and maintain two types of parachutes in common use, and showing that he can satisfactorily supervise other persons in these operations.

**§ 65.121 Type ratings.**

(a) The following type ratings are issued under this subpart:

- (1) Seat.
- (2) Back.
- (3) Chest.
- (4) Lap.

(b) The holder of a senior parachute rigger certificate who qualifies for a

master parachute rigger certificate is entitled to have placed on his master parachute rigger certificate the ratings that were on his senior parachute rigger certificate.

**§ 65.123 Additional type ratings: Requirements.**

A certificated parachute rigger who applies for an additional type rating must—

(a) Present evidence satisfactory to the Administrator that he has packed at least 20 parachutes of the type for which he seeks a rating, in accordance with the manufacturer's instructions and under the supervision of a certificated master parachute rigger holding a rating for that type or a person holding an appropriate military rating; and

(b) Pass a practical test, to the satisfaction of the Administrator, showing his ability to pack and maintain the type of parachute for which he seeks a rating.

**§ 65.125 Certificates: Privileges.**

(a) A certificated senior parachute rigger may pack or maintain (except for major repair) any type of parachute for which he is rated.

(b) A certificated master parachute rigger may—

- (1) Pack, maintain, or alter any type of parachute for which he is rated; and
- (2) Instruct or supervise other persons in the proper methods and procedures of constructing, packing, maintaining, altering, and using the type of parachutes for which he is rated.

(c) A certificated parachute rigger need not comply with §§ 65.127 through 65.133 (relating to facilities, equipment, performance standards, records, recent experience, and seal) in packing, maintaining, or altering (if authorized) the main parachute of a dual parachute pack to be used for intentional jumping.

**§ 65.127 Facilities and equipment.**

No certificated parachute rigger may exercise the privileges of his certificate unless he has at least the following facilities and equipment available to him:

(a) A smooth top table at least three feet wide by 40 feet long.

(b) A compartment for hanging parachutes vertically for drying and airing.

(c) Enough packing tools and other equipment to pack and maintain the types of parachutes that he services.

(d) Adequate housing facilities to perform his duties and to protect his tools and equipment.

**§ 65.129 Performance standards.**

No certificated parachute rigger may—

(a) Pack, maintain, or alter any parachute unless he is rated for that type;

(b) Pack a parachute that is not safe for emergency use;

(c) Pack a parachute that has not been thoroughly dried and aired;

(d) Alter a parachute in a manner that is not specifically authorized by the Administrator or the manufacturer;

(e) Pack, maintain, or alter a parachute in any manner that deviates from procedures approved by the Administrator or the manufacturer of the parachute; or

(f) Exercise the privileges of his certificate and type rating unless he understands the current manufacturer's instructions for the operation involved and has—

(1) Performed duties under his certificate for at least 90 days within the preceding 12 months; or

(2) Shown the Administrator that he is able to perform those duties.

§ 65.131 Records.

(a) Each certificated parachute rigger shall keep a record of the packing, maintenance, and alteration of parachutes performed or supervised by him. He shall keep in that record, with respect to each parachute worked on, a statement of—

(1) Its type and make;

(2) Its serial number;

(3) The name and address of its owner;

(4) The kind and extent of the work performed;

(5) The date when and place where the work was performed; and

(6) The results of any drop tests made with it.

(b) Each person who makes a record under paragraph (a) of this section shall keep it for at least 2 years after the date it is made.

(c) Each certificated parachute rigger who packs a parachute shall write, on the parachute packing record attached to the parachute, the date and place of the packing and a notation of any defects he finds on inspection. He shall sign that record with his name and the number of his certificate.

§ 65.133 Seal.

Each certificated parachute rigger must have a seal with an identifying mark prescribed by the Administrator, and a seal press. After packing a parachute he shall seal the pack with his seal in accordance with the manufacturer's recommendation for that type of parachute.

PART 65—DISTRIBUTION TABLE—Continued

Former section	Revised section	Former section	Revised section
24.110	65.101	26.9-2	65.33
24.111	65.101	26.6	65.25
24.112	65.101	26.7	65.27
24.120	65.101	26.7-1	65.37
24.121	65.101	26.8	65.39
24.130	65.103	26.8-1	65.39
24.140	65.103	26.12	65.17
25.0	65.1	26.13	65.31
25.1	( <sup>1</sup> )	26.14	65.19
25.5	65.11	26.18	65.15
25.6(a)	65.11	26.19	65.13
25.6 (less (a))	65.13	26.20	65.21
25.7(c)	65.13	26.25	65.41
25.7 (less (c))	65.15	26.26	65.41
25.9	65.111	26.27	65.41
25.10	65.21	26.28	65.43
25.21	65.113	26.29	65.45
25.22	65.113	26.30	65.45
25.23	65.113	26.31	65.45
25.24	65.17	26.32	65.45
25.25	65.19	26.34	65.45
25.26	65.121	26.35	65.45
25.27	65.123	26.36	65.47
25.28	65.115	27.1	65.1
	65.119	27.2	( <sup>1</sup> )
	65.123	27.5	65.11
25.40	65.115	27.6(a)	65.11
25.41	65.115	27.6 (less (a))	65.13
25.42	65.115	27.7(b)	65.13
25.43	65.115	27.7 (less (b))	65.15
25.44	65.117	27.8	65.21
25.45	65.125	27.21	65.53
25.60	65.119	27.22	65.53
25.61	65.119	27.23	65.53
25.62	65.119	27.24	65.17
25.63	65.119	27.25	65.19
25.64	65.125	27.26	65.57
25.80 (less last proviso of (b))	65.111	27.31	65.61
25.80 (last proviso of (b))	65.125	27.32	65.55
25.81	65.127	27.33-1(a)	65.59
25.82	65.129	(less 1st 3 sentences)	65.55
25.83	65.133	27.33-1(a)	
25.84	65.131	(1st 3 sentences) and (b)	65.59
25.85	65.129	(b)	65.59
26.1	65.31	27.41	65.51
26.2	65.31	27.42	65.51
26.3	65.33		

PART 65—APPENDIX A

AIRCRAFT DISPATCHER COURSES

(a) Training course outline. It is not mandatory that the training course outline have the subject headings arranged exactly as listed in the following example. Any arrangement of headings and subheadings will be satisfactory provided all the subjects listed in this section are included. Each general subject of the outline shall be broken down, in detail, showing the items to be covered. Additional subjects, especially those which are not closely associated with the training of aircraft dispatchers, may be listed so long as the hourly requirements devoted to the subjects are not included as a part of the basic minimum hours.

(b) Format of the training outline and course requirements. The course outline submitted for approval must be in looseleaf form, must include a table of contents and minimum coverage of the course material, and must include the following:

Subject	Classroom hours
Civil Air Regulations	15
Subpart C of Part 65 of this chapter.	
Parts _____ and _____ of this chapter [Present Parts 4b, 40, 41, 42, 43, 49, and 60].	
Part 820 of the Civil Aeronautics Board's Safety Investigation Regulations—Notification and Reporting of Aircraft Accidents and Overage Aircraft.	

PART 65—APPENDIX A—Continued

AIRCRAFT DISPATCHER COURSES—Continued

Subject	Classroom hours
Meteorology	75
Basic properties of the atmosphere:	
Composition.	
Density.	
Measurement.	
General circulation.	
Solar heating.	
Clouds:	
Formation.	
Condensation.	
Precipitation.	
Use of cloud knowledge in forecasting.	
Stability and instability.	
Air mass analysis:	
Classification.	
Flying conditions to be encountered.	
Use of air mass knowledge in forecasting.	
Analysis of fronts:	
Structure and characteristics.	
Cloud sequences in fronts.	
Establishing position of front by cloud types.	
Fronts in North America and seasonal variations.	
Flying weather in fronts.	
Cyclones and anticyclones.	
Fog:	
Types.	
Cause and formation.	
Ice:	
Type.	
Cause and formation.	
Thunderstorms, hurricanes, tornados:	
Causes.	
Methods of forecasting.	
Structure and complexity of internal winds.	
Hail, its cause and formation.	
Turbulence:	
Cause.	
Determining the smooth level of flight.	
Interpreting weather data:	
Weather sequences and symbols.	
Weather map symbols.	
Drawing a weather map.	
Reading a weather map.	
Upper-level charts.	
Adiabatic charts.	
Winds-aloft charts.	
Instruments used to gather and record the weather.	
Weather forecasting:	
Extrapolation.	
Movement of fronts and air masses.	
Isobars.	
Barometric tendency.	
Application of weather knowledge:	
Planning a flight.	
Navigation	80
Study of the earth as a planet (charts, maps, and projections):	
Mercator projections.	
Gnomonic projections.	
Lambert projections.	
Polyconic projections.	
Chart reading:	
Symbols, landmarks, etc.	
Dead reckoning:	
Magnetic variation, compass deviation terms, winds and vectors.	
Correction angle.	
Findings wind drift-off course.	
Off course problems.	
Wind velocity by single and double drift.	
Interception problems.	
Radius of action—problems.	
Search problems.	
Computer use—problems.	
Radio navigation:	
Principles of the radio range, radio compass direction finder, marker beacons, ILS, CCA, radio altimeter, LORAN, and any other.	
Navigation instruments:	
Altimeter, air-speed indicator, compass, drift and rate of climb indicator.	

PART 65—DISTRIBUTION TABLE

Former section	Revised section	Former section	Revised section
24.0	65.1	24.22	65.78
24.1	( <sup>1</sup> )	24.30	65.75
24.5	65.11	24.30-1	65.78
24.5-1	65.75	24.31	65.77
24.6(a)	65.11	24.32	65.77
24.6 (less (a))	65.13	24.33	65.79
24.7(a)	65.15	24.33-1	65.79
24.7 (less (a))	65.13	24.40	65.81
24.7-1	65.15	24.40-1	65.81
24.8	65.73	24.41	65.85
24.8-1	65.73	24.42	65.87
24.8-2	65.73	24.43(b)	65.91
24.9	65.89	24.43 (less (b))	65.95
24.9-1	65.89	24.43-1 (less (c) and (e))	65.91
24.11	65.21	24.43-1(c)	65.95
24.15	65.71	24.43-1(e)	65.93
24.16	65.71	24.43-2	65.95
24.17	65.71	24.50	65.81
24.17-1	65.81	24.51	63.83
24.18(a)	65.17	24.100	65.101
24.18 (less (a))	65.71	24.101	65.11
24.19	65.19	24.102	65.15
24.19-1	65.19	24.103	65.105
24.20	65.71	24.103-1	65.105
24.21	65.77	24.105	65.21

<sup>1</sup> Transferred to Part 1.

## RULES AND REGULATIONS

## PART 65—APPENDIX A—Continued

## AIRCRAFT DISPATCHER COURSES—continued

Subject	Classroom hours
Aircraft.....	15
Weight and balance:	
Center of gravity.	
How determined.	
Center of gravity limits.	
Problem in loading.	
Engine specifications—Powerplant:	
Operating limits.	
Fuel consumption.	
Accessories.	
Operating manual.	
Airplane specifications:	
Operational equipment.	
Flight controls, landing gear hydraulic system, electrical system, loading characteristics, fuel capacity heating and ventilating system, and deicing equipment.	
Performance:	
Effect of weight, wind, air density, and runway surfaces on take-off performance of aircraft.	
Power setting and cockpit procedure.	
Types of cruise control.	
Communications.....	8
Radio-telephone rules and regulations.	
FCC rules and regulations.	
Company communications:	
Air to ground radio communications and procedures.	
Point to point communications and procedures.	
Equipment air to ground and point to point.	
FAA communications:	
Air to ground radio communications and procedures.	
Point to point communications and procedures.	
Equipment air to ground and point to point.	
Simulated instrument flight.....	10
Instrument familiarization.	
Bracketing.	
Orientation.	
Holding procedure.	
Let-down procedure.	
Missed-approach procedure.	
Air Traffic Control.....	30
Air route traffic control procedures and equipment.	
Airport traffic control procedures and equipment.	
Practical Dispatching.....	15
Preflight:	
Safety.	
Economic advantage.	
Crew.	
Notams.	
The course and distance.	
Horizontal and vertical extent of the weather.	
Winds.	
Forecast.	
Minimum safe altitude.	
The cruising altitude.	
Flight plan.	
The alternate plan.	
Clearances, company air traffic control.	
The fuel.	
The load.	
The departure time.	
In-flight:	
Position report.	
Altitude settings.	
Weather reports.	
Changes in forecast.	
Changing instrument altitude.	
Changing from VFR to IFR.	
Additional clearances.	
Emergency procedures.	
Post-flight:	
Arrival report.	
Differences between the forecasted and actual weather encountered for subsequent flights.	

(c) *Facilities, equipment, and material.* An applicant for authority to operate an approved aircraft dispatcher course of study must have the following facilities, equipment, and materials:

(1) *Facilities.* Suitable classrooms, adequate to accommodate the largest number of students scheduled for attendance at any one time. Such classrooms shall be properly heated, lighted, and ventilated.

(2) *Equipment and materials.* Suitable devices for the teaching of simulated instrument flight, navigation, and meteorology, acceptable textbooks, operations manuals, wall maps, charts, blackboards, and visual aids of a quantity which will provide for each student the theoretical and practical aspects of aircraft dispatching.

(d) *Instructors.* (1) The number of instructors available for conducting the course of study shall be determined according to the needs and facilities of the applicant. However, the ratio of students per instructor may not exceed 25 students per one instructor.

(2) At least one instructor who possesses a currently effective aircraft dispatcher certificate must be available for coordination of the training course instruction.

(e) *Revision of training course.* Requests for revision of course outlines, facilities, and equipment shall be accomplished in the same manner established for securing approval of the original course of study. Revisions must be submitted in such form that an entire page or pages of the approved outline can be removed and replaced by the revision.

The list of instructors may be revised at any time without request for approval, provided the minimum requirements are maintained and the local inspector is notified.

(f) *Credit for previous experience or training.* A course operator may evaluate an entrant's previous experience or training and where the training or experience is provable and comparable to portions of the approved course curriculum, may, as each individual case warrants, allow credit for such, commensurate with accepted training practices. Where credit is allowed, the basis for allowance and the total hours credited must be incorporated as a part of the student's records, provided for in paragraph (g) of this Appendix.

(g) *Student records and reports.* Approval of a course may not be continued in effect unless the course operator keeps an accurate record of each student, including a chronological log of all instructions, subjects covered, and course examinations and grades, and unless he prepares and transmits to the FAA not later than January 31 of each year, a report containing the following information:

(1) The names of all students graduated, together with school grades for aircraft dispatcher courses.

(2) The names of all students failed or dropped, together with school grades and reasons for dropping.

(h) *Quality of instruction.* Approval of a course may not be continued in effect unless at least 80 percent of the students who apply within 90 days after graduation are able to qualify on the first attempt for certification as aircraft dispatchers.

(i) *Statement of graduation.* Each student who successfully completes the approved aircraft dispatcher course shall be given a statement of graduation.

(j) *Change of ownership, name, or location—(1) Change of ownership.* Approval of an aircraft dispatcher course may not be continued in effect after the course has changed ownership. The new owner must obtain a new approval by following the procedures prescribed for original approval.

(2) *Change in name.* An approved course changed in name but not changed in ownership remains valid if the change is reported by the approved course operator to the local inspector who will issue a letter of approval under the new name.

(k) *Change in location.* An approved course remains in effect even though the approved course operator changes location if the change is reported without delay by the operator to the local inspector who will inspect the facilities to be used in the new location and, if they are found to be adequate, issue a letter of approval showing the new location.

(l) *Cancellation of approval.* (1) Failure to meet or maintain any of the standards set forth herein for the approval or operation of an approved aircraft dispatcher course is considered to be a sufficient reason for discontinuing approval of the course.

(2) If an operator desires voluntary cancellation of his approved course, he shall send a letter requesting cancellation to the Administrator of the Federal Aviation Agency through the local inspector.

(1) *Duration.* The authority to operate an approved aircraft dispatcher course of study expires 24 months after the last day of the month of issuance.

(m) *Renewal.* Application for renewal of an approved aircraft dispatcher course shall be made by letter addressed to the Administrator of the Federal Aviation Agency through the local inspector at any time within 60 days of the expiration date. Renewal of approval will depend on the course operator's meeting the current conditions of course approval and having a satisfactory record as a course operator.

## PART 67—MEDICAL STANDARDS AND CERTIFICATION [NEW]

## Subpart A—General

Sec.	
67.1	Applicability.
67.11	Issue.
67.13	First-class medical certificate.
67.15	Second-class medical certificate.
67.17	Third-class medical certificate.
67.19	Special issue: Operational limitations.

## Subpart B—Certification Procedures

67.21	Applicability.
67.23	Medical examinations: Who may give.
67.25	Delegation of authority.
67.27	Denial of medical certificate.
67.29	Medical certificates by senior flight surgeons of armed forces.
67.31	Medical records.

AUTHORITY: §§ 67.1 to 67.31 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958; 49 U.S.C. 1354(a), 1355, 1421, and 1427.

## Subpart A—General

## § 67.1 Applicability.

This subpart prescribes the medical standards for issuing medical certificates for airmen.

## § 67.11 Issue.

An applicant who meets the medical standards prescribed in this part, based on medical examination and evaluation of his history and condition is entitled to an appropriate medical certificate.

## § 67.13 First-class medical certificate.

(a) To be eligible for a first-class medical certificate, an applicant must meet the requirements of paragraphs (b) through (f) of this section.

## (b) Eye:

(1) Distant visual acuity of 20/20 or better in each eye separately, without correction; or of at least 20/50 in each eye separately corrected to 20/20 or better with corrective glasses, in which case the applicant may be qualified only on the condition that he wears those

glasses while exercising the privileges of his airman certificate.

(2) Near vision of at least  $v=1.00$  at 18 inches with each eye separately, with or without corrective glasses.

(3) Normal color vision.

(4) Normal fields of vision.

(5) No acute or chronic pathological condition of either eye or adenexae that might interfere with its proper function, might progress to that degree, or might be aggravated by flying.

(6) Bifoveal fixation and vergence-ophoria relationship sufficient to prevent a break in fusion under conditions that may reasonably occur in performing airman duties.

Tests for the factors named in subparagraph (6) of this paragraph are not required except for applicants found to have more than one prism diopter of hyperphoria, six prism diopters of esophoria, or six prism diopters of exophoria. If these values are exceeded, the Civil Air Surgeon may require the applicant to be examined by a qualified eye specialist to determine if there is bifoveal fixation and adequate vergence-ophoria relationship. However, if the applicant is otherwise qualified, he is entitled to a medical certificate pending the results of the examination.

(c) Ear, nose, throat, and equilibrium:

(1) Ability to—

(i) Hear the whispered voice at a distance of at least 20 feet with each ear separately; or

(ii) Demonstrate a hearing acuity of at least 50 percent of normal in each ear throughout the effective speech and radio range as shown by a standard audiometer.

(2) No acute or chronic disease of the middle or internal ear.

(3) No disease of the mastoid.

(4) No unhealed (unclosed) perforation of the eardrum.

(5) No disease or malformation of the nose or throat that might interfere with, or be aggravated by, flying.

(6) No disturbance in equilibrium.

(d) Nervous system:

(1) No established medical history or clinical diagnosis of any of the following:

(i) A character or behavior disorder that is severe enough to have repeatedly manifested itself by overt acts.

(ii) A psychotic disorder.

(iii) Chronic alcoholism.

(iv) Drug addiction.

(v) Epilepsy.

(vi) A disturbance of consciousness without satisfactory medical explanation of the cause.

(2) No other disease of the nervous system, mental abnormality, or psychoneurotic disorder that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within two years after the finding to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified, medical judgment relating to the condition involved.

(e) Cardiovascular:

(1) No established medical history or clinical diagnosis of—

(i) Myocardial infarction; or

(ii) Angina pectoris or other evidence of coronary heart disease that the Civil Air Surgeon finds may reasonably be expected to lead to myocardial infarction.

(2) If the applicant has passed his thirty-fifth birthday but not his fortieth, he must, on the first examination after his thirty-fifth birthday, show an absence of myocardial infarction on electrocardiographic examination.

(3) If the applicant has passed his fortieth birthday, he must annually show an absence of myocardial infarction on electrocardiographic examination.

(4) Unless the adjusted maximum readings apply, the applicant's reclining blood pressure may not be more than the maximum reading for his age group in the following table:

Age group	Maximum readings (reclining blood pressure in mm)		Adjusted maximum readings (reclining blood pressure in mm) <sup>1</sup>	
	Systolic	Diastolic	Systolic	Diastolic
20-29.....	140	88	155	98
30-39.....	145	92	165	100
40-49.....	155	96	165	100
50 and over..	160	98	170	100

<sup>1</sup> For an applicant at least 30 years of age whose reclining blood pressure is more than the maximum reading for his age group and whose cardiac and kidney conditions, after complete cardiovascular examination, are found to be normal.

(5) If the applicant is at least 40 years of age, he must show a degree of circulatory efficiency that is compatible with the safe operation of aircraft at high altitudes.

An electrocardiogram, made according to acceptable standards and techniques within the 90 days before an examination for a first-class certificate, is accepted at the time of the physical examination as meeting the requirements of subparagraphs (2) and (3) of this paragraph.

(f) General medical condition:

(1) No established medical history or clinical diagnosis of diabetes mellitus that requires insulin or any other hypoglycemic drug for control.

(2) No other organic, functional, or structural disease, defect, or limitation that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within two years after the finding, to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified medical judgment relating to the condition involved.

§ 67.15 Second-class medical certificate.

(a) To be eligible for a second-class medical certificate, an applicant must meet the requirements of paragraphs (b) through (f) of this section.

(b) Eye:

(1) Distant visual acuity of 20/20 or better in each eye separately, without

correction; or of at least 20/50 in each eye separately corrected to 20/20 or better with corrective glasses, in which case the applicant may be qualified only on the condition that he wears those glasses while exercising the privileges of his airman certificate.

(2) Enough accommodation to pass a test prescribed by the Administrator based primarily on ability to read official aeronautical maps.

(3) Normal fields of vision.

(4) No pathology of the eye.

(5) Ability to distinguish aviation signal red, aviation signal green, and white.

(6) Bifoveal fixation and vergence-ophoria relationship sufficient to prevent a break in fusion under conditions that may reasonably occur in performing airman duties.

Tests for the factors named in subparagraph (6) of this paragraph are not required except for applicants found to have more than one prism diopter of hyperphoria, six prism diopters of esophoria, or six prism diopters of exophoria. If these values are exceeded, the Civil Air Surgeon may require the applicant to be examined by a qualified eye specialist to determine if there is bifoveal fixation and adequate vergence-ophoria relationship. However, if the applicant is otherwise qualified, he is entitled to a medical certificate pending the results of the examination.

(c) Ear, nose, throat, and equilibrium:

(1) Ability to hear the whispered voice at 8 feet with each ear separately.

(2) No acute or chronic disease of the middle or internal ear.

(3) No disease of the mastoid.

(4) No unhealed (unclosed) perforation of the eardrum.

(5) No disease or malformation of the nose or throat that might interfere with, or be aggravated by, flying.

(6) No disturbance in equilibrium.

(d) Nervous system:

(1) No established medical history or clinical diagnosis of any of the following:

(i) A character or behavior disorder that is severe enough to have repeatedly manifested itself by overt acts.

(ii) A psychotic disorder.

(iii) Chronic alcoholism.

(iv) Drug addiction.

(v) Epilepsy.

(vi) A disturbance of consciousness without satisfactory medical explanation of the cause.

(2) No other disease of the nervous system, mental abnormality, or psychoneurotic disorder that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within 2 years after the finding, to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified, medical judgment relating to the condition involved.

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(e) Cardiovascular:  
No established medical history or clinical diagnosis of—

- (1) Myocardial infarction; or
- (2) Angina pectoris or other evidence of coronary heart disease that the Civil Air Surgeon finds may reasonably be expected to lead to myocardial infarction.

(f) General medical condition:

- (1) No established medical history or clinical diagnosis of diabetes mellitus that requires insulin or any other hypoglycemic drug for control.
- (2) No other organic, functional, or structural disease, defect, or limitation that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within two years after the finding to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified, medical judgment relating to the condition involved.

#### § 67.17 Third-class medical certificate.

(a) To be eligible for a third-class medical certificate, an applicant must meet the requirements of paragraphs (b) through (f) of this section.

(b) Eye:

(1) Distant visual acuity of 20/50 or better in each eye separately, without correction; or if the vision in either or both eyes is poorer than 20/50 and is corrected to 20/30 or better in each eye with corrective glasses, the applicant may be qualified on the condition that he wears those glasses while exercising the privileges of his airman certificate.

(2) No serious pathology of the eye.

(3) Ability to distinguish aviation signal red, aviation signal green, and white.

(c) Ears, nose, throat, and equilibrium:

(1) Ability to hear the whispered voice at 3 feet.

(2) No acute or chronic disease of the internal ear.

(3) No disease or malformation of the nose or throat that might interfere with, or be aggravated by, flying.

(4) No disturbance in equilibrium.

(d) Nervous system:

(1) No established medical history or clinical diagnosis of any of the following—

(i) A character or behavior disorder that is severe enough to have repeatedly manifested itself by overt acts.

(ii) A psychotic disorder.

(iii) Chronic alcoholism.

(iv) Drug addiction.

(v) Epilepsy.

(vi) A disturbance of consciousness without satisfactory medical explanation of the cause.

(2) No other disease of the nervous system, mental abnormality, or psychoneurotic disorder that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the

privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within two years after the finding, to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified, medical judgment relating to the condition involved.

(e) Cardiovascular:

(1) No established medical history or clinical diagnosis of—

(i) Myocardial infarction; or

(ii) Angina pectoris or other evidence of coronary heart disease that the Civil Air Surgeon finds may reasonably be expected to lead to myocardial infarction.

(f) General medical condition:

(1) No established medical history or clinical diagnosis of diabetes mellitus that requires insulin or any other hypoglycemic drug for control;

(2) No other organic, functional or structural disease, defect, or limitation that the Civil Air Surgeon finds—

(i) Makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying; or

(ii) May reasonably be expected, within two years after the finding, to make him unable to perform those duties or exercise those privileges;

and the findings are based on the case history and appropriate, qualified, medical judgment relating to the condition involved.

#### § 67.19 Special issue: Operational limitations.

(a) A medical certificate of the appropriate class may, in the discretion of the Civil Air Surgeon, be issued to an applicant who does not meet the medical standards of this Part, if the applicant shows to the satisfaction of the Civil Air Surgeon by operational experience, special practical testing, flight testing, or as otherwise required, that he can perform his duties under the airman certificate he holds, or for which he is applying, in a manner that will not endanger safety in air commerce during the period the certificate would be in effect.

(b) Any operational limitation on, or limit on the duration of, a certificate issued under this section that the Civil Air Surgeon determines is needed for safety shall be specified on the airman or medical certificate held by, or issued to, the applicant.

(c) An applicant who has taken a practical or flight test for a medical certificate under this section, and who has had a medical certificate issued to him under this section as a result of that test, need not take the test again during later physical examinations unless the Civil Air Surgeon determines that his physical deficiency has become enough more pronounced to require such an additional test.

(d) This section does not apply to an applicant who fails to meet the require-

ments of §§ 67.13 (d) (1), (e) (1), or (f) (1), 67.15 (d) (1), (e), or (f) (1), or 67.17 (d) (1), (e), or (f) (1).

### Subpart B—Certification Procedures

#### § 67.21 Applicability.

This subpart prescribes the general procedures that apply to the issue of medical certificates for airmen.

#### § 67.23 Medical examinations: Who may give.

(a) *First class.* Any aviation medical examiner who is specifically designated for the purpose may give the examination for the first class certificate. Any interested person may obtain a list of these aviation medical examiners, in any area, from the FAA Assistant Administrator of the region in which the area is located.

(b) *Second class and third class.* Any aviation medical examiner may give the examination for the second or third class certificate. Any interested person may obtain a list of aviation medical examiners, in any area, from the FAA Assistant Administrator of the region in which the area is located.

#### § 67.25 Delegation of authority.

(a) The authority of the Administrator, under section 602 of the Federal Aviation Act of 1958 (49 U.S.C. 1422), to issue or deny medical certificates is delegated to the Civil Air Surgeon, to the extent necessary to—

(1) Examine applicants for and holders of medical certificates for compliance with applicable medical standards; and

(2) Issue, renew, or deny medical certificates to applicants and holders based upon compliance or noncompliance with applicable medical standards.

Subject to limitations in this chapter, the authority delegated in subparagraphs (1) and (2) of this paragraph is also delegated to aviation medical examiners and to authorized representatives of the Civil Air Surgeon within the FAA.

(b) The authority of the Administrator, under subsection 314(b) of the Federal Aviation Act of 1958 (49 U.S.C. 1355 (b)), to reconsider the action of a medical examiner is delegated to the Civil Air Surgeon, and his authorized representatives within the FAA. However, any action taken under this paragraph by such a representative is subject to reconsideration by the Civil Air Surgeon.

(c) The authority of the Administrator, under section 609 of the Federal Aviation Act of 1958 (49 U.S.C. 1429), to re-examine any civil airman, to the extent necessary to determine an airman's qualification to continue to hold an airman medical certificate, is delegated to the Civil Air Surgeon and his authorized representatives within the FAA.

#### § 67.27 Denial of medical certificate.

(a) Any person who is denied a medical certificate by an aviation medical examiner or a representative of the Civil Air Surgeon may, within 30 days after the date of the denial, apply in writing to the Civil Air Surgeon, Federal Aviation Agency, Washington 25, D.C., for re-

consideration of that denial. He must send with his application a copy of it addressed to the aviation medical examiner, or representative of the Civil Air Surgeon, concerned. If he does not apply for reconsideration during 30 days after the date of denial, he is considered to have withdrawn his application for a medical certificate.

(b) The denial of a medical certificate by an aviation medical examiner or a representative of the Civil Air Surgeon is not a denial by the Administrator under section 602 of the Federal Aviation Act of 1958 (49 U.S.C. 1422). The denial of a medical certificate by the Civil Air Surgeon is considered to be a denial by the Administrator under that section.

**§ 67.29 Medical certificates by senior flight surgeons of armed forces.**

(a) The FAA has designated senior flight surgeons of the armed forces on specified military posts, stations, and facilities, as aviation medical examiners.

(b) An aviation medical examiner described in paragraph (a) of this section may give physical examinations to applicants for FAA medical certificates who are on active duty or who are, under Department of Defense medical programs, eligible for FAA medical certification as civil airmen. In addition, such an examiner may issue or deny an appropriate FAA medical certificate in accordance with the regulations of this chapter and the policies of the FAA.

(c) Any interested person may obtain a list of the military posts, stations, and facilities at which a senior flight surgeon has been designated as an aviation medical examiner, from the Surgeon General of the armed force concerned or from the Chief of the Aeromedical Certification Division, AM-300, Federal Aviation Agency, Oklahoma City, Oklahoma.

**§ 67.31 Medical records.**

Whenever the Administrator finds that additional medical history is necessary to determine whether an applicant for or the holder of a medical certificate meets the physical standards for it, he requests that person to authorize any clinic, hospital, doctor, or other person to release to the Administrator any available information or records concerning that medical history. If the applicant, or holder, refuses to authorize the release, the Administrator may suspend, modify, or revoke any medical certificate that he holds or may, in the case of an applicant, refuse to issue a medical certificate to him.

**PART 67—DISTRIBUTION TABLE**

Former section	Revised section	Former section	Revised section
29.1-----	67.11	406.12(c)	(1)
29.2-----	67.13	and (2)	67.23
29.3-----	67.15	406.12(d)	67.25
29.4-----	67.17	406.12(e)	67.27
29.5-----	67.19	406.12 (less	
406.12(a)	(1)	(a)-(f))	67.29
and (2)	67.23	406.31	67.31
406.12(b)	(1)		
and (2)	67.23		