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CAM 21

CIVIL AERONAUTICS MANUALS—Volume V

U. S. Department of Commerce — Civil Aeronautics Administration

Civil Aeronautics Manuals and supplements thereto are issued by the Office of Flight Operations and Airworthiness, Civil Aeronautics Administration, for the guidance of the public and are published in the Federal Register and the Code of Federal Regulations.

Supplement No. 2 — **April 30, 1957**

SUBJECT: Revisions to CAM 21.
Revised CAM ~~35~~.

Civil Aeronautics Manual 21 is revised to include Civil Air Regulations Amendment 21-1. This amendment is a clarification of the age requirement for issuance of an airline transport pilot rating.

A revised Civil Aeronautics Manual 35 is issued which contains the policies and interpretations of the Civil Aeronautics Administration relative to the requirements for flight engineer certificates and the certification procedures therefor. It completely revises all existing rules, policies, and interpretations of the Administrator previously issued pursuant to Part 35.

Revised material in CAM 21 is indicated by black brackets.

Remove and destroy the following pages:	*Insert in lieu thereof the following pages:*
CAM 21—III	CAM 21—III
1 and 2	1 and 2
CAM 35—Entire manual	CAM 35—new manual

Attachments.

ROY KEELEY,
Director, Office of Flight Operations and Airworthiness.

Introductory Note

Civil Aeronautics Manual 21 contains in a consolidated form (1) Civil Air Regulations Part 21, Airline Transport Pilot Rating, adopted by the Civil Aeronautics Board effective October 20, 1956 [and amendment 21–1;] and (2) the rules, policies, and interpretations issued by the Administrator of Civil Aeronautics in application to the various sections of the regulations.

CAA *rules* are supplementary regulations issued pursuant to authority expressly conferred on the Administrator in the Civil Air Regulations. Such rules are mandatory and must be complied with.

CAA *policies* provide detailed technical information on recommended methods of complying with the Civil Air Regulations. Such policies are for the guidance of the public and are not mandatory in nature.

CAA *interpretations* define or explain words and phrases of the Civil Air Regulations. Such interpretations are for the guidance of the public and will be followed by the Administration in determining compliance with the regulations.

This manual is arranged to give the number, title, and text of each section of the regulations followed by any rules, policies, or interpretations applicable to that section of the regulations. These rules, policies, or interpretations of the Administrator are identified by consecutive dash numbers appended to the regulation section number.

This manual shall become effective October 15, 1956, unless otherwise indicated. It will be revised from time to time in accordance with the changes in the Civil Air Regulations Part 21, or as the need for additional explanations are brought to the attention of the Administrator.

(Rev. 4/30/57)

Airline Transport Pilot Rating

21.1 *Provision for issuance.* Pursuant to the provisions of the Civil Aeronautics Act of 1938, as amended, empowering the Administrator of Civil Aeronautics to issue airman certificates specifying the capacity in which the holders thereof are authorized to serve as airmen in connection with aircraft, and requiring the Civil Aeronautics Board to prescribe such reasonable rules and regulations governing practices, methods, and procedures as the Board may find necessary to provide adequately for safety in air commerce, airline transport pilots will be rated as to competence in accordance with the provisions of the regulations in this part.

21.5 *Definitions.* As used in this part, terms are defined as follows:

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

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

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

Maximum certificated takeoff weight. Maximum certificated takeoff weight is the maximum takeoff weight authorized by the terms of the aircraft airworthiness certificate.

Night. Night is the time between the ending of evening civil twilight and the beginning of morning civil twilight as published in the American Air Almanac converted to local time for the locality concerned.

NOTE: The American Air Almanac containing the ending of evening twilight and the beginning of morning twilight tables may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Information is also available concerning such tables in the offices of the Civil Aeronautics Administration or the United States Weather bureau.

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

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

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

Minimum Requirements

21.9 *Eligibility.* To be eligible for an airline transport pilot competency rating, an applicant shall comply with the minimum requirements set forth in sections 21.10–21.18.

21.10 *Age.* [23 years is the minimum age for the issuance of an airline transport pilot rating.]

21.11 *Character.* Applicant shall be of good moral character.

21.12 *Citizenship.* An applicant for a pilot certificate with an airline transport pilot rating may be a citizen of any country or a person without nationality.

21.13 *Education.*

(a) Applicant shall be able to read, write, and understand the English language, and shall be able to speak the English language without accent or impediment of speech which would interfere with two-way radio conversation; and

(b) Shall be a high school graduate or what is deemed by the Administrator to be its equivalent from the applicant's showing of general experience and aeronautical experience, knowledge, and skill.

21.14 *Physical condition.* Applicant shall meet the physical standards of the First Class prescribed in Part 29 of this subchapter.

21.15 *Aeronautical knowledge.* Applicant shall be familiar with and shall accomplish a satisfactory written examination on:

(a) The provisions of Parts 1, 21, 27, 40, and 60 and 61 of this subchapter, together with such parts of the provisions of Part 4a and 4b of this subchapter as are pertinent to the operations of air carrier aircraft.

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

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

(d) Weather map, weather forecast, and weather sequence abbreviations, symbols, and nomenclature.

(e) Elementary meteorology, including modern knowledge of the cyclones as associated with fronts.

(f) Cloud forms.

(g) Department of Commerce Weather Bureau Circular N, Instructions for Airway Meteorological Service, and all amendments thereto.

(h) Weather conditions, including icing conditions and upper-air winds, affecting aeronautical activities.

(i) Air navigation facilities in use on the civil airways, including rotating beacons, course lights, radio ranges, and radio marker beacons.

(j) Data obtained from airplane weather observations and meteorological data reported from observations made by pilots engaged in air carrier flights.

(k) The influence of terrain upon meteorological conditions and developments, and the relation thereof to air carrier flight operations.

(l) Radio communication procedure as applied to aircraft operation.

(m) The basic principles of loading and weight distribution and its effect on flight characteristics.

21.15-1 *Written examination (CAA policies which apply to sec. 21.15).*

(a) *Eligibility.* The airline transport pilot rating written examination will be given to any person who meets the eligibility requirements of sections 21.9 through 21.14 and 21.16.

(b) *Contents.* The examination consists of four sections: (1) Civil Air Regulations, (2) meteorology, (3) radio navigation, and (4) radio operations and procedures; each of which is graded separately. A minimum grade of 70 percent is required to pass each section.

(c) *Substitution of credit.* An applicant may be credited with the successful completion of the meteorology section of the airline transport pilot rating written examination if he possesses a currently valid flight navigator's certificate or an instrument rating or if, within the last 2 years, he has successfully completed the meteorology section of either the flight navigator or instrument rating examination. An applicant may be credited with successful completion of the radio navigation section of the airline transport pilot examination if he possesses a currently valid flight navigator's certificate or if, within the last 2 years, he has successfully completed the air navigation section of the flight navigator examination. If, however, the applicant has previously taken the airline transport pilot examination and failed to pass these sections, he may not substitute such credit for the written examination.

(d) *Examination procedures.* The examination consisting of the four sections mentioned in paragraph (b) should be completed within one 6-hour session, except that the supervising agent may, at his discretion, allow extra time in special circumstances. No examination may be started unless sufficient time remains to complete the examination before the end of regular office hours.

(e) *Report of grades.* A report of grades received, Form ACA-578A, will be mailed direct to the applicant. Form ACA-578A will be accepted within a period of 24 months from the date of the examination as evidence of the applicant's having successfully completed the knowledge requirements for an airline transport pilot rating. A Form ACA-578A, acceptable on September 1, 1956, will be accepted by the Administrator until September 1, 1958.

Exception: Form ACA-578A will be accepted by the Administrator from an applicant during the applicant's period of employment with an air carrier or operator, provided the applicant has been continuously employed since taking the examination, as a pilot with an air carrier or operator, and during this period of employ-