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Civil Aeronautics Manual 24

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Mechanic and Repairman Certificates

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Introductory Note

Civil Aeronautics Manuals are published by the Civil Aeronautics Administration to supplement the Civil Air Regulations of the Civil Aeronautics Board. This manual contains rules, policies, and interpretations of the Administrator of Civil Aeronautics which pertain to the current requirements of Part 24 of the Civil Air Regulations as amended to January 1957. The complete text of Part 24 is included in this manual to assist the public in understanding how the Administrator's rules, policies, and interpretations apply to the various sections of the Civil Air Regulations.

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

CAA *policies* provide 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 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.

The Administrator's rules, policies, and interpretations set forth acceptable procedures and practices for the guidance of the public in complying with the regulations. Other methods or practices which provide equivalent safety to those specified by the Administrator will also be acceptable. Any provisions which are shown to be inapplicable in a particular case may be modified upon request.

The text of this manual is arranged to set forth in bold type each numbered section of Part 24 followed by related rules, policies, or interpretations of the Administrator. The Administrator's sections pertaining to a particular section of Part 24 are identified by consecutive dash numbers appended to the regulation section number. Thus, section 24.10–2 means the second section of the Administrator's sections pertaining to section 24.10 of the Civil Air Regulations.

Civil Aeronautics Manuals and their supplements are published in the Federal Register which is incorporated yearly in the Code of Federal Regulations. The Federal Register is cited by volume, page number, and date. Thus, the citation 21 F. R. 988, February 11, 1956, means Vol. 21 of the Federal Register, page 988, published on February 11, 1956. The Federal Register citations and effective dates are given as a matter of information following their pertinent sections.

This manual will be revised from time to time as a result of amendments to Part 24, and as new manual material is found necessary to keep the public informed on acceptable means of showing compliance with the requirements of Part 24. New and revised material is indicated by brackets.

This manual supersedes Civil Aeronautics Manual 24, dated July 1956, and differs from that edition in that sections 24.10 and 24.104 of the Civil Air Regulation plus related Civil Aeronautics Manual material on identification cards have been deleted. Special regulations pertaining to Civil Air Regulation 24 are included in a new appendix E.

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Mechanic and Repairman Certificates

Applicability and Definitions

24.0 *Applicability of this part.* This part establishes requirements for the issuance of mechanic and repairman certificates and ratings, delineates the privileges of such certificates, and establishes basic operating rules for the holders thereof.

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

Aircraft. An aircraft is any contrivance now known or hereafter invented, used, or designed for navigation of or flight in the air, including airframe, powerplant, propeller, and appliances.

Aircraft engine. An aircraft engine is an engine used, or intended to be used, for propulsion of aircraft, and includes all parts, appurtenances, and accessories thereof other than propellers.

Airframe. Airframe means any and all kinds of fuselages, booms, nacelles, cowlings, fairings, empennages, airfoil surfaces, and landing gear, and all parts, accessories, or controls, of whatever description, appertaining thereto, but not including powerplants and propellers.

Alteration. An alteration means any appreciable change in the design of an airframe, powerplant, propeller, or appliance.

Appliances. Appliances are instruments, equipment, apparatus, parts, appurtenances, or accessories, of whatever description, which are used, or are capable of being or intended to be used, in the navigation, operation, or control of aircraft in flight (including communication equipment, electronic devices, and any other mechanism or mechanisms installed in or attached to aircraft during flight, but excluding parachutes), and which are not a part or parts of airframes, powerplants, or propellers.

Appropriately certificated air carrier. An appropriately certificated air carrier is an air carrier holding an air carrier operating certificate, and which is required either by its operating certificate or by operations specifications approved by the Administrator, to provide for a continuous airworthiness maintenance and inspection program to be performed by the carrier in accordance with its maintenance manual.

Approved. Approved, when used either alone or as modifying such words as aircraft, airframe, powerplant, propeller, appliance, method, or technique, means approved by the Administrator of Civil Aeronautics in accordance with the applicable requirements of this subchapter.

Authorized representative of the Administrator. An authorized representative of the Administrator is any employee of the Civil Aeronautics Administrator or any private person, authorized by the Administrator to perform particular duties of the Administrator under the provisions of this part.

Certificated mechanic. A certificated mechanic is an individual holding a valid mechanic certificate with appropriate ratings issued by the Administrator.

Certified repair station. A certificated repair station is a facility for the maintenance, repair, and alteration of airframes, powerplants, propellers, or appliances, holding a valid repair station certificate with appropriate ratings issued by the Administrator.

Certificated repairman. A certificated repairman is an individual holding a valid repairman certificate issued in accordance with Subpart B of this part.

Component. A component is a constituent part of an aircraft.

Maintenance. Maintenance which includes preventive maintenance, is the inspection, overhaul, repair, upkeep, and preservation of airframes, powerplants, propellers, and appliances, including the replacement of parts.

Major alteration. A major alteration of an aircraft or any component thereof is:

(a) An alteration which might cause an appreciable change in its weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness, or

(b) An alteration which is not accomplished in accordance with accepted practices or cannot be performed by means of elementary operations.

Major repair. A major repair to an aircraft or any component thereof is:

(a) A repair which, if improperly accomplished, would adversely affect the structural strength, performance, flight characteristics, powerplant operation, or other qualities affecting airworthiness, or

(b) A repair which is not accomplished in accordance with accepted practices or cannot be performed by means of elementary operations.

Minor alteration. A minor alteration of an aircraft or any component thereof is an alteration other than a major alteration.

Minor repair. A minor repair is any repair other than a major repair.

Powerplant. A powerplant is an aircraft engine and its component parts, and other parts necessary to properly install such engine in an aircraft, but not the propeller (if used).

Preventive maintenance. Preventive maintenance means simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

NOTE: The Administrator publishes, as part of Civil Aeronautics Manual 18, the various operations constituting preventive maintenance of the several types of aircraft.

Propeller. A propeller is a device for propelling an aircraft through the air, having blades mounted on a power-driven shaft, which when rotated produces by its action on the air a thrust approximately parallel to the longitudinal axis of the aircraft, and also includes control components normally supplied by the manufacturer of the propeller. It also includes a system of rotating airfoils which serve either to counteract the effect of the main rotor torque of a rotorcraft or to maneuver a rotorcraft about one or more of its three principal axes.

Repair. Repair means the restoration of an airframe, powerplant, propeller, or appliance to a condition for safe operation after damage or deterioration.

Subpart A—Mechanic Certificates

Certification Rules

24.5 *Application for certificate.* Application for certificates and ratings shall be made on a form and in a manner prescribed by the Administrator.

24.5–1 *Application for mechanic certification (CAA rules which apply to sec. 24.5).* (a) Application for the written portion of the examinations required for a mechanic certificate shall be made on Form ACA–983, after the applicant has established his eligibility in accordance with the general certificate requirements of this part.

(b) The applicant may apply for the oral and practical portions of the examinations required for a mechanic certificate after he has successfully accomplished the written examinations. Application for the oral and practical examinations shall be made on Form ACA–363.[1]

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

24.6 *Issuance.* (a) Mechanic certificates and ratings shall be issued by the Administrator to applicants who meet the requirements of this part.

(b) Pending a review of an application and supporting documents by the Administrator and the issuance of a mechanic certificate and ratings, an authorized representative of the Administrator may, subject to such terms and conditions as the Administrator may specify, issue a temporary mechanic certificate with appropriate ratings to an applicant, if the representative determines that the applicant has met the requirements of this part.

24.6–1 *Issuance (CAA rules which apply to sec. 24.6 (b)).* Pending a review of the ap-

[1] Application forms for mechanic certification will be furnished by the Administrator through the Flight Operations and Airworthiness District Offices or inspectors.

plication Form ACA–363 and supporting documents as outlined in section 24.21–1 of this part, the applicant will be issued a Temporary Airman Certificate, Form ACA–1710–T, by an inspector [2] or an authorized representative of the Administrator: *Provided*, That all of the requirements of this part have been met.

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

24.7 *Duration.* (a) A mechanic certificate and ratings shall remain in effect until surrendered, suspended, revoked, or otherwise terminated by order of the Board, except that a certificate issued to an individual other than a United States citizen shall remain in effect for only one year:. *Provided*, That upon application to the Administrator and upon showing continued compliance with the other requirements of this part, a mechanic certificate may be reissued to an individual other than a United States citizen for additional periods of one year without further demonstration of technical competence. After revocation, and upon request of the Administrator after suspension or termination, the certificate shall be returned to the Administrator.

(b) A temporary mechanic certificate shall remain in effect for 90 days.

24.7–1 *Reissuance to other than United States citizen (CAA interpretations which apply to sec. 24.7 (a))*. The holder of a mechanic certificate issued to other than a United States citizen may be reissued a certificate by presenting a properly executed application Form ACA–363 to an inspector or other authorized representative of the Administrator: *Provided*, That he meets the recent experience and citizenship requirements of Civil Air Regulations. The applicant, to show proof of recent experience, may either (a) obtain a statement certifying thereto on the application form by an inspector or other authorized representative of the Administrator, or (b) furnish satisfactory proof such as a letter from his employer or immediate superior, employment records, etc., that he meets the requirements of section 24.51 of this part.

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

[2] The word inspector as used within this Part, means Flight Operations and Airworthiness Inspector unless otherwise defined.

24.8 *Outstanding mechanic certificates and ratings.* After the effective date of this part (June 15, 1952) a person holding a valid mechanic certificate with an aircraft mechanic rating shall be deemed to hold a valid mechanic certificate with an airframe rating, a person holding a valid mechanic certificate with an aircraft engine mechanic rating shall be deemed to hold a valid mechanic certificate with a powerplant rating, and a person holding a valid mechanic certificate with aircraft mechanic and aircraft engine mechanic ratings shall be deemed to hold a valid mechanic certificate with both airframe and powerplant ratings. The Administrator may, in such form and manner as he may establish, require the exchange of outstanding certificates for certificates issued in accordance with the provisions of this part.

24.8–1 *Outstanding mechanic certificates (CAA interpretations which apply to sec. 24.8)*. Mechanic certificates with aircraft and/or aircraft engine ratings issued prior to June 15, 1952, and valid on that date, are considered equivalent to mechanic certificates that were issued subsequent to June 15, 1952, with airframe and/or powerplant ratings.

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

24.8–2 *Exchange of outstanding mechanic certificates (CAA policies which apply to sec. 24.8)*. Mechanic certificates with either aircraft or aircraft engine ratings, or both, issued prior to June 15, 1952, and valid on that date, may be exchanged for certificates with appropriate airframe and/or powerplant ratings, upon application, on Form ACA–363, to a Flight Operations and Airworthiness District Office or inspector.

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

24.9 *Display.* When issued to the individual, the mechanic certificate with appropriate ratings shall be kept readily available by the mechanic at all times while exercising the privileges of such certificate, and shall be available for inspection by any authorized representative of the Administrator or the Board, or by any authorized State or local law enforcement officer.

24.9–1 *Readily available (CAA interpretations which apply to sec. 24.9).* A mechanic must keep his certificate within the immediate area where he normally exercises the privileges conferred on him by the certificate.

(Published in 18 F. R. 6801, Oct. 28, 1953, effective Nov. 1, 1953.)

24.11 *Change of address.* Within 30 days after any change in the permanent mailing address of a holder of a mechanic certificate, the holder shall notify the Administrator in writing of such change. Such notice shall be mailed to the Administrator of Civil Aeronautics, Attention Airman Records Branch, Washington 25, D. C.

24.11–1 *Change of address (CAA policies which apply to sec. 24.11).* The notification of change of address should include the following information: Full name, new address, old address, and certificate number.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

General Certificate Requirements

24.15 *Citizenship.* An applicant for a mechanic certificate may be a citizen of any country or a person without nationality.

24.16 *Age.* [18 years is the minimum age for the issuance of a mechanic certificate.]

24.17 *Education.* An applicant shall be able to read, write, speak, and understand the English language: *Provided,* That if an applicant is employed by a United States air carrier outside of the United States, such applicant shall not be required to meet this requirement, and in that event his certificate shall be appropriately endorsed by the Administrator.

24.17–1 *Education (CAA interpretations which apply to sec. 24.17).* Certificates of persons employed by United States air carriers outside of the continental United States who are excepted from the education requirements of section 24.17 of this part will be appropriately endorsed as follows: "Valid Only Outside the U. S."

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.18 *Examinations and tests.* Examinations and tests shall be conducted by an authorized representative of the Administrator at such times and places as the Administrator may designate.

24.18–1 *Examinations and tests (CAA policies which apply to sec. 24.18).* (a) The written examinations will be conducted at CAA district offices located throughout the United States or by inspectors on scheduled itineraries. An applicant may obtain information relative to the dates and places of the scheduled itineraries by consulting the local airport bulletin board or by addressing an inquiry to the nearest Flight Operations and Airworthiness District Office. Addresses of these offices may be obtained by writing direct to one of the regional offices listed in appendix D.

(b) Since an applicant must demonstrate his skill and competency by practical tests which involve the use of facilities, equipment, and tools, the practical examinations are given by appointment only. Appointments for the oral and practical tests shall be arranged by contacting Flight Operations and Airworthiness District Offices, inspectors, or designated mechanic examiners. A list of designated mechanic examiners can be obtained from district offices for the areas under their supervision.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.19 *Re-examination after failure.* An applicant for a mechanic certificate who has failed any prescribed written or practical examination or test may not apply for re-examination within 30 days after the date of such examination or test unless he presents a statement signed by a certificated mechanic holding an appropriate rating, a certificated ground instructor holding an appropriate rating, or an equally qualified individual acceptable to the Administrator, which attests that the applicant has received an additional 5 hours of instruction in each of the subjects failed and that the applicant is considered competent for re-examination.

24.19–1 *Reexamination after failure (CAA interpretations which apply to sec. 24.19).* A properly certificated repairman is considered as an "equally qualified individual acceptable to the Administrator" and is authorized to give additional instruction on the specialty for

which he is rated, to an applicant who has failed the prescribed written or practical examinations.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective November 1, 1953.)

24.20 *Application for additional rating.* An applicant for a rating subsequent to the original issuance of a mechanic certificate with appropriate rating shall meet the knowledge, experience, and skill requirements for the rating sought.

24.21 *Substantiation of experience.* An applicant shall submit evidence satisfactory to the Administrator to substantiate the experience qualifications for the mechanic certificate and rating sought.

24.21–1 *Substantiation of experience (CAA rules which apply to sec. 24.21).* An applicant for an airframe, a powerplant, or an additional rating shall submit documentary evidence of his experience such as a graduation certificate from an approved school, a letter or letters from a person or persons with knowledge of the applicant's experience, a transcript of his employment record or similar proof that the applicant meets the experience requirements of section 24.31 of this part.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.22 *Ratings.* The following mechanic ratings shall be issued:

(a) Airframe;

(b) Powerplant; and

(c) Airframe and powerplant.

Mechanical Knowledge, Experience, and Skill Requirements

24.30 *Mechanical knowledge.* An applicant for a mechanic certificate with airframe or powerplant rating shall successfully accomplish a written and oral examination prescribed by the Administrator covering the construction, maintenance, repair, and inspection of aircraft appropriate to the rating sought, the provisions of this part, the applicable provisions of Parts 18 and 43 of this subchapter, and the provisions of Civil Aeronautics Manual 18. The basic principles covering the maintenance, installation, and inspection of propellers shall be included in the powerplant examination.

24.30–1 *Mechanical knowledge (CAA policies which apply to sec. 24.30).* An applicant will be given a written [3] and oral examination appropriate to the rating sought, on aircraft structures and rigging, including flight controls, electrical systems, hydraulic systems, lubrication systems, fuel systems, appliances, powerplants, and propellers, and how to properly inspect, repair, and maintain the same. The written examination will be designed for one specific purpose, i. e., to determine whether the applicant possesses the minimum basic knowledge required for maintaining an acceptable standard of safety and workmanship. To successfully accomplish the prescribed examinations, the applicant must attain a score of at least 70 percent in each section within the maximum time allowed for the particular examination being taken. The applicant will be notified by mail of the results of the written examinations on a Form ACA–578A.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.31 *Mechanical experience.* An applicant for a mechanic certificate with either an airframe or powerplant rating shall have had at least 18 months of practical experience with the applicable procedures, practices, material, tools, machine tools, and equipment generally used in the construction, inspection, maintenance, repair, and alteration of airframes or of powerplants including propellers: *Provided,* That an applicant for an airframe and powerplant rating may be issued such rating, if he has performed concurrently the duties appropriate to both airframe and powerplant ratings for at least 30 months.

24.31–1 *Mechanical experience (CAA interpretations which apply to sec. 24.31).* The 18 months of experience required by section 24.31 of this part is interpreted to mean that an applicant for either an airframe or a powerplant rating must have 18 months of exclusive experience for the particular rating. For example, an applicant lists 18 months of airframe experience acquired from January 1, 1951,

[3] The Administrator has compiled a list of reference material which is broken down into specific sections and subparts appropriate to airframe and powerplant ratings to aid applicants in preparing for the written examinations. The list of material is contained in appendix A of this manual.

through July 1952, while employed as a mechanic at Repair Station X. Subsequently, he applies for a powerplant rating and states on the application that he was employed as an engine mechanic at Repair Station X from January 1, 1951, through July 1952. Obviously, he does not meet the experience requirements for a powerplant rating since section 24.31 of this part requires him to have 18 months for each rating, or under the circumstances, 30 months if the experience has been obtained concurrently for both ratings.

(Published in 19 F. R. 413, Jan. 23, 1954, effective upon publication in the Federal Register.)

24.32 *Graduates of certificated mechanic schools.* A graduate of a certificated mechanic school shall be deemed to have met the experience requirements of this part for a rating if, within 60 days after graduation, he presents an appropriate certificate of graduation: *Provided,* That when a graduate because of unanticipated circumstances is unable to present his certificate within such period, the Administrator, upon receipt of proof to that effect, may extend the 60-day period.

24.32–1 *Application for written examinations (CAA policies which apply to sec. 24.32).* An approved school graduate should, at the time he presents his certificate of graduation to an inspector, apply for the written examination required by section 24.30 of this part. The results of the written examination, Form ACA–578A which is mailed to the applicant, will serve as evidence that he has presented his graduation certificate within 60 days subsequent to graduation.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.33 *Mechanical skill.* An applicant for a mechanic certificate with a particular rating shall, in a manner prescribed by the Administrator, demonstrate his competency to maintain, repair, inspect, and alter any part of an aircraft for which a rating is sought. An applicant's ability to satisfactorily accomplish minor repairs and minor alterations to propellers shall be a part of such demonstration of competency for the powerplant rating.

24.33–1 *Mechanical skill and scope of the practical and oral examinations (CAA policies which apply to sec. 24.33).* An applicant on presenting Form ACA–578A to an inspector or a mechanic examiner, showing successful completion of the written examinations, will be given a comprehensive oral and practical examination to afford the applicant an opportunity to demonstrate his skill in performing practical projects on the subjects in the general areas covered by the written examinations.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

Privileges and Limitations of a Mechanic Certificate

24.40 *Mechanic privileges; general.* A certificated mechanic may perform or supervise the maintenance, repair, inspection, and alteration of an aircraft, or component thereof, for which he is rated, and may perform additional work in accordance with the privileges and limitations stated in sections 18.10, 18.11, 18.12, 24.41, 24.42, and 24.43 of this subchapter: *Provided,* That he shall not supervise the maintenance, repair, inspection, or alteration of or return to service any part of an aircraft for which he is rated unless he has previously performed the particular operation involved in a satisfactory manner or has otherwise established his competency to perform such operation.

24.40–1 *Mechanic privileges (CAA interpretations which apply to sec. 24.40).* If a mechanic has not previously established his competency by performing the maintenance, repair, inspection, or alteration of any particular part of an aircraft, he may do so by performing the operation to the satisfaction of an authorized representative of the Administrator or under the direct supervision of an appropriately certificated mechanic or repairman who has had previous experience on the specific operation involved.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.41 *Airframe rating.* A certificated mechanic with an airframe rating may release the airframe, or any component thereof, for service

after he has performed, supervised, or inspected maintenance, minor repair, or minor alteration thereon. In addition, he may perform the 100-hour inspection required by Part 43 of this subchapter on an airframe, or any component thereof, and may return the same to service.

24.42 *Powerplant rating.* A certificated mechanic with a powerplant rating may perform maintenance, minor repairs, or minor alterations to a propeller, and may release the powerplant or propeller, or any component thereof, for service after he has performed, supervised, or inspected maintenance, minor repair, or minor alteration thereon, In addition, he may perform the 100-hour inspection required by Part 43 of this subchapter on a powerplant or propeller, or any component thereof, and may release the same to service.

24.43 *Airframe and powerplant ratings.* (a) A certificated mechanic holding both airframe and powerplant ratings and having such other qualifications as the Administrator may deem appropriate, when issued an inspection authorization by the Administrator under paragraph (b) of this section, may:

(1) Inspect and return to service aircraft or aircraft components thereof (excluding aircraft operated in accordance with the provisions of Part 40 or Part 41 of this subchapter, or aircraft of more than 12,500 pounds maximum certificated take-off weight when operated in accordance with the provisions of Part 42 of this subchapter) after major repairs and major alterations have been made in accordance with the provisions of Part 18 of this subchapter; and

(2) Perform the periodic, and perform or supervise the progressive inspections required by Part 43 of this subchapter. The activities conducted under authority of this subparagraph shall be in accordance with procedures and standards prescribed by the Administrator.

(b) The Administrator shall issue an appropriate, written inspection authorization to any person qualified under paragraph (a) of this section who shall apply therefor in a manner and form specified by the Administrator,

24.43–1 *Inspection authorization (CAA rules which apply to sec. 24.43).* (a) *Qualifications.* Authority to examine, inspect, and release aircraft for service in accordance with section 24.43 (a) of this part will be granted to any certificated mechanic applying in accordance with section 24.43–1 (b) of this part who has the following additional qualifications:

(1) His airframe and powerplant ratings shall have been in effect continuously for a minimum of 3 years immediately preceding the date of application;

(2) He has been actively engaged in the inspection, maintenance, and repair of U. S. civil aircraft and engines for at least 2 years immediately preceding the date of application;

(3) He shall have a fixed base of operation at which he can be contacted in person or by telephone during a normal working week. The fixed base of operation does not necessarily have to be the location at which the applicant will exercise the inspection authority;

(4) He shall have available such equipment, facilities, and inspection data as are necessary for the competent and efficient inspection of airframes and powerplants to determine compliance with applicable Civil Air Regulations;

(5) He shall have a satisfactory record as a CAA Designated Aircraft Maintenance Inspector for at least 1 year immediately preceding the date of application, or

(6) He shall by examination satisfactorily demonstrate his knowledge and ability to conduct inspections in accordance with the prescribed safety standards for returning aircraft to service after major repairs and alterations performed in accordance with Part 18 of the Civil Air Regulations and the inspections required by section 43.22 of this part.

(b) *Procedure for making application.* A certificated mechanic meeting the qualification requirements of paragraph (a) (1) through (5) of this section who desires the authorization to perform the privileges of section 24.43 of this part shall make application on Form ACA–2353 entitled, "Mechanic's Application for Inspection Authorization."[4] Applicants who only meet the requirements of paragraph (a) (1) through (4) of this section shall complete Form ACA–2353 and shall satisfactorily accomplish the examination required in paragraph (a) (6) of this section.[5] In the event an applicant fails

[4] Appendix B contains additional instructions for making application for mechanic's inspection authorization.

[5] Appendix C contains additional information concerning the written examination.

the examination, he may not apply for reexamination for 90 days.

(c) *Inspection authorization.* Applicants found qualified will be issued Form ACA-2354 entitled, "Inspection Authorization." This inspection authorization shall be kept readily available by the mechanic at all times when exercising the privileges of section 24.43 of this part and shall be available for inspection by the aircraft owner, by the mechanic submitting the aircraft or the repair for approval, or by any authorized representative of the Administrator or the Civil Aeronautics Board. The holder of an inspection authorization shall not exercise the privileges of the authorization when he has changed his fixed base of operation until written notification thereof has been given to the Flight Operations and Airworthiness District Office in the area in which the new base is established.

(d) *Duration of authorization.* An inspection authorization shall expire on March 31 of each year.

(e) *Procedure for renewal of authorization.* The holder of an Inspection Authorization, Form ACA-2354, may have the authorization extended until March 31 of the following year by:

(1) Presenting evidence, at a meeting designated by the local district office during the month of March each year,[6] to show that the holder has been actively engaged in exercising the privileges of the inspection authorization during the preceding 12 months in at least one of the following capacities:

(i) Conducted at least one periodic inspection for each 90 days [7] the authorization has been in effect since issuance or last renewal, or

(ii) Inspected for return to service at least two repairs or alterations for each 90 days [6] the authorization has been in effect since issuance or last renewal, or

(iii) Supervised or conducted progressive inspections in accordance with the standards prescribed by the Administrator.

[6] The location and number of meetings held in each Flight Operations and Airworthiness District Office area will be governed by the location and number of mechanics holding the inspection authorization.

[7] Inspection authorizations which have been in effect less than 90 days will be renewed for another year provided the holder still meets the qualifications required for original appointment by sections 24.43-1 (a)-(1), (2), (3), and (4) of this part.

(2) Reapplying for the inspection authorization in accordance with the procedures set forth in paragraph (b) of this section.

(Published in 21 F. R., May 15, 1956, effective July 17, 1956.)

24.43-2 *Prescribed standard (CAA interpretations which apply to sec. 24.43).* The phrase "procedures and standards prescribed by the Administrator" means those procedures and standards set forth in section 18.30 of this subchapter.

(Published in 21 F. R., May 15, 1956, effective July 17, 1956.)

Operating Rules

24.50 *General.* A certificated mechanic shall not exercise the privileges of his certificate and rating unless he is familiar with the current manufacturers' instructions and the maintenance manuals pertinent to the particular operation to be performed.

24.51 *Recent experience requirements.* A certificated mechanic shall not exercise the privileges of his certificate and ratings unless, within the preceding 24 months he has either:

(a) Been found competent by an authorized representative of the Administrator, or

(b) For at least 6 months during the preceding 24-month period:

(1) Served as a mechanic under the terms of his certificate and ratings, or

(2) Been engaged in the technical supervision of mechanics, or

(3) Been engaged in the executive supervision of maintenance, repair, or alteration of aircraft, or

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

Subpart B.—Repairman Certificates

Certification Rules

24.100 *Classification.* There is hereby established a classification of airman, known as a "repairman," who:

(a) Possesses special qualifications to perform inspection, maintenance, overhaul, or repair of aircraft, aircraft engines, propellers, or appliances;

(b) Is employed by a certificated repair station or an appropriately certificated air carrier for a particular job requiring such special qualifications; and

(c) Is recommended for certification by such employer to the Administrator or his authorized representative.

24.101 *Issuance.* A repairman certificate may be issued by the Administrator or his authorized representative to an individual who is found to meet the requirements of this subpart and who has been recommended for such certification by the certificated repair station or appropriately certificated air carrier by whom he is employed.

24.102 *Duration.* A repairman certificate shall be valid until the termination of the holder's employment by the recommending repair station or air carrier, or relief of the repairman from the patricular duties for which he was employed and certificated, whichever shall first occur, unless it is sooner suspended, revoked, or otherwise terminated by the Board, after which it shall be returned to the Administrator.

24.102–1 *Duration (CAA interpretations which apply to sec. 24.102).* At the termination of a repairman's employment, or if he is assigned other duties, or his certificate is otherwise terminated, it is the responsibility of the repairman to return the certificate to the Administrator. This may be accomplished through the local district office or inspector or by requesting his employer to forward the certificate for cancellation.

(Published in 18 F. R. 6802, Oct. 28, 1953, effective Nov. 1, 1953.)

24.103 *Display.* The repairman certificate shall be kept readily available by the repairman at all times while exercising the privileges of such certificate, and it shall be available for inspection by an authorized representative of the Administrator or the Board, or by any authorized State or local law enforcement officer.

24.103–1 *Readily available (CAA interpretations which apply to sec. 24.103).* A repairman must keep his certificate within the immediate area where he normally exercises the privileges conferred on him by the certificate.

(Published in 18 F. R. 6803, Oct. 28, 1953, effective Nov. 1, 1953.)

24.105 *Change of address.* Within 30 days after any change in the permanent mailing address of a holder of a repairman certificate, the holder shall notify the Administrator in writing of such change. Such notice shall be mailed to the Administrator of Civil Aeronautics, Attention Airman Records Branch, Washington 25, D. C.

24.105–1 *Change of address (CAA policies which apply to sec. 24.105).* The notification of change of address should include the following information: Full name, new address, old address, and certificate number.

(Published in 18 F. R. 6803, Oct. 28, 1953, effective Nov. 1, 1953.)

General Certificate Requirements

24.110 *Citizenship.* An applicant for a repairman certificate may be a citizen of any country or a person without nationality.

24.111 *Age.* [18 years is the minimum age for the issuance of a repairman certificate.]

24.112 *Education.* An applicant shall be able to read, write, speak, and understand the English language: *Provided,* That if an applicant is employed outside of the United States by an appropriately certificated United States air carrier or a certificated repair station, such applicant shall not be required to meet this requirement, and in that event his certificate shall be appropriately endorsed by the Administrator, or the authorized representative of the Administrator who issued the certificate.

Experience and Skill Requirements

24.120 *General.* The repair station or air carrier by whom the applicant is or will be employed shall certify to the satisfaction of the Administrator or his authorized representative that the applicant is competent to perform the duties of inspection, maintenance, overhaul, or repair of the particular aircraft, aircraft engines, propellers, or appliances with respect to which he is to be employed.

24.121 *Minimum experience.* The applicant shall have had at least 18 months of practical experience with the procedures, practices,

inspection methods, materials, tools, machine tools, and equipment generally used in the inspection, maintenance, overhaul, or repair functions of the particular job for which he is to be employed and certificated.

Privileges and Limitations of a Repairman Certificate

24.130 *General.* A certificated repairman may supervise or perform the inspection, maintenance, overhauling, or repair of aircraft, aircraft engines, propellers, or appliances in connection with the particular job for which he was employed and certificated. Such privileges may be exercised only in connection with such duties with the certificated repair station or appropriately certificated air carrier by whom he was recommended and employed.

Operating Rules

24.140 *General.* A certificated repairman shall not exercise the privileges of his certificate unless he is familiar both with current manufacturers' or appropriate air carriers' instructions and the maintenance manuals pertinent to the particular operation to be performed.

NOTE: Specific record or reporting requirements subsequently prescribed will be subject to the approval of the Bureau of the Budget pursuant to the Federal Reports Act of 1942.

Appendix A

Written Examination Procedures for Airframe and Powerplant Ratings

Introduction

The applicant should always read the statement or question first to be sure that he understands what it means before looking at the answers listed below. An attempt should then be made to determine what the correct answer should be, or work out the problem to obtain the answer. The applicant should always bear in mind while taking the examination that the questions are not trick questions, but that each statement means exactly what it says. The statements do not concern exceptions to rules; they refer to general rules. Finally, the applicant should look through the list of alternate answers or phrases and find the one which says the same thing as his answer. The applicant should be sure that the one he selects answers the question completely. Only one of the alternate answers given is correct. The others may be answers that result from incorrect procedure (in a problem, for example) or from wrong interpretation of the question, or from misconceptions.

If considerable difficulty is encountered with a particular problem, the applicant should not spend too much time on it, but he should proceed to the next problem where the answer is known. When that section of the examination has been completed, he should go back to the unanswered questions. This procedure will enable him to use the total time available to maximum advantage in demonstrating his knowledge and understanding of the subject.

An applicant who is adequately prepared will have ample time to complete his work within the maximum time limit established for the examination. An applicant's inability to complete the examination within the time limit may indicate that he has not acquired adequate proficiency, that he lacks self-assurance, or that his reactions and thinking processes are not sufficiently rapid to assure reasonable skill in making decisions and taking appropriate action.

If the applicant remembers these facts, follows the instructions given, and knows the subject matter on which he is being tested, he will have no difficulty with the examination.

The answer sheet, together with any papers used during the examination for computation or notations, shall be surrendered to the inspector monitoring the examinations before the applicant leaves the room.

The examinations are graded in the Washington office of the Civil Aeronautics Administration and the results are mailed direct to the applicant. Applicants must receive a grade of at least 70 percent in each section to be successful in the examination.

Airframe Rating

The airframe written examination consists of five sections. The general scope of the examination and sample questions on each of the five sections are here presented. Correct answers to the sample questions are indicated by asterisks.

Section One. Rigging and Assembly

Rigging of flight controls and cables, safetying turnbuckles, bolts, nuts, etc., basic aerodynamics in relation to flight characteristics and performance affected by rigging, and weight and balance:

(A) Upon completion of assembly, turnbuckles should—

1. Not have any threads showing.
2. Be safetied by a locknut.
*3. Be safetied and not have more than three threads showing.

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4. Be safetied in such a manner as to create the least amount of drag.

(B) The rudder should be alined with—

1. The thrust line.
2. Center section of wing.
3. Geometric center of tail section.
*4. Vertical fin.

(C) On large control surfaces, static balance is obtained by—

*1. Placing counterweight arms or lead weights in the leading edges.
2. Equipping the control surfaces with trim tabs.
3. Putting hinges on the control surfaces at the center line of the surface.
4. Balancing the control arms.

Section Two. Wood, Fabric Covering and Doping

Repairs to wood structures such as spars and ribs, selection of woods, gluing, ribstitching, doping, painting and finishing, fabric covering and patching, bonding control cables, and Civil Air Regulations:

Wood

(A) A spruce spar may contain knots provided they—

1. Are not less than one-fourth inch in diameter, sound and tight.
2. Are small and not too close together.
3. Do not go all the way through the spar.
*4. Are not more than one-fourth inch in diameter, sound and tight, and at least 20 inches apart and not occurring on the edges.

(B) A wood spar may be spliced—

1. Only at its approximate center.
*2. At any point where there are no fittings.
3. Only at a fitting point.
4. Only at a compression member.

Fabric Covering and Doping

(A) Civil Air Regulations specify that in hand-sewing fabric covering there should be a minimum of—

*1. 4 stitches per inch.
2. 6 stitches per inch.
3. 8 stitches per inch.
4. 10 stitches per inch.

(B) The edge of a fabric patch should be—

1. Sewed only by hand.
2. Cut square and straight.
3. Cut on the bias.
*4. Pinked or frayed out about one-fourth inch.

(C) In order to make tight fabric patches, it is good practice to—

1. Brush on more dope at the center.
2. Prestretch the fabric.
*3. Leave the center undoped on the first coat.
4. Brush on the dope evenly over the patch.

(D) On a lacquer or pigmented dope surface, orange peel or pebble finish is the result of—

*1. Insufficiently reduced lacquer or pigmented dope.
2. Applying too heavy or too wet a coat of dope.
3. Using too much thinner in the lacquer or dope.
4. Holding the spray gun too close to the surface.

Section Three. Sheet Metal and Welding

Proper methods and procedures for riveting, identification of rivets, aluminum and aluminum alloys, SAE numbering system for steels, basic heat-treating, sheet metal fabrication, acetylene welding on steel and aluminum, brazing, care of an general operation of welding and sheet metal equipment:

(A) The proper length of the shank of a rivet is the sum of the thickness of the metals being riveted plus—

1. Three times the diameter of the rivet shank.
2. One times the diameter of the rivet shank.
3. Two times the diameter of the rivet shank.
*4. One and one-half times the diameter of the rivet shank.

(B) In riveting a steel fitting to an aluminum alloy structure, a mechanic should—

1. Brace the surrounding structure to dampen vibration from the steel fitting.
*2. Separate the fitting from the structure by use of protective material.

3. Use a rivet of larger diameter than would be used if both fittings were aluminum alloy.
4. Use a coat of grease between the fitting and the structure.

(C) Welds tend to crack immediately outside the welded area when the welded joint—

1. Is built up to provide extra thickness at the seam.
*2. Is cooled too rapidly.
3. Has insufficient heat when fused.
4. Has too much heat when fused.

(D) After completion of an aluminum weld, all flux should be removed immediately in order to—

1. Permit normalizing of the weld.
*2. Prevent corrosion.
3. Avoid heat strains.
4. Prevent formation of scale.

Section Four. Hydraulic Systems and Components

Locating and correcting malfunctioning in hydraulic systems such as leaks, worn seals, etc.; operation, maintenance, and repair of hydraulically operated brakes, landing gear struts, controls, check and relief valves; various types of hydraulic fluids:

(A) Hydraulic systems are equipped with relief valves to—

1. Bleed the lines automatically.
2. Prevent flaps and landing gear from falling into the extended position.
3. Maintain an even minimum pressure.
*4. Maintain an even maximum pressure.

(B) If a hydraulic system pressure gage fluctuates violently, this indicates that—

1. Relief valves are stuck open.
2. Maximum allowable pressure is being exceeded.
*3. There is insufficient fluid in the reservoir.
4. The engine driven fuel pump is operating at too low a speed.

(C) Fluid is added to the shock struts on landing gears when the—

1. Airplane is in the unloaded condition.
*2. Strut is fully collapsed and supporting the weight of the airplane.
3. Airplane is on wing jacks and has its struts extended.
4. Weight of the airplane is not on the wheels.

(D) If the flaps fail to lower when the control is moved to flapdown position, the trouble may be due to—

1. The hydraulic fluid being too cold.
2. The pressure relief valve spring being set too high.
*3. The relief valve by-passing.
4. The hydraulic fluid being too thin.

Section Five. Electrical Systems and Components

Operation, construction, and sources; maintenance of power sources such as batteries and generators; maintenance, repair, and adjustment of generators and control units such as voltage regulators, reverse current cutout relays, etc.; wiring circuits, selection, and installation of fuses, wires, and terminals; soldering, lighting systems, and the precautions to be observed in routing and attaching electrical cables; trouble-shooting to locate causes and how to correct failures of landing gears, lights, generators, etc.:

(A) Electrical wiring should be carefully grouped and properly supported in bundles to—

1. Provide easy access to wires when trouble-shooting.
2. Allow adequate ventilation of electrical circuit wires.
*3. Prevent chafing of insulation which might cause short circuit.
4. Provide central location for all electrical equipment.

(B) Aircraft circuit breakers are intended primarily to—

1. Serve as switches.
2. Protect lamps and motors.
*3. Prevent fire and smoke due to overheating of wires.
4. Prevent overvoltage.

Powerplant Rating

The powerplant written examination consists of six sections. The general scope of the examinations and sample questions on each of

the six sections are listed below. Answers to the sample questions are indicated by an asterisk.

Section One. Carburetors and Carburetion

Accelerator pumps, direct fuel injection, injection type carburetors, fuel pumps, mixture controls, fuel line inspection and installation, and trouble-shooting:

(A) The main air bleed jet in a carburetor—

*1. Assists in atomizing the fuel.
2. Regulates the pressure of the metering system.
3. Regulates the velocity of fuel through the venturi.
4. Maintains atmospheric pressure in the carburetor.

(B) On a supercharged engine, a small leak in the line between the manifold pressure gage and the induction system may cause the gage to—

1. Register high at high power.
*2. Register low at high power.
3. Register atmospheric pressure.
4. Fluctuate.

Section Two. Magneto and Ignition Systems

High and low tension ignition systems, magneto nomenclature, timing, repair, overhaul, and trouble-shooting; battery ignition systems, and the general servicing, operation, and maintenance of spark plugs and ignition systems, and the location and correction of the causes of malfunctioning:

(A) In all magnetos, the purpose of the safety gap is to—

1. Protect the primary winding from being short circuited.
2. Prevent the condenser from becoming overloaded.
3. Protect the distributor from excessive voltage.
*4. Protect the high tension insulation in the magneto.

(B) If the movable breaker point in a magneto sticks or freezes, it may cause the—

1. Condenser to burn out.
2. Points to be burned.
*3. Engine to stop running.
4. Engine to miss at high speed.

Section Three. Theory and Maintenance of Powerplants

This section consists of questions on the repair, overhaul, maintenance, and trouble-shooting on various types of powerplants that are used in light and medium weight aircraft. The questions are predominately on trouble-shooting to determine the causes and the proper corrective methods that are considered as standard practices:

(A) If an engine misses consistently on one or more cylinders, the probable cause is—

1. That the distributor points or contacts are dirty.
2. That the fuel lines are partially obstructed.
3. That there is water in the fuel.
*4. A damaged distributor head.

(B) Valves should be adjusted only when the piston is—

1. On top center of the exhaust stroke.
*2. On top center of the firing stroke.
3. On bottom center of the firing stroke.
4. Starting on the compression stroke.

Section Four. Lubrication and Oiling Systems

The purpose and function of the major units of the oiling system such as the oil pump, temperature gage, pressure gage, pressure relief valve, bypass valves, etc. Trouble-shooting and inspection of oil tank, oil tank installation and plumbing, screens, filters, drain plugs, etc. Determine the causes and correction for excessively low or high oil temperatures and pressures. Reasons for specific oil viscosities and how they affect engine performance:

(A) Excessive oil consumption and fouling of spark plugs may be caused by—

*1. Worn piston rings.
2. Excessive clearance at cam hub bearing.
3. Filling the oil tank above predetermined limit.
4. Oil bypassing back to the scavenger pump.

(B) An oil radiator usually is located in the cooling system between the—

1. Engine outlet and the automatic oil temperature regulator.
2. Oil pressure pump and the engine oil outlet.

3. Oil tank and the automatic temperature regulator in the pressure line.
*4. The automatic temperature regulator and the supply tank.

Section Five. Propellers

Standard methods and procedures for servicing, maintaining, and repairing wood propellers. Operation and maintenance of two-position hydraulic and hydromatic propellers and governors. Basic operational questions on electrical propellers not requiring specialized knowledge.

(A) If a hydraulically operated, two-position propeller shifts into high pitch during takeoff, the cause may be—

1. A defective counterweight assembly.
*2. A rapid drop in oil pressure.
3. A rapid rise in oil pressure.
4. Excessively worn index pins.

(B) A precaution necessary to keep the hub nut from seizing the shaft is to—

1. Dust the threads with flake graphite.
2. Dip the nut in engine oil.
*3. Coat the nut with white lead mixed with oil.
4. Hand tighten the nut.

Section Six. Electrical Systems and Components

This section is essentially the same as Section Five of the Airframe Examination, except that it applies to the operation, inspection, and repair of electrical systems and accessories in relation to powerplants:

(A) A generator commutator should be cleaned with—

1. Emery cloth.
2. Cleaning solvent.
*3. Fine sandpaper or crocus cloth.
4. Small wire brush.

(B) The terminal has broken off the end of an aluminum cable. You have terminals of the correct size and shape in both copper and aluminum. Which of the following replacement procedures would you follow?

1. Solder a copper terminal to the cable.
2. Solder an aluminum terminal to the cable.
3. Pressure-attach a copper terminal to the cable.
*4. Pressure-attach an aluminum terminal to the cable.

Reference Material

The publications listed below are available from the Government Printing Office. Orders must be accompanied by money order or check made payable and addressed to the Superintendent of Documents, Government Printing Office, Washington 25, D. C. There are also many excellent publications which are used as textbooks in the CAA certificated mechanic schools. These may be obtained by contacting the leading publishing houses who will be glad to furnish a list of their aviation technical books used in the CAA approved training courses.

Airframe and Powerplant

Civil Air Regulations and Civil Aeronautics Manuals:

Part 1. Certification, Identification, and Marking of Aircraft and Related Products—section 1.50, and sections 1.60 through 1.76. (5 cents)

CAM 1. Certification, Identification, and Marking of Aircraft and Related Products—section 1.50, and sections 1.60 through 1.76. ($1.00)

Part 4a. Airplane Airworthiness.[1] (20 cents)

Part 18. Maintenance, Repair, and Alteration of Airframes, Powerplants, Propellers, and Appliances. (5 cents)

CAM 18. Maintenance, Repair, and Alteration of Airframes, Powerplants, Propellers, and Appliances. ($1.75)

Part 24. Mechanic and Repairman Certificates. (5 cents)

Part 43. General Operating Rules, sections 43.20 through 43.24, and 43.30. (5 cents)

CAM 43. General Operation Rules. (75 cents)

Civil Aeronautics Technical Manual 101, Personal Aircraft Inspection Manual. (55 cents)

Civil Aeronautics Technical Manual 107, Aircraft Powerplant Handbook. ($1.50)

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[1] *Airframe.*—Starting with subpart E (page 12), 4a.301 through 4a.483; starting with subpart F (page 16), 4a.523 through 4a.537 and 4a.565 through 4a.581. *Powerplant.*—Starting with subpart G (page 19), 4a.591 through 4a.599; 4a.605 through 4a.616; 4a.621 through 4a.628; 4a.633 through 4a.637; 4a.642 through 4a.646; 4a.651 through 4a.656; and 4a.661.

Appendix B

Instructions for Making Application for Mechanic's Inspection Authorization

Any certificated mechanic holding both airframe and powerplant ratings and having the additional qualifications set forth in section 24.43–1 (a) of this part may make application for the Inspection Authorization.

No action will be initiated to issue and Inspection Authorization until the mechanic desiring the authorization completes Form ACA–2353 *entitled, "Application for Mechanic's Inspection Authorization"* and presents it to the Flight Operations and Airworthiness District Office having jurisdiction over the area in which he intends to exercise the privileges of the authorization. Copies of this application form may be obtained from any district office or any one of the regional offices listed in appendix D.

The application, Form ACA–2353, should be completed by printing in ink or typing the information requested. Only an original copy of the application form need be submitted. *The information to be furnished on the application* form is self-explanatory with a few possible exceptions. Item 6, Fixed Base of Operation, is to identify the place or location where the applicant may be contacted during normal working hours. If the applicant is normally employed at a place other than an airport, the information should completely identify the place of employment; for example, John Jones Company, Department #4, followed by the complete address and telephone number at which the applicant can be contacted during working hours. It is anticipated that the local Flight Operations and Airworthiness Inspector will be familiar with the activity of most certificated mechanics within his district office area. The applicant, however, should list in item 10 any evidence he believes will help substantiate the activity requirement of section *24.43–1 (a) (2) of this part. Applicants should* be prepared to submit the evidence listed to the agent reviewing the application. After review, the evidence will be returned to the applicant. Records of activity such as copies of CAA Forms ACA–337 and ACA–319 completed by the applicant are considered excellent evidence. Personal mechanic logs of work accomplished under the terms of a mechanic certificate or statements from employers will also be considered.

Upon completion of the application form, the applicant should make arrangements to present *it in person to the local inspector. Upon* receipt of the application, the inspector will proceed to establish, by interrogation or any other means he believes warranted, that the applicant has the qualifications required by section 24.43–1 (a) of this part.

If the applicant intends to take the written examination at the time the application is presented, he should be thoroughly familiar with the examination procedures described in appendix C of this manual.

Appendix C

Written Examination Procedures for Mechanic's "Inspection Authorization"

The following statements are designed to acquaint the prospective applicant for an Inspection Authorization with the scope of the examination and how Flight Operations and Airworthiness Inspectors will administer it. Applicants should be thoroughly familiar with these statements and procedures. It is not likely that an applicant can satisfactorily complete the examination unless he is acquainted with the following and has prepared himself accordingly:

1. The examination referred to in section 24.43–1 (a) (6) of this part will be in the form of a written examination consisting of three parts. Parts II and III have certain practical aspects since the applicant will be required to use Civil Air Regulations, Civil Aeronautics Manuals, Aircraft Specifications, Airworthiness Directives, and CAA administrative forms in order to develop answers to certain parts of the examination.
2. Only those applicants who fully meet the qualification requirements of section 24.43–1 (a) (1) through (4) will be eligible to take the written examination.
3. The written examinations will be given at such locations and on such dates as may be established by the local Flight Operations and Airworthiness District Office.

   a. Due to the nature of the examination which requires an inspector to personally conduct the examination, it will be given only when the applicant has made a prior appointment.
4. The examination is composed of three parts as follows:

   PART I—Privileges and Limitations of an Inspection Authorization.

   PART II—Standards and Procedures for Major Repairs and Major Alterations.

   PART III—Standards and Procedures for Periodic Inspections.

   a. Each part must be completed within the time limit established for that part. The inspector conducting the examination will grade each part as soon as the applicant has completed it or when the time established for completion of the examination has expired.
5. An applicant must successfully complete Part I before proceeding to Part II and complete Part II before proceeding to Part III. All parts must be completed the same day.
6. An applicant will have successfully completed the examination if he answers correctly 70 percent of the questions of each part.

   a. Failure of any part will require the entire examination to be retaken.
7. In the event an applicant fails to successfully complete all three parts of the examination, he may not reapply for examination for 90 days.
8. The entire examination will be based upon the requirements, procedures, and standards prescribed by the Civil Air Regulations and the Administrator for releasing aircraft or components thereof to service after major repair, major alteration, and periodic inspection.
9. Part I of the examination will deal with the Privileges and Limitations of the Inspection Authorization. All questions in this part are based upon information

contained in Civil Air Regulations Part 24 and Civil Aeronautics Manual 24.

10. Part I of the examination has ten questions. Each question requires the applicant to fill in specific words that have been omitted from a statement pertaining to the Inspection Authorization. The applicant will not be permitted to use any reference material when taking this part.

a. In preparing for this part of the examination, it is suggested that the applicant pay particular attention to the *exact* wording of the regulations and manual material since the words or numbers to be inserted in the blank spaces of the questions must be the *exact* words or numbers as used in the regulation or manual.

b. The following question is a sample of the type question found in Part I of the examination:

"The CAA rules which apply to CAR Part 24.43 are contained in.....
....."

The correct words to be inserted in the blank spaces are: "*Civil Aeronautics Manual 24.43-1.*"

c. Parts II and III of the examination have 20 questions each. All of the questions involve the use, interpretation, and application of the information and procedures contained in Aircraft Specifications, Airworthiness Directives, and Civil Air Regulations, Civil Aeronautics Manuals 1, 3, 4, 6, 8, 18, 24, and 43. The applicant will be permitted to use or refer to this inspection data in order to develop the answers to the questions.

d. Each applicant will be required to furnish his own inspection data to assist him in taking the examination. The examination is based upon the following and any applicant having the ability to use and apply the information contained therein should have no difficulty in completing the examination satisfactorily:

(1) Complete set of Aircraft Specifications for aircraft having a maximum weight of 12,500 pounds or under.

(2) An Aircraft Listing plus current Index to Aircraft Specifications.

(3) Airworthiness Directive Summary plus current Airworthiness Directive cards.

(4) Civil Air Regulations Parts 1, 3, 4, 4a, 5, 6, 8, 9, 13, 14, 16, 18, and 43.

(5) Civil Aeronautics Manuals 1, 8, 18, and 43.

(6) Any other data the applicant considers helpful.

11. Part II of the examination will deal with the procedures and standards a mechanic holding the Inspection Authorization must follow when inspection and releasing for service aircraft or components thereof after major repairs and major alterations. All questions in this part are based upon current Civil Air Regulations and Civil Aeronautics Manuals, pertinent Aircraft Specifications, and Airworthiness Directives.

a. The following question is a sample of the type of question found in Part II of the examination:

"What is the empty weight c.g. range of a Timm model N2T-1 aircraft?"

The correct answer is "(+46.3) to (47.5)." This information is found on page 1 of Aircraft Specification A2-573.

12. Part III of the examination will deal with the procedures and standards a mechanic holding the Inspection Authorization must follow when conducting the periodic or progressive inspection and for returning the aircraft to service. All questions in this part are based upon Civil Air Regulations, Civil Aeronautics Manuals, and pertinent Aircraft Specifications and Airworthiness Directives.

a. The following question is a sample of the type question found in Part III of the examination:

"List by number all Airworthiness Directives that apply to a Luscombe Model 11a aircraft, Serial 105."

The information can be found in the Airworthiness Directive Summary published by CAA.

Appendix D

CAA Regional Offices and Areas of Jurisdiction

Region 1. **Headquarters Office at Jamaica, Long Island, N. Y.**

Composed of the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Delaware, New Jersey, Pennsylvania, Ohio, Maryland, Virginia, West Virginia, Kentucky, and the District of Columbia.

Region 2. **Headquarters Office at Fort Worth, Tex.**

Composed of the States of Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Oklahoma, Louisiana, and Texas, and Puerto Rico, Swan Island, the Virgin Islands, and the Canal Zone.

Region 3. **Headquarters Office at Kansas City, Mo.**

Composed of the States of Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

Region 4. **Headquarters Office at Los Angeles, Calif.**

Composed of the States of Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Idaho, Washington, Oregon, Nevada, and California.

Region 5. **Headquarters Office at Anchorage, Alaska.**

Consists of the Territory of Alaska, including the Aleutian Islands.

Region 6. **Headquarters Office at Honolulu, T. H.**

Consists of the areas contained within the Honolulu, Wake and Guam Flight Information Regions established by ICAO. (Major operations are conducted in the Territory of Hawaii and the islands of Canton, Wake and Guam.)

International Region.

Regional Administrator, International Region, Civil Aeronautics Administration, Washington 25, D. C.

Appendix E

Instructions for Obtaining Civil Air Regulations, Civil Aeronautics Manuals, and Related Inspection Data

When performing the inspection functions authorized under the privileges of Civil Air Regulations Part 24.43, a mechanic should be guided by current Civil Air Regulations and have available the related inspection data, such as aircraft specifications, airworthiness directives, manufacturer bulletins and other types of technical publications.

It is the responsibility of the mechanic performing the airworthiness inspections to obtain this material and maintain it in a usable condition. Certain of these publications are furnished free by the Civil Aeronautics Administration and the Civil Aeronautics Board. Others may be purchased from the Government Printing Office or obtained from the aircraft manufacturer.

Since the majority of this material is subject to frequent revisions and amendments, it is not practical to list the current government publications in this appendix.

Status lists of current Civil Air Regulations and instructions for their purchase are available free of charge from the Publication Section, Civil Aeronautics Board, Washington 25, D. C.

Status lists of current CAA releases, manuals and Regulations of the Administrator may be obtained free of charge from the Office of General Services, Civil Aeronautics Administration, Washington 25, D. C.

The CAA issues aircraft, aircraft engine, aircraft propeller, equipment, and product and process specifications. This material is furnished free of charge to certificated mechanics and other technical agencies who have a need for the information. Certificated mechanics desiring to receive this information and to have their names placed on a mailing list to receive future revisions should complete the form letter on the last page and mail it to the address indicated. It is important to notify the CAA Distribution Section of any mailing address change since all mail returned unclaimed will automatically remove the addressee's name from that mailing list.

Appendix F

Forms

U. S. DEPARTMENT OF COMMERCE—CIVIL AERONAUTICS ADMINISTRATION

APPLICATION FOR
AIRMAN MECHANIC, REPAIRMAN, OR PARACHUTE RIGGER
CERTIFICATE OR RATING

FORM APPV'D BUR. BUDGET 41-R060.6

PRINT OR TYPE

1. NAME (*First, middle, last*)

2. PERMANENT MAILING ADDRESS (*Street and number, City, Zone, and State*)

3. DATE OF BIRTH	HEIGHT	WEIGHT	HAIR	EYES	SEX	NATIONALITY
	IN.					

4. PLACE OF BIRTH

5. DO YOU READ, WRITE, SPEAK AND UNDERSTAND THE ENGLISH LANGUAGE ☐ YES ☐ NO

APPLICATION IS HEREBY MADE FOR THE FOLLOWING CERTIFICATE OR RATING(S)

☐ MECHANIC CERTIFICATE
☐ AIRFRAME RATING
☐ POWERPLANT RATING
☐ REPAIRMAN CERTIFICATE
☐ PARACHUTE RIGGER CERTIFICATE
☐ PARACHUTE RIGGER RATING
☐ MASTER PARACHUTE RIGGER RATING
☐ OTHER_____ (*Specify*)

6. HAVE YOU PREVIOUSLY FAILED AN EXAMINATION FOR THIS CERTIFICATE OR RATING WITHIN THE PAST 30 DAYS ☐ YES ☐ NO (*If yes, complete 6a and 6b*)

6A. PART OF EXAMINATION FAILED ☐ WRITTEN ☐ PRACTICAL

6B. DATE AND PLACE OF EXAMINATION

7. WITHIN THE PAST TWO YEARS HAVE YOU HAD AN AIRMAN CERTIFICATE OR RATING DENIED, SUSPENDED, OR REVOKED ☐ YES ☐ NO (*If yes, give details in this space*)

8. HAVE YOU GRADUATED FROM A CERTIFICATED MECHANIC SCHOOL ☐ YES ☐ NO

8A. NAME OF CERTIFICATED SCHOOL

8B. CURRICULUM FROM WHICH GRADUATED

8C. DATE OF GRADUATION

9. AERONAUTICAL EDUCATION AND EXPERIENCE APPLICABLE TO THE CERTIFICATE AND RATING SOUGHT (*Continue on a separate sheet if more space is needed and attach to this application*)

10. I CERTIFY THAT THE STATEMENTS MADE BY ME ON THIS APPLICATION ARE TRUE.

DATE _____ SIGNATURE OF APPLICANT _____

PAGE 1 Form ACA-363 (2-55)

Figure 1

U. S. DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

Form approved.
Budget Bureau No. 41–R1690.

APPLICATION FOR MECHANIC'S INSPECTION AUTHORIZATION

1. NAME (*First, Middle, Last*)	2. DATE OF BIRTH	3. MECHANIC CERTIF. NO.

4. PERMANENT MAILING ADDRESS (*Number, Street, City, State*)

5. ARE YOU A CITIZEN OF THE UNITED STATES

☐ Yes ☐ No

If "No," of which country do you hold citizenship

6. FIXED BASE OF OPERATION (*Airport, Street, City, State*)

Tel. No.

7. HAVE YOU EVER BEEN A DAMI	8. DATE FROM WHICH YOU HAVE CONTINUOUSLY HELD YOUR AIRFRAME AND POWERPLANT RATINGS	9. HAVE YOU EVER HAD A CERTIFICATE, RATING, OR DESIGNATION DENIED, SUSPENDED, OR REVOKED
☐ No ☐ Yes. DAMI No. _____		☐ No ☐ Yes _____ (Date)

10. LIST THE EVIDENCE WHICH YOU PRESENT TO SUBSTANTIATE THAT YOU HAVE BEEN ACTIVELY ENGAGED IN THE INSPECTION AND REPAIR OF U. S. CIVIL AIRCRAFT AND ENGINES FOR AT LEAST TWO YEARS IMMEDIATELY PRECEDING THIS APPLICATION. (*See CAM–24 for acceptable evidence.*)

11. EMPLOYMENT RECORD DURING LAST 5 YEARS (*Continue on a separate sheet if more space is required*)

A. DATE OF EMPLOYMENT	B. NAME OF EMPLOYER AND NATURE OF BUSINESS	C. BRIEF DESCRIPTION OF DUTIES AND TITLE
From To		
From To		
From To		
From To		
From To		
From To		
From To		

I, the undersigned mechanic, hereby make application for authority to exercise the privileges of Civil Air Regulation 24.43. I make this application freely and without mental reservation, knowing full well that the safety and lives of others are dependent upon my integrity, skill, and judgment.

When exercising the privileges of Civil Air Regulation 24.43, I realize that failure on my part to comply with current Civil Air Regulations and the procedures and standards prescribed by the Civil Aeronautics Administration may result in the suspension or revocation of my Mechanic Certificate.

Date _____ _____
(Mechanic's signature)

16—71151–1 Form ACA–2353 (10–54)

Figure 2

UNITED STATES OF AMERICA—DEPARTMENT OF COMMERCE
CIVIL AERONAUTICS ADMINISTRATION

INSPECTION AUTHORIZATION

This Certifies That JOHN Q. PUBLIC

holder of Mechanic Certificate No. 000001
has been authorized in accordance with the privileges of Civil Air Regulation 24.43.

This authority expires March 31, 1957, unless sooner revoked by the Administrator of Civil Aeronautics or extended by endorsement on the reverse of this card.

John Q. Public
(SIGNATURE OF AUTHORIZED MECHANIC)

JAN. 3, 1956 (DATE ISSUED)

Sam Jones
SAM JONES 3-11
(SIGNATURE, AVIATION SAFETY AGENT)

16—71051-1

Authority to exercise the privileges of CAR 24.43 has been endorsed or extended to expire on the date shown below.

EXPIRATION DATE	ENDORSED BY AGENT	CAA OFFICE
MARCH 31, 1957	Sam Jones	3-11

GPO 16—71051-1 Form ACA-2354 (10-54)

Figure 3

Date_____

Printing Services Branch, W-150
Civil Aeronautics Administration
Washington 25, D. C.

Please send complete sets of the items checked and place my name on your mailing list for future issues.

☐ Alphabetical Index of Aircraft Specifications

☐ Aircraft Listing

☐ Aircraft Specifications.....Up to 12,500 lbs.

☐ Aircraft Specifications.....12,500 lbs. to 50,000 lbs.

☐ Aircraft Specifications.....50,000 lbs. or more

☐ Airworthiness Directive Supplements

☐ Engine Specifications

☐ Propeller Specifications

☐ Equipment Specifications

☐ Product and Process Specifications

I am a certificated mechanic and need the above information when exercising the privileges of my mechanic certificate. The publications checked should be mailed to the following address:

Name_____ Certificate Number_____
(Please Print)

Address_____
(Street and Number)

_____
(City, Zone, and State)

U. S. GOVERNMENT PRINTING OFFICE : 1957 O—412751