October 3, 1944

CIVIL AERONAUTICS BOARD
SAFETY BUREAU
Washington 25, D. C.

SUGGESTED REVISIONS OF PART 24 OF THE CIVIL AIR REGULATIONS

The Civil Aeronautics Board has authorized its Safety Bureau to circulate a proposed revision of Part 24 of the Civil Air Regulations relating to Mechanic Certificates for comment by interested parties prior to final consideration by the Board. The previously proposed revision of this Part which the Board authorized to be circulated in May 1943, received such a meager amount of comment that it could not be considered to represent a fair cross section of opinion of the industry. Such replies as were received disapproved in general that proposal, particularly with respect to the number of classifications and ratings. They did, however, agree with the need for a substantial revision of the present Part 24. Since that time, considerable study has been given to the subject and discussions have been held with many interested parties, both within the industry and the Civil Aeronautics Administration. The resulting modified proposal which we believe incorporates the features generally desired by both industry and government is attached hereto for your consideration and comment.

Those features upon which your comment is particularly desired are as follows:

1. A mechanic certificate will be issued to any qualified applicant and the attached rating record will show all of the ratings for which the holder has been found competent.

2. Use has been made of the term "airframe" which is now in common usage and is defined in this Part as "an aircraft less powerplant." This, it is thought, gives a clearer and more descriptive meaning than the word "aircraft" as presently used. A mechanic with an airframe rating would, in most respects, be the same as the present aircraft mechanic.

3. For rating purposes, aircraft, airframes, and engines have been divided into light and heavy categories as determined by maximum authorized weight and rated horsepower. This method of rating has been proposed in lieu of the previously proposed "metal structure" and "composite structure" ratings for aircraft and "supercharged" and "unsupercharged" ratings for engines. Although it is realized that any such rating system has to be based on arbitrary dividing lines, it is believed this method will accomplish the desired separation with less confusion than the previously proposed system. Your comment as to whether or not the numerical values of these dividing lines is proper would be particularly appreciated.

4. In addition to the rating for light or heavy aircraft, airframes, and engines, mechanics will be rated further with respect to the following:

(a) aircraft maintenance and service,
(b) airframe repair and overhaul,
(c) engine repair and overhaul.

In an attempt to conform to established practice, no separation with respect to airframe or engine is made in the maintenance and service category. Thus, the so-called "line mechanic" may perform maintenance and service work on any part of the aircraft, whereas such a separation is provided with respect to repair and overhaul. In this manner it is believed that examinations and tests can be provided to cover the particular mechanical experience of an applicant and make it unnecessary for him to be examined on work with which he is not familiar and for which he does not desire a rating. While the radio, instrument, or propeller mechanic will not be examined in any phases of the work which do not directly pertain to his specialty, he will, however, be required to possess sufficient experience and knowledge in his specialty to justify a first class rating.

5. Instead of the previously proposed three classes, mechanics are rated as first class or second class, as determined by the amount of experience. Two classes are considered sufficient since an appropriately rated first class mechanic would be authorized to make the required inspection and to return aircraft to service after major repair, overhaul, or alteration, which authorization heretofore has been available only to an Inspector of the Administrator or to an approved repair station. Furthermore, first class mechanics holding specific authorization from the Administrator may, in addition to the above, make the inspection required for the periodic renewal of the airworthiness certificate. The second class mechanic, within the scope of his category ratings, will have all of the privileges accorded the presently certificated aircraft or engine mechanic.

6. Fully realizing that no rating system, however complex, can be made to cover all possible cases and thus prevent a mechanic from performing certain specific operations for which he is not fully competent, we have attempted to avoid many unnecessary rules by the inclusion of the following general service limitations:

> 24.310 Service limitations. A mechanic may perform duties and assume responsibilities as a certificated mechanic only if he is competent by reason of previous experience with, or knowledge of, the particular operation and only if such work is done in accordance with the manufacturer's specifications or the approved Manuals of the Administrator and the details of such work are recorded as prescribed by the Administrator.

Thus, a mechanic, who otherwise by the terms of his rating would be authorized to perform a welding operation on an airframe, would be under a definite obligation not to do so if he were not an experienced welder.

In reviewing the attached proposed Part, it should be borne in mind that the rating structure has been prepared on the basis of the needs of the individual mechanic and the small operator rather than on the needs of the large organized repair station or airline maintenance base. It is believed that the large certificated repair stations and airline maintenance bases can be more appropriately handled on the basis of requirements for proper supervision and inspection and appropriate personnel qualifications rather than on the holding of individual mechanic certificates.

We should appreciate having your comment on the proposed revisions not later than December 1, 1944.

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SUGGESTED REVISION OF PART 24 - MECHANIC CERTIFICATES

24.0 Issuance.
24.1 Minimum requirements.
24.2 Tests.
24.3 Privileges and limitations.
24.4 Miscellaneous rules.
24.5 Definitions.

24.0 Issuance

24.00 Mechanic certificate. A mechanic certificate will be issued by the Administrator to any responsible person who demostrates compliance with the minimum requirements prescribed herein.

24.01 Rating record. A rating record showing one or more category and class ratings for which the holder has been found qualified will be issued in connection with a mechanic certificate.

24.02 Ratings.

24.020 Category ratings. Category ratings are as follows:

(a) maintenance and service - light aircraft,
(b) repair and overhaul - light airframes,
(c) repair and overhaul - light engines,
(d) maintenance and service - heavy aircraft,
(e) repair and overhaul - heavy airframes,
(f) repair and overhaul - heavy engines,
(g) propellers,
(h) instruments,
(i) radio.

Note: See § 24.5 for definitions.

24.021 Class ratings. Class ratings are as follows:

(a) Second class. Issued only for aircraft, airframe, and engine categories,

(b) First class. Issued for all categories.

24.03 Duration. Mechanic certificates will be of temporary duration for 90 days after the date of issuance during which period they may be recalled or changed by the Administrator. Thereafter the certificates will have no expiration date unless such date is hereafter fixed by the Board. Any suspended or revoked certificate must be surrendered to the Administrator upon request.

24.1 Minimum requirements.

24.10 Age. Applicant must be at least 18 years of age.

24.11 Citizenship. Applicant must be a citizen of unquestioned loyalty to the United States or a loyal citizen of a friendly foreign government not under the domination of or associated with any government with which the United States is at war.

24.12 Knowledge. Applicant must have a general knowledge of construction, functioning, inspection, maintenance, and repair of aircraft, aircraft engines, propellers, or appliances in those categories appropriate to the ratings sought. He must also be familiar with such provisions of the Civil Air Regulations and their Manuals as are applicable.

24.13 Experience.

(a) 2d class ratings. Applicant must have had at least one year's practical experience or its substantial equivalent with the processes, practices, materials, tools, instruments, and machinery generally used in the inspection, maintenance, service, repair, overhaul, or alteration of aircraft, airframes, engines, or appliances appropriate to the rating sought.

(b) 1st class ratings. An applicant for an aircraft maintenance and service, an airframe repair and overhaul, or engine repair and overhaul rating must have at least three years' experience as a certificated mechanic or its substantial equivalent. In addition, the scope of the experience and the quality of the work performed by the applicant must be such as to demonstrate his fitness for the rating. An applicant for a propeller, instrument, or radio rating must have at least three years' experience or its substantial equivalent with the processes, practices, materials, tools, instruments, and machinery generally used in the inspection, maintenance, service, repair, overhaul, and alteration of that portion of t he aircraft appropriate to the rating sought.

24.2 Tests.

24.20 Examinations and tests. Written, oral, and practical examinations appropriate to the certificate and ratings sought will be conducted by an authorized representative of the Administrator. A passing grade in each subject of the examination or test will be 70 percent or more.

24.200 Reexamination. An applicant for a mechanic certificate or rating who has failed any prescribed practical or theoretical examination or test may apply for reexamination in the part failed at any time after the expiration of 30 days from the date of such failure: Provided, That an applicant who has failed only the examination on the pertinent Civil Air Regulations may apply for reexamination on that subject after he has received not less than five hours of instruction from a certificated ground instructor and presents a statement from such instructor stating that he deems the applicant qualified to pass the required examination.

24.3 Privileges and limitations.

24.30 Privileges and limitations. Any person may perform work on an aircraft provided such work is performed under the supervision of an appropriately certificated mechanic. A certificated mechanic may exercise the following privileges according to his ratings;

(a) Aircraft maintenance and service, 2d class. Within the light or heavy aircraft rating specified on his rating record, he may supervise maintenance and service, and minor repair and overhaul, and he may make periodic inspections of aircraft, but may not return an aircraft to service after major repair, overhaul, or alteration;

(b) Aircraft maintenance and service, 1st class. Within the light or heavy aircraft rating specified on his rating record, in addition to the privileges specified in paragraph (a), he may return aircraft to service after major repair, overhaul, or alteration;

(c) Airframe repair and overhaul, 2d class. Within the light or heavy airframe rating specified on his rating record, he may supervise any major repair, overhaul, or alteration of an airframe and its appliances, but may not return an aircraft to service after such major repair, overhaul, or alteration;

(d) Airframe repair and overhaul, 1st class. Within the light or heavy airframe rating specified on his rating record, in addition to the privileges specified in paragraph (c), he may return an aircraft to service after such major repair, overhaul, or alteration if no other portion of the aircraft is involved;

(e) Engine repair and overhaul, 2d class. Within the light or heavy engine rating specified on his rating record, he may supervise any major repair, overhaul, or alteration of an engine and its appliances, but may not return an aircraft to service after such major repair, overhaul, or alteration;

(f) Engine repair and overhaul, 1st class. Within the light or heavy engine rating specified on his rating record, in addition to the privileges specified in paragraph (e), he may return an aircraft to service after such major repair or alteration if no other protion of the aircraft is involved;

(g) Propeller. He may supervise any major repair, overhaul, or alteration of a propeller and may return an aircraft to service thereafter if no other portion of the aircraft is involved;

(h) Radio. He may supervise any major repair, overhaul, or alteration of a radio and may return an aircraft to service thereafter if no other portion of the aircraft is involved;

(i) Instrument. He may supervise any major repair, overhaul, or alteration of an instrument and may return an aircraft to service thereafter if no other portion of the aircraft is involved.

24.31 General limitations. A certificated mechanic when serving as such must have in his possession his mechanic certificate, rating record, and an identification card satisfactory to the Administrator containing his fingerprints, his picture, and his signature.

24.310 Service limitations. A mechanic may perform duties and assume responsibilities as a certificated mechanic only if he is competent by reason of previous experience with, or knowledge of, the particular operation and only if such work is done in accordance with the manufacturer's specifications or the approved Manuals of the Administrator and the details of such work are recorded as prescribed by the Administrator.

24.311 Recent experience. The holder of a mechanic certificate may exercise the privileges thereunder only if, within the preceding 24 calendar months, he has:

(a) served as a mechanic for at least six months, or

(b) demonstrated to the Administrator that he is able to meet the standards prescribed for the issuance of the certificate and ratings.

24.4 Miscellaneous rules.

24.40 Military competence. An applicant who is, or was within six months preceding application, an active member of the Army, Navy, Marine Corps, or Coast Guard on duty involving regular service as a rated mechanic or specialist technician for a period of not less than one year, upon satisfactory accomplishment of the prescribed written examination on the Civil Air Regulations and presentation of a statement from the appropriate military authorities attesting such rating and experience, will be deemed to have met the requirements for issuance of a mechanic certificate with ratings appropriate to his military rating and experience.

24.41 Existing certificates. A currently effective mechanic certificate will continue in effect for a period not to exceed 18 months after the effective date of this Part, during which time the holder may, upon application, be issued a mechanic certificate and the appropriate ratings provided for in this Part.

24.42 Reports and records required. A certificated mechanic must make such entries in aircraft and engine log-books and Aircraft Operations Records and must make such reports and keep such records as may be prescribed by the Administrator.

24.43 Change of address. A certificated mechanic must within 30 days after a change of address inform the Administrator in writing of his new address. In lieu of this requirement he may appoint an agent authorized to accept service of all notices and documents of which service is required under the Civil Aeronautics Act of 1938 and notify the Administrator of the name and address of such agent.

24.5 Definitions

24.50 The following definitions will apply to this Part of the Civil Air Regulations:

24.500 Light aircraft. A light aircraft is an aircraft of 5,000 pounds, or less, maximum authorized weight.

24.501 Light airframe. A light airframe is a light aircraft less powerplant.

24.502 Heavy aircraft. A heavy aircraft is an aircraft of more than 5,000 pounds maximum authorized weight.

24.503 Heavy airframe. A heavy airframe is a heavy aircraft less powerplant.

24.504 Light engine. A light engine is an aircraft engine of 500 horsepower or less.

24.505 Heavy engine. A heavy engine is an aircraft engine of more than 500 horsepower.

24.506 Maintenance, service, repair, overhaul, and alteration.

Maintenance, service, repair, overhaul, and alteration are defined in Manual 18.