

FEDERAL AVIATION AGENCY
WASHINGTON 25, D.C.

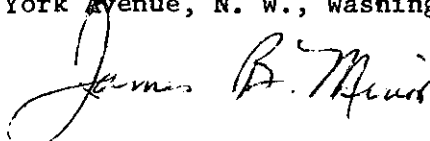
April 13, 1962

FEDERAL AVIATION REGULATIONS DRAFT RELEASE NO. 62-16

SUBJECT: Subchapter H - Schools and Other Certificated Agencies

The Federal Aviation Agency has under consideration in the recodification of its regulatory material a proposed Subchapter H "Schools and Other Certificated Agencies" [New] as set forth in the attached notice which is being published in the Federal Register. It conforms to the "Outline and Analysis" for the proposed recodification contained in Draft Release 61-25 and published in the Federal Register on November 15, 1961 (26 F.R. 10698).

Copies of the notice are being circulated to afford all interested persons an opportunity to submit comments. Due to the large number of comments we anticipate receiving, we will be unable to acknowledge receipt of each reply. You may be assured, however, that all comments will receive careful consideration. It should be noted that comments must be submitted by June 18, 1962, in duplicate, to the Docket Section of the Federal Aviation Agency, Room C-226, 1711 New York Avenue, N. W., Washington 25, D.C.



Director, Rules Codification

Attachment

FEDERAL AVIATION AGENCY

[14 CFR Parts 50, 51, 52, 53, 54, 141 [New], 143 [New], 145 [New], 147 [New], 149 [New]]

[Reg. Docket No. 1157, Draft Release No. 62-16]

SCHOOLS AND OTHER CERTIFICATED AGENCIES

Notice of Proposed Rule Making

Notice is hereby given that there is under consideration a proposal to recodify Parts 50, 51, 52, 53, and 54 of the Civil Air Regulations. Chapter I of Title 14 of the Code of Federal Regulations would be amended by adding a Subchapter H—Schools and Other Certificated Agencies [New] containing the recodified Parts.

Interested persons are invited to participate in the proposed recodification by submitting such written data, views or arguments as they may desire. Communications must be submitted in duplicate to the Docket Section of the Federal Aviation Agency, Room C-226, 1711 New York Avenue NW., Washington 25, D.C. All communications received on or before June 18, 1962 will be considered before taking action on the proposed recodification. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available, both during and after the comment period, in the Docket Section for examination by interested persons.

This proposal is a part of the program of the Federal Aviation Agency to re-

codify its regulatory material. It conforms to the "Outline and Analysis" for the proposed recodification contained in Draft Release 61-25 and published in the FEDERAL REGISTER on November 15, 1961 (26 F.R. 10698). The object of the new chapter is to restate existing regulations, not to make new ones. The pertinent provisions have been freely reworded and rearranged, subject to every precaution against disturbing existing rights, privileges, duties, or functions. In addition, in cases where well established administrative practice or construction has established authoritative interpretations, the revised language reflects the interpretations.

Each proposed recodified section is followed by a note citing the present section of the regulations upon which it is based. A cross-reference table has been placed at the end of each recodified Part to permit easy access from the old regulations to the new. Internal cross references to parts or sections that are not yet recodified contain a blank space for later insertion of the correct recodified number with the present number contained in brackets. When a part or section that is referred to in a cross reference is later recodified, the correct number will be inserted and the bracketed number will be dropped.

No substantive change that increases a burden has been made in the new subchapter. However, this has not prevented the revision of language where a future requirement was clearly indicated by current language. For example, current § 50.12-5(a)(2)(iii) (which states that a certificated instrument flight instructor may perform certain

functions of a chief instructor who does not hold an instrument rating) has been changed to delete this provision based on the statement therein that this authority would be withdrawn when enough qualified chief instructors with instrument ratings become available, as is now the case. Certain unnecessary or obsolete requirements have been eliminated thereby decreasing the burden on those persons subject to the regulations. Thus, in Part 147 [New], current § 53.51 (relating to the number of graduates of mechanic schools that must become certificated within 60 days after graduation) has been omitted as obsolete. Similarly, current § 52.45-1(c) relating to double inspections of certain maintenance operations has been omitted as surplusage. In Part 149 [New], the current § 54.11 relating to transfers of certificates is omitted as unnecessary as there are no procedures for the transfer of any airman agency certificate issued under the Federal Aviation Act of 1958. In Part 149 [New], the current § 54.17 requiring the execution of certain repair or alteration reports by parachute lofts is omitted as obsolete. Other minor changes of a similar nature are explained in notes following the affected sections and are made only to reflect present practices and terminology. This is a part of the recodification process to streamline and clarify present regulatory language and to delete obsolete or redundant provisions. It should be noted that the definitions, abbreviations, and rules of construction contained in proposed Part 1 [New], published in the FEDERAL REGISTER on February 21, 1962 (27 F.R. 1654), together with any changes that will be contained in the

final rule for that part, would apply to the proposed Subchapter H [New].

When finally adopted, the new subchapter will include the substance of any applicable rules or amendments adopted and effective during the period between the date of the notice and the effective date of the final rule, and may also include applicable rules on which individual notices of proposed rule making have been issued and the comment period has expired, but which have not been theretofore adopted.

In consideration of the foregoing, it is proposed to amend Chapter I of Title 14 by deleting Parts 50, 51, 52, 53, and 54 and by adding Subchapter H [New] reading as hereinafter set forth.

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

Issued in Washington, D.C., on April 13, 1962.

N. E. HALABY,
Administrator.

SUBCHAPTER H—SCHOOLS AND OTHER CERTIFICATED AGENCIES [NEW]

Part

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- 143 Ground Instructors [New].
- 146 Repair Stations [New].
- 147 Mechanic Schools [New].
- 149 Parachute Lofts [New].

PART 141—PILOT SCHOOLS [NEW]

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- 141.9 School ratings.
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Subpart A—General

§ 141.1 Applicability.

This part prescribes the requirements for issuing airman agency certificates and associated ratings to pilot schools and the general operating rules for the holders of those certificates and ratings.

[Revision note: Supplied]

§ 141.3 Application; issue; and renewal.

(a) An application for an original certificate and rating, for an additional rating, or for the renewal of such a certificate, under this part, is made on a form and in a manner prescribed by the Administrator. The applicant must file two copies of the proposed curriculum of the school with his application or certify that he will follow the curriculum in Appendix A, B, C, or D or in § 141.47 or § 141.49 of this chapter, as appropriate.

(b) An applicant who meets the requirements of this part for one or more school ratings is entitled to an appropriate certificate and ratings.

[Revision note: Combines §§ 50.1, 50.20 and 50.23]

§ 141.5 Duration of certificates.

(a) A pilot school certificate and rating expires at the end of the twenty-fourth month after the month in which it is issued, or on the date of any change in the ownership of the school for which it was issued, whichever is earlier.

(b) The holder of a pilot school certificate may surrender it at any time by sending it to the Administrator with a letter stating that he is surrendering it.

(c) The holder of a pilot school certificate that expires or is surrendered, suspended, or revoked, shall, upon the written request of the Administrator, return it to the Administrator.

(d) A change in the name of a pilot school, without a change in ownership, does not make the certificate expire. However, the owner of the school shall, within 15 days after any change in its name, notify the Administrator of that change. He is then entitled to a new certificate with the new name and the current number and rating.

[Revision note: Combines §§ 50.22, 50.22-1, 50.24, 50.24-1, 50.24-2, 50.25, 50.25-1 and 50.25-2]

§ 141.7 Display of certificates.

Each holder of a pilot school certificate and ratings shall, upon the reasonable request of any person, show them to that person.

[Revision note: Based on § 50.21]

§ 141.9 School ratings.

The following ratings are issued under this part:

- (a) Basic ground school.
- (b) Advanced ground school.
- (c) Primary flying school for—
 - (1) Airplanes;
 - (2) Rotorcraft; or
 - (3) Gliders.
- (d) Commercial flying school for—
 - (1) Airplanes;
 - (2) Rotorcraft; or
 - (3) Gliders.

(e) Instrument flying school.

(f) Flight instructor school.

[Revision note: Based on § 50.2]

§ 141.11 Quality of instruction.

(a) Each certificated pilot school shall provide instruction of such quality that, of its graduates who apply within 60 days after the date they are graduated, at least 80 percent qualify for pilot ratings appropriate to the curriculum from which they were graduated.

(b) A pilot school may not graduate a student unless he has completed all of the curriculum requirements of his course. A student may be credited, but not for more than 50 percent of the curriculum requirements, with previous pilot experience and knowledge, based upon an appropriate flight check or test by the school. Course credits may be transferred from one certificated school to another. The receiving school shall determine the amount to be transferred, based on a flight check or written test, or both, of the student. However, the student may not be credited with more than that with which he was credited at the school from which he transferred.

(c) The Administrator may, at any reasonable time, determine a school's compliance with its curriculum and the quality of its instruction by questioning or testing any student at that school on items that are a part of the course in which the student is enrolled and that have, according to the school schedule and records, been covered in his course. The flight test for the pilot certificate corresponding to the course from which the student was graduated may be substituted for the flight check if it is given by an FAA Inspector. To facilitate scheduling of checks under this subsection, the school shall, at least 15 days before each graduation, notify the Administrator in writing of the name of each student that it expects to graduate.

(d) The flight check for determining quality of instruction or a school's compliance with its curriculum is based on the curriculum standards in this part. Applicants for pilot certificates or ratings are flight tested in accordance with Part --- [Present Part 20] of this chapter.

[Revision note: Combines §§ 50.13-4, 50.26, 50.26-1, 50.26-2, and 50.26-1 (foot-note)]

Note: § 50.20-1(a) (1st sentence) is omitted as covered by § 50.26-2.

§ 141.13 Student tests.

Each certificated pilot school shall give an appropriate written or practical test in each subject to each student who completes that subject in an approved curriculum. The school shall keep each written test, or, in the case of a practical test, a report of it, for at least one year after the end of the student's enrollment. The test shall cover such material and be of such a degree of difficulty that a student who passes it may reasonably assume that he can pass, on his first attempt, the required FAA test on that subject, for the rating he seeks.

[Revision note: Combines §§ 50.27 and 50.27-1]

§ 141.15 Curriculum changes.

A certificated pilot school may not change its approved curriculum unless that change is approved after it has been submitted in writing, setting forth the parts that are to be changed and the proposed changes. Unless the school is notified of disapproval, within 45 days after filing the proposed change, it is considered to be approved.

[Revision note: Combines §§ 50.31 and 50.31-1]

§ 141.17 Graduation certificates.

Each graduate of a certificated pilot school is entitled to a graduation certificate in a form prescribed by the school and acceptable to the Administrator.

[Revision note: Combines §§ 50.29 and 50.29-1]

§ 141.19 Authority to test graduates for pilot certificates.

(a) The Administrator may authorize a certificated pilot school to give its graduates the written or flight test, or both, for a pilot certificate and rating under Part ____ of this chapter [Present Part 20], if it applies in writing, naming the tests it wishes to give, and complies with paragraphs (b) to (d) of this section.

(b) To be eligible to give a private pilot flight test in an airplane to graduates of a primary flying school course, a school must—

(1) Have an approved flight training curriculum, that includes two hours of dual instruction at night, four hours of dual cross-country instruction, and six hours of solo cross-country flight;

(2) Give at least 35 hours of ground instruction on primary flight maneuvers and procedures, and a written test at the end of each phase in the flight curriculum;

(3) Show that the dual instruction in the control of an airplane solely by reference to instruments is given by certificated flight instructors who are instrument flight instructors or hold instrument ratings; and

(4) Show that at least five students enrolled in its primary flying course have passed a proficiency flight check given by an FAA inspector, at least three of which had completed the entire course, and at least two of which (may be the same students) have been checked during their training course.

(c) To be eligible to test its graduates for any certificate other than a private pilot certificate, the school must submit, with its application, complete information on the proposed training and testing.

(d) The chief inspector and each designated check pilot of a school that applies under this section must pass a standardization test given by an FAA inspector before the school begins training for the purposes of this section.

(e) Each school that is authorized to give tests under this section shall send the student's application for a pilot certificate or rating and certified and complete records of his training and performance on the flight tests and ground school tests to the supervisory FAA office

for review and issue of the certificate or rating sought.

[Revision note: Based on § 50.35]

§ 141.21 Records.

Each certificated pilot school shall keep a current, accurate, and individual record of each student's participation and accomplishments in the course for which he is enrolled, including a chronological log of his instruction, attendance, subjects covered, tests, and test grades. When the student completes the course or is graduated, an authorized representative of the school shall certify the record.

[Revision note: Combines §§ 50.28 and 50.28-1 (less footnote)]

§ 141.23 Change of location.

(a) The holder of a pilot school certificate may not change the school's location, unless the change is approved in advance.

(b) If an inspection of the proposed location shows that the facilities are satisfactory, and the school meets the original certification requirements, it is entitled to a new certificate for the new location.

(c) If the inspection shows that the facilities at the new location are not satisfactory, the school is so notified and must immediately act to eliminate the deficiencies.

[Revision note: Combines §§ 50.34 and 50.34-1]

§ 141.25 Inspections.

Each applicant for a certificate under this part must, and each holder of such a certificate shall, upon reasonable request, allow the Administrator to inspect its personnel, facilities, equipment, and records.

[Revision note: Based on § 50.30]

§ 141.27 Maintenance of personnel, facilities, and equipment.

Each certificated pilot school shall maintain personnel, facilities, and equipment at least equal in quality and quantity to the standards required for the issue of the certificate and ratings that it holds.

[Revision note: Based on § 50.32]

§ 141.29 Advertising limitations.

A certificated pilot school may not make any statement relating to it that is false or designed to mislead any person contemplating enrollment in the school. Any advertising that indicates the school is approved must clearly differentiate between courses that have been approved and those that have not.

[Revision note: Based on § 50.33]

Subpart B—Ground Schools

§ 141.41 Classroom requirements.

An applicant for a ground school rating under this part must meet the following classroom requirements:

(a) At least 80 square feet of floor area, plus at least 15 square feet for each additional student over five.

(b) Heat and ventilation in accordance with public health laws.

(c) Enough light to allow a person with normal eyesight to study or read without eyestrain.

[Revision note: Combines §§ 50.10(a) and 50.10-1]

§ 141.43 Equipment requirements.

An applicant for a ground school rating under this part must have the following classroom equipment:

(a) Basic or advanced ground school:
(1) For each student, a desk-chair, chair and desk, or chair and table space (but not tablet-arm chairs) for work such as laying out courses on aeronautical charts.

(2) A blackboard with at least 12 square feet of usable surface.

(b) Basic ground school:

(1) Texts and related materials on the regulations in this chapter, meteorology, aerial navigation, radio (as used for airport traffic control, flight assistance services, general service and the operation of aircraft and aircraft engines), and pertinent operational data at the private pilot level.

(2) Illustrative, explanatory, and demonstration aids and materials representative of those that a private pilot needs in actual piloting operations, such as radio facility charts, aeronautical charts, computers, and the Airman's Guide.

(c) Advanced ground school:

(1) Text and related source materials covering the subjects named in paragraph (b) of this section and the navigation of aircraft by radio aids.

(2) Models, mockups, cutaways, and classroom-size or lecture-size blueprints and diagrams covering the operation and function of instruments and equipment required under Part ____ of this chapter [Present Part 43] and those required under Parts ____ and ____ of this chapter [Present Parts 3, 5, and 6] as they relate to the course being taught.

[Revision note: Combines §§ 50.10(b) and 50.10-2]

§ 141.45 Instructor requirements.

(a) An applicant for a ground school rating under this Part must have at least one principal instructor who is regularly available for instructing or supervising each scheduled class subject and who holds a ground instructor certificate with a rating for each subject in the school curriculum. Each instructor other than the principal instructor must have a ground instructor certificate with an appropriate rating for each subject that he teaches.

(b) An instructor must hold a rating for a subject in the ground school curriculum before he may instruct in that subject, and must be rated for all subjects in the curriculum before he may serve as a principal instructor.

[Revision note: Combines §§ 50.10 (less (a) and (b)) and 50.10-3]

§ 141.47 Curriculum requirements: Basic ground school.

An applicant for a basic ground school rating under this Part must adopt the

following as a minimum curriculum or submit one of equal or higher standard for approval. In either case it must provide at least 50 hours of classroom instruction in the following subjects, and require a passing grade on a test on each subject of each student taking the subject:

(a) Instruction in Parts ----, ----, ----, and ---- of this chapter [Present Part I; § 3.20(a) (1), (2), and (3); Parts 20; 43; and 60].

(b) Instruction in the following meteorological subjects:

- (1) Weather recognition.
- (2) Icing.
- (3) Fog.
- (4) Frontal characteristics, with particular emphasis on thunder storms.
- (5) General cloud formations and their relationship to weather characteristics.
- (6) Weather maps and symbols.
- (7) Teletype sequences and symbols.
- (8) Elementary weather forecasting.
- (9) Pressure areas and their characteristics, including motion of air masses (wind systems).
- (10) Significance of isobaric patterns.
- (11) Winds aloft.
- (12) Humidity-temperature-dewpoint relationships and significance to the pilot.
- (13) Precipitation.
- (14) Practical application of meteorological knowledge to safe flying practices.
- (15) Services and assistance available from the United States Weather Bureau.

(c) Instruction in the following on aerial navigation and radio:

- (1) Navigation methods, including pilotage; dead reckoning; and basic radio aids to navigation, including elementary radio orientation.
- (2) Navigation instruments commonly used.
- (3) Basic use of computers.
- (4) Proper use of flight plans.
- (5) Proper use of published aids such as the Flight Information Manual, the Airman's Guide, and Notams.
- (6) Explanation of radio aids to flight.
- (7) Proper use of radio, including voice procedure and phraseology.
- (8) Flight assistance services.
- (d) Instruction in the following general service and safety practices:

(1) Care of aircraft, including pre-flight inspection procedures, general safety precautions, and explanation of preventive maintenance, repair, and required inspections.

(2) Care of engines, including pre-flight inspection procedures, fuel requirements, proper starting, warmup and shutdown procedures; explanation of preventive maintenance, repair, required inspection, and use of operating manuals; and the functions, limitations, and characteristic errors of instruments required under Part ----- of this chapter [Present Part 43].

(3) Flight safety practices, including operation under conditions of high altitude, extreme temperatures, gross weight, icing (wing ice, propeller ice, and carburetor ice); adverse surface conditions (rough, soft, and slippery); turbulent air (mountainous and canyon

effects, and surface obstruction and thermal effects); day and night marginal visibility; radio communications failure; low fuel supply; aerodynamic effect of frost or snow on airfoils; maximum range versus maximum endurance operation; proper tiedown or securing of aircraft; emergency assistance and lost procedures; use of landing lights and flares; obstructions to flight, such as antennae, poles, and birds; and procedures when operating unfamiliar aircraft.

[Revision note: Combines §§ 50.11(a) and 50.11-1]

§ 141.49 Curriculum requirements: Advanced ground school.

An applicant for an advanced ground school rating under this part must adopt the following as a minimum curriculum or submit one of equal or higher standard for approval. In either case, it must provide at least 150 hours of classroom instruction in the following subjects, and require a passing grade on a test on each subject of each student taking that subject:

(a) Instruction in the regulations listed in § 141.47, in enough detail and thoroughness to give the student the information he may need as a commercial pilot with an unrestricted certificate, plus instruction on Part ---- of this chapter [Present Part 42] and particular stress on airport and air route traffic control procedures and operations under them.

(b) Instruction in the meteorological subjects listed in § 141.47 of more detail and thoroughness of instruction than that given in a basic ground school, including the cause and effect aspects of weather in relation to safe and successful flight operations.

(c) Instruction in pilotage and dead reckoning techniques and radio aids to navigation, including a practical demonstration to provide familiarization with L/MF and VOR/VHF techniques and preparing and using IFR flight plans.

(d) Instruction in the servicing and safety practices listed in § 141.47(d), and—

(1) Other servicing and safety practices, theory of flight, lift-gravity-thrust-drag forces, characteristics of air as a fluid mass, and performance characteristics of aircraft including ground effect, design, gust load safety factors, and operating limitations; and

(2) Care and maintenance of equipment, including pressure, quantity, and rate instruments; radio and electronics equipment; flotation devices; fire extinguishers; safety belts; windshields, windows, and canopies; emergency exits; and parachutes.

[Revision note: Combines §§ 50.11 (less (a)) and 50.11-2]

Subpart C—Flying Schools

§ 141.51 Airport requirements.

(a) An applicant for a flying school rating under this part must provide an airport with at least one runway or take-off area that allows its training aircraft to make a normal takeoff at full gross weight—

(1) Under calm wind (not more than five miles per hour) conditions and temperatures equal to the mean high temperature for the hottest month of the year in the operating area;

(2) Clearing all obstacles in the take-off flight path by at least 50 feet;

(3) With the powerplant operation and landing gear and flap operation, if applicable, recommended by the manufacturer; and

(4) With smooth transition from lift-off to the best rate of climb speed without exceptional piloting skills or techniques.

(b) The standards listed in paragraph (a) of this section apply to outlying fields used for training purposes, except those used for training in the principles and procedures for coping with critical situations.

[Revision note: Combines §§ 50.12(a) and 50.12-1]

§ 141.53 Office and room facilities requirements.

An applicant for a flying school rating under this part must have permanent office, rest room, and ready room facilities at the airport or base of operations. Facilities provided under this section must conform to local building, sanitation, and health codes. Ready rooms provided under this section must have chairs, clothesracks or lockers, and bulletin boards.

[Revision note: Combines §§ 50.12(b) and 50.12-2]

§ 141.55 Flight equipment requirements.

(a) An applicant for a flying school rating under this part must have the aircraft described in this section.

(b) Each airplane used for flight instruction of students enrolled in a flying course must be certificated under Part -- or -- of this chapter [Present Parts 3, 4a, or 4b], maintained as provided in Part -- of this chapter [Present Part 43], registered in the name of the school or operated under a lease, and have the equipment and performance characteristics appropriate to its curriculum.

(c) Each applicant must have at least one airplane for each 15 students (or fraction thereof) enrolled in the flight course and enough airworthy airplanes available at the training location for the flight training periods.

(d) Each applicant for a commercial course must have at least two types of airplanes that significantly differ in performance, flight characteristics, and operating requirements. At least one of them must have a demonstrated cruising speed of at least 120 miles per hour using MTO power. Airplanes used in the radio navigation or instrument part of the curriculum must have the minimum instruments and radio equipment required by § -- of this chapter [§ 43.30(c)] and a gyroscopically operated pitch indicator.

(e) Each training aircraft must have available to the trainee, in the aircraft, an appropriate pilot's training checklist containing essential operational data on prestarting procedure; warmup procedure; pretakeoff procedure; cruising

flight procedure; prelanding procedure; shutting down procedure; and emergency procedure for critical flight situations involving aircraft or engine troubles; flight configurations and operational speeds for severe turbulence; and single-engine operation, if appropriate.

(f) If a school that applies for a commercial or instrument rating, or both, does not have a simulated flight training device available to it that is acceptable to the Administrator, it must give all of its required instrument flight training in aircraft.

[Revision note: Combines §§ 50.12(c) and 50.12-3]

§ 141.57 Maintenance facility requirements.

(a) An applicant for a flying school rating under this Part must provide facilities necessary to maintain, in a continuously airworthy condition, the minimum flight equipment required by this subpart. It may provide those facilities by ownership, rental, lease, or other approved arrangement.

(b) In addition, such a school must have enough certificated mechanics readily available to maintain its aircraft used for flight instruction, unless other approved arrangements are made.

[Revision note: Combines §§ 50.12 (d) and (e) and 50.12-4]

§ 141.59 Flight instructor requirements.

(a) Each flight course must be under the direct supervision of a chief flight instructor designated by the school. A chief instructor may serve as a chief instructor for each course for which he is qualified. Each chief instructor must have a good record as a pilot and flight instructor and—

(1) For a primary flying school, must—

(i) Be at least 24 years of age;

(ii) Have at least two years of experience as an active certificated flight instructor immediately before the date he is designated as chief instructor;

(iii) Have at least 500 hours as a certificated flight instructor, including at least 50 hours in the year before the date he is designated as chief instructor; and

(iv) Have at least 1,000 hours as pilot in command;

(2) For a commercial flying school, or flight instructor flying school, must—

(i) Be at least 24 years of age;

(ii) Have at least three years of experience as an active certificated flight instructor immediately before the date he is designated as chief instructor;

(iii) Have at least 1,000 hours as a certificated flight instructor including at least 100 hours in the year before the date he is designated as chief instructor;

(iv) In the case of a commercial flying school, have an instrument rating; and

(v) Have at least 2,000 hours as pilot in command; and

(3) For an instrument flying school, must—

(i) Be at least 24 years of age;

(ii) Have at least two years of experience, immediately before the date he is designated as chief instructor, as a certificated instrument flight instructor;

(iii) Have at least 100 hours of instrument flight time under actual or simulated instrument flight conditions;

(iv) Have at least 250 hours as an instrument flight instructor; and

(v) Have at least 1,000 hours as pilot in command.

(b) Each school shall assign the following duties to its chief instructors, to be accepted in writing or by endorsing the assignment:

(1) Certifying training reports, graduation certificates, and official recommendations of the school.

(2) Maintaining adequate instructional standards.

(3) Effective scheduling of aircraft, instructors, and students.

(4) Maintaining student progress and accomplishment records.

(5) Conducting competence and standardization checks of instructors.

(6) Conducting student proficiency stage checks.

(7) Maintaining liaison with FAA in applying the techniques, procedures, and standards of the school.

(c) The school shall notify the Administrator, in writing, of any change in the designation of a chief instructor.

[Revision note: Combines §§ 50.12 (less (a)-(e)) and 50.12-5]

§ 141.61 Curriculum requirements: Primary flying school.

An applicant for a primary flying school rating under this part must provide—

(a) For airplanes, at least 35 hours of flight time or 30 hours of flight time and additional specialized instruction approved by the Administrator;

(b) For helicopters, at least 35 hours of flight time; and

(c) For gliders, at least eight hours of flight time. For airplanes, the required hours of flight time must include the training described in Appendix A¹ to this part and a demonstration of student proficiency and knowledge. Student progress checks may be applied toward completing course-hour requirements.

[Revision note: Combines §§ 50.13 (less (b)-(d)), 50.13-1 (less (b)-(d)), 50.13-2 and 50.13-3]

§ 141.63 Curriculum requirements: Commercial flying school.

An applicant for a commercial flying school rating under this part must provide—

(a) For airplanes, at least 160 hours of flight time, including at least 100 hours of solo flight of which at least 20 are sole cross-country;

(b) For helicopters, at least 160 hours of flight time; and

(c) For gliders, at least 20 hours of flight time.

For airplanes, the required hours of flight time must include the training described in Appendix B² to this part and a demonstration of student proficiency

and knowledge. Student progress checks may be applied toward completing course-hour requirements.

[Revision note: Combines §§ 50.13(b), 50.13-1(b), 50.13-2, and 50.13-3]

§ 141.65 Curriculum requirements: Instrument flying school.

An applicant for an instrument flying school rating under this part must provide at least 30 hours of instrument flying instruction, of which at least 20 hours are in actual flight; and a total of at least 30 hours of ground instruction on the regulations in this chapter, navigation, meteorology, and radio orientation and procedures as applicable to instrument flying. For airplanes, the required hours of instruction must include the training described in Appendix C³ to this part and a demonstration of student proficiency and knowledge. Student progress checks may be applied toward completing course-hour requirements.

[Revision note: Combines §§ 50.13(c), 50.13-1(c), 50.13-2, and 50.13-3]

§ 141.67 Curriculum requirements: Flight instructor school.

An applicant for a flight instructor school rating under this part must provide at least 25 hours of flying devoted exclusively to the science of flight instruction and at least 40 hours of theoretical instruction in the fundamentals of giving flight instruction and the analysis and performance of flight technique. For airplanes, the required hours of instruction must include the training described in Appendix D⁴ to this part and a demonstration of student proficiency and knowledge. Student progress checks may be applied toward completing course-hour requirements.

[Revision note: Combines §§ 50.13(d), 50.13-1(d), 50.13-2, and 50.13-3]

PART 141—DISTRIBUTION TABLE

Present section	Revised section	Present section	Revised section
50.1-----	141.9	50.13(b) ----	141.63
50.2-----	141.9	50.13(c) ----	141.65
50.10(a) ----	141.41	50.13(d) ----	141.67
50.10(b) ----	141.43	50.13-1 (less (b)-(d)) --	141.61
50.10 (less (a) and (b)) ...	141.45	50.13-1(b) ---	141.63
50.10-1-----	141.41	50.13-1(c) ---	141.65
50.10-2-----	141.43	50.13-1(d) ---	141.67
50.10-3-----	141.45	50.13-2-----	141.61
50.11(a) ----	141.47		141.63
50.11 (less (a)) ----	141.49		141.65
50.11-1-----	141.47	50.13-3-----	141.61
50.11-2-----	141.49		141.63
50.12(a) ----	141.51		141.65
50.12(b) ----	141.53		141.67
50.12(c) ----	141.55	50.13-4-----	141.71
50.12 (d) and (e) -----	141.57	50.20-----	141.3
50.12 (less (a)-(e)) --	141.59	50.20-1-----	(?)
50.12-1-----	141.51	50.21-----	141.7
50.12-2-----	141.53	50.22-----	141.5
50.12-3-----	141.55	50.22-1-----	141.5
50.12-4-----	141.57	50.23-----	141.3
50.12-5-----	141.59	50.23-1-----	(?)
50.13 (less (b)-(d)) ..	141.61	50.24-----	141.5
		50.24-1-----	141.5
		50.24-2-----	141.5
		50.25-----	141.5

¹ Not a rule.

² Appendices C and D have not been printed for the purposes of this circulation. They will state present § 50.13-1 (c) and (d) without change.

³ Appendix A has not been printed for the purposes of this circulation. It will state present § 50.13-1(a), without change.

⁴ Appendix B has not been printed for the purposes of this circulation. It will state present § 50.13-1(b), without change.

PART 141—DISTRIBUTION TABLE—Continued

Present section	Revised section	Present section	Revised section
50.25-1	141.5	50.29	141.17
50.25-2	141.5	50.29-1	141.17
50.26	141.11	50.30	141.25
50.26-1	141.11	50.30-1	(4)
50.26-2	141.11	50.31	141.16
50.27	141.13	50.31-1	141.16
50.27-1	141.13	50.32	141.27
50.28	141.21	50.32-1	(4)
50.28-1 (foot-note)	141.11	50.33	141.29
50.28-1 (less footnote)	141.21	50.34	141.23
		50.34-1	141.23
		50.35	141.19

1 Not a rule.

PART 143—GROUND INSTRUCTORS [NEW]

Sec.	
143.1	Applicability.
143.3	Application and issue.
143.5	Temporary certificate.
143.7	Duration of certificate.
143.9	Eligibility requirements: General.
143.11	Knowledge requirements.
143.13	Cooperation during inspections and tests.
143.15	Tests: General procedures.
143.17	Re-testing after failure.
143.19	Recent experience.
143.21	Display of certificate.
143.23	Change of address.

§ 143.1 Applicability.

This part prescribes the requirements for issuing ground instructor certificates and associated ratings and the general operating rules for the holders of these certificates and ratings.

[Revision note: Supplied]

§ 143.3 Application and issue.

(a) An application for a certificate and rating, or for an additional rating, under this part, is made on a form and in a manner prescribed by the Administrator. However, a person whose ground instructor certificate has been revoked may not apply for a new certificate for a period of one year after the effective date of the revocation unless the order of revocation provides otherwise.

(b) An applicant who meets the requirements of this part is entitled to an appropriate certificate with ratings naming the ground school subjects that he is authorized to teach.

[Revision note: Combines §§ 51.2, 51.7, 51.8, 51.11, 51.12, and 51.13]

NOTE: § 51.7 is omitted as obsolete.

§ 143.5 Temporary certificate.

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

[Revision note: Based on § 51.4(a)]

§ 143.7 Duration of certificate.

(a) A certificate or rating issued under this part is effective until it is surrendered, suspended, or revoked.

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

[Revision note: Combines §§ 51.4 (less (a)), and 51.9]

§ 143.9 Eligibility requirements: General.

To be eligible for a certificate under this part, a person must be at least 18 years of age, be of good moral character, and comply with § 143.11.

[Revision note: Based on § 51.1 (less (d))]

NOTE: § 51.1(c) is omitted as surplusage.

§ 143.11 Knowledge requirements.

Each applicant for a ground instructor certificate must show his practical and theoretical knowledge of the subject for which he seeks a rating by passing a written test on that subject.

[Revision note: Based on § 51.1(d)]

§ 143.13 Cooperation during inspections and tests.

Each applicant for a ground instructor certificate, and each person who holds such a certificate, shall, upon request, cooperate fully during any inspection or test made of him by the Administrator.

[Revision note: Based on § 51.16]

§ 143.15 Tests: General procedures.

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

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

[Revision note: Combines §§ 51.14, 51.15, and 51.17]

§ 143.17 Re-testing after failure.

An applicant for a ground instructor rating who fails a test under this part may apply for re-testing—

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

(b) Upon presenting a statement from a certificated ground instructor, rated for the subject of the test failed, certifying that he has given the applicant at least five hours additional instruction in that subject and now considers that he can pass the test.

[Revision note: Based on § 51.10]

§ 143.19 Recent experience.

The holder of a ground instructor certificate may not perform the duties of a ground instructor unless, within the 12 months before he intends to perform them—

(a) He has served for at least three months as a ground instructor; or

(b) The Administrator has determined that he meets the standards prescribed in this part for the certificate and rating.

[Revision note: Based on § 51.5]

§ 143.21 Display of certificate.

Each holder of a ground instructor certificate shall keep the certificate readily available to him while instructing and shall present it for inspection upon the request of his student, school officer, or the Administrator.

[Revision note: Based on § 51.3]

§ 143.23 Change of address.

Within 30 days after any change in his permanent mailing address, the holder

of a ground instructor certificate shall notify the Federal Aviation Agency, Aircraft and Airman Records Branch, Oklahoma City, Oklahoma, in writing, of his new address.

[Revision note: Based on § 51.11a]

PART 143—DISTRIBUTION TABLE

Present section	Revised section	Present section	Revised section
51.1(d)	143.11	51.9	143.7
51.1 (less (d))	143.9	51.10	143.17
51.2	143.3	51.11	143.3
51.3	143.21	51.11a	143.23
51.4(a)	143.5	51.12	143.3
51.4 (less (a))	143.7	51.13	143.3
51.5	143.19	51.14	143.15
51.7	143.3	51.15	143.15
51.8	143.3	51.16	143.13
		51.17	143.15

PART 145—REPAIR STATIONS [NEW]

Subpart A—General

Sec.	
145.1	Applicability.
145.3	Certificate required.
145.11	Application and issue.
145.13	Certification of foreign repair stations: Special requirements.
145.15	Change or renewal of certificates.
145.17	Duration of certificates.
145.19	Display of certificate.
145.21	Change of location or facilities.
145.23	Inspection.
145.25	Advertising.

Subpart B—Domestic Repair Stations

145.31	Ratings.
145.33	Limited ratings.
145.35	Housing and facility requirements.
145.37	Special housing and facility requirements.
145.39	Personnel requirements.
145.41	Recommendation of certification for repairmen.
145.43	Records of supervisory and inspection personnel.
145.45	Inspection systems.
145.47	Equipment and materials: Ratings other than limited ratings.
145.49	Equipment and materials: Limited rating.
145.51	Privileges of certificates.
145.53	Limitations of certificates.
145.55	Maintenance of personnel, facilities, equipment, and materials.
145.57	Performance standards.
145.59	Inspection of work performed.
145.61	Performance records and reports.
145.63	Reports of defects or unairworthy conditions.

Subpart C—Foreign Repair Stations

145.71	General requirements.
145.73	Scope of work authorized.
145.75	Personnel.
145.77	General operating rules.
145.79	Records and reports.

Subpart A—General

§ 145.1 Applicability.

(a) This part prescribes the requirements for issuing repair station certificates and associated ratings and the general operating rules for the holders of those certificates and ratings.

(b) A certificated repair station located in the United States is called a "domestic repair station." A repair station located outside of the United States is called a "foreign repair station."

[Revision note: Based on § 52.0]

§ 145.3 Certificate required.

No person may operate as a certificated repair station without, or in violation of, a repair station certificate. In addition, an applicant for a certificate may not advertise himself as a certificated repair station until a certificate has been issued to him.

(Revision note: Combines §§ 52.5-1(f) (last sentence), 52.6 (last sentence) and 52.8-1)

§ 145.11 Application and issue.

(a) An application for a repair station certificate and rating, or for an additional rating, is made on a form and in a manner prescribed by the Administrator, and submitted with duplicate copies of—

(1) Employment summaries (providing the information required by § 145.43 for the chief inspector and other personnel having technical responsibility for final airworthiness determinations before releasing an article to service, and in a case where the privilege of final airworthiness determination is retained by the management officials of the station, an employment summary for each of those officials;

(2) Its inspection procedures manual;

(3) A list of the maintenance functions to be performed for it, under contract, by another agency under § 145.49 or Appendix A¹; and

(4) In the case of an applicant for a propeller rating (class 2) or any accessory rating (class 1, 2, or 3), a list, by type or make, or both, of the propeller or accessory for which he seeks approval.

(b) An applicant who meets the requirements of this part is entitled to a repair station certificate with appropriate ratings prescribing such operations specifications and limitations as are necessary in the interests of safety.

(Revision note: Combines §§ 52.5, 52.5-1 (less (c)-(f)), 52.6 (less last sentence), 52.20, and 52.20-1)

§ 145.13 Certification of foreign repair stations; special requirements.

Before applying under § 145.11, an applicant for a foreign repair station certificate must notify the FAA office having jurisdiction over the area in which the applicant is located of his intention to so apply and send that office a statement of his reasons for wanting a repair station at his place of business. In addition to the information required by § 145.11, the applicant must furnish two copies of a suitably bound brochure, including a physical description of his facilities (with photographs), a description of his inspection system, an organizational chart, the names and titles of managing and supervisory personnel, and a list of services obtained under contract, if any, with the names of the contractors and the types of services they perform.

(Revision note: Based on § 52.5-1 (d) and (e))

¹ For the purposes of this circulation, Appendix A has not been printed. It will state present §§ 52.21-1, 52.22-1, 52.55-1, 52.34-1, 52.35-1, and 52.38-1 without changes.

§ 145.15 Change or renewal of certificates.

(a) Each of the following requires the certificate holder to apply for a change in a repair station certificate, on a form and in the manner prescribed by the Administrator:

(1) A change in the location or housing and facilities of the station.

(2) A change in the officials responsible for overall management of the station or of the persons responsible for releasing items from it.

(3) A change in authorized signatures.

(4) A request to revise or amend a rating.

(b) If the holder of a repair station certificate sells or transfers its assets, the new owner must apply for an amended certificate, in the manner prescribed in § 145.11 and, if applicable, § 145.13.

(c) A person requesting renewal of a foreign repair station certificate shall, within 30 days before his current certificate expires, send the request to the FAA office having jurisdiction over the station. If he does not make the request within that period, he must follow the procedure prescribed in § 145.13 for applying for a new certificate, but without copies of the brochure.

(Revision note: Combines §§ 52.5-1(c), 52.5-1(f) (less first and last sentences), 52.13 and 52.13-1)

§ 145.17 Duration of certificates.

(a) A domestic repair station certificate or rating is effective until it is surrendered, suspended, or revoked.

(b) A foreign repair station certificate or rating expires at the end of one year after the date on which it was issued, unless it is sooner surrendered, suspended, or revoked. However, if the station continues to comply with § 145.71 and applies, its certificate may be renewed for another year.

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

(Revision note: Combines §§ 52.5-1(f) (first sentence), 52.7, and 52.7-1)

§ 145.19 Display of certificate.

Each holder of a repair station certificate shall display the certificate and ratings at a place in the repair station that is normally accessible to the public and is not obscured. The certificate must be available for inspection by the Administrator.

(Revision note: Combines §§ 52.9 and 52.9-1)

§ 145.21 Change of location or facilities.

(a) The holder of a repair station certificate may not make any change in its location or in its housing and facilities that are required by § 145.35, unless the change is approved, in writing, in advance.

(b) The Administrator may prescribe the conditions under which a repair station may operate while it is changing its location or housing facilities.

(Revision note: Combines §§ 52.10 and 52.10-1)

§ 145.23 Inspection.

Each certificated repair station shall allow the Administrator to inspect it, at any time, to determine its compliance with this part. After the original inspection, formal inspections are normally made once a year and cover the adequacy of the station's inspection system, personnel, stock facilities, equipment, records, and its general ability to comply with this part. After such an inspection is made, the repair station is notified, in writing, of any defects found during the inspection. Other informal inspections may be made from time to time.

(Revision note: Combines §§ 52.12, 52.12-1, and 52.12-2)

§ 145.25 Advertising.

(a) Whenever the advertising of a certificated repair station indicates that it is certificated, it must clearly state its certificate number.

(b) Paragraph (a) of this section applies to advertising in—

(1) Business letterheads;

(2) Billheads and statements;

(3) Customer estimates and inspection forms;

(4) Hangar or shop signs;

(5) Magazines, periodicals, or trade journals; or

(6) Any form of promotional media.

(Revision note: Combines §§ 52.11, 52.11-1, 52.11-2 and 52.11-3)

NOTE: Reference to the certificate number instead of ratings and classes held is made to conform to present practice.

Subpart B—Domestic Repair Stations

§ 145.31 Ratings.

The following ratings are issued under this subpart:

(a) Airframe ratings:

(1) Class 1: Composite construction of small aircraft.

(2) Class 2: Composite construction of large aircraft.

(3) Class 3: All-metal construction of small aircraft.

(4) Class 4: All-metal construction of large aircraft.

(b) Powerplant ratings:

(1) Class 1: Reciprocating engines of 400 horsepower or less.

(2) Class 2: Reciprocating engines of more than 400 horsepower.

(3) Class 3: Turbine engines.

(c) Propeller ratings:

(1) Class 1: All fixed pitch and ground adjustable propellers of wood, metal, or composite construction.

(2) Class 2: All other propellers, by make.

(d) Radio ratings:

(1) Class 1: Communication equipment; Any radio transmitting equipment or receiving equipment, or both, used in aircraft to send or receive communications in flight, regardless of carrier frequency or type of modulation used; including auxiliary and related aircraft interphone systems, amplifier systems, electrical or electronic inter-crew signaling devices, and similar equipment; but not including equipment used for navigation of the aircraft or as an aid to navigation, equipment for measuring altitude or terrain clearance, other

measuring equipment operated on radio or radar principles, or mechanical, electrical, gyroscopic, or electronic instruments that are a part of communications radio equipment.

(2) Class 2: Navigational equipment: Any radio system used in aircraft for en route or approach navigation, except equipment operated on radar or pulsed radio frequency principles, but not including equipment for measuring altitude or terrain clearance or other distance equipment operated on radar or pulsed radio frequency principles.

(3) Class 3: Radar equipment: Any aircraft electronic system operated on radar or pulsed radio frequency principles.

(e) Instrument ratings:

(1) Class 1: Mechanical: Any diaphragm, bourdon tube, aneroid, optical, or mechanically driven centrifugal instrument that is used on aircraft or to operate aircraft, including tachometers, airspeed indicators, pressure gauges, drift sights, magnetic compasses, altimeters, or similar mechanical instruments.

(2) Class 2: Electrical: Any self-synchronous and electrical indicating instruments and systems, including remote indicating instruments, cylinder head temperature gauges, or similar electrical instruments.

(3) Class 3: Gyroscopic: Any instrument or system using gyroscopic principles and motivated by air pressure or electrical energy, including automatic pilot control units, turn and bank indicators, directional gyros, and their parts, and flux gate and gyrosyn compasses.

(4) Class 4: Electronic: Any instruments whose operation depends on electron tubes, transistors, or similar devices, including capacitance type quantity gauges, system amplifiers, and engine analyzers.

(f) Accessory ratings:

(1) Class 1: Mechanical accessories that depend on friction, hydraulics, mechanical linkage, or pneumatic pressure for operation, including aircraft wheel brakes, mechanically driven pumps, carburetors, aircraft wheel assemblies, shock absorber struts and hydraulic servo units.

(2) Class 2: Electrical accessories that depend on electrical energy for their operation, and generators, including starters, voltage regulators, electric motors, electrically driven fuel pumps, magnetos, or similar electrical accessories.

(3) Class 3: electronic accessories that depend on the use of an electron tube, transistor, or similar device, including supercharger, temperature, air conditioning controls, or similar electronic controls.

[Revision note: Combines §§ 52.26 and 52.26-1]

§ 145.33 Limited ratings.

(a) Whenever the Administrator finds it appropriate, he may issue a limited rating to a domestic repair station that maintains or alters only a particular type of airframe, powerplant, propeller, radio, instrument, or accessory, or parts thereof, or performs only specialized maintenance requiring equipment and

skills not ordinarily found in regular repair stations. Such a rating may be limited to a specific model aircraft, engine, or constituent part, or to any number of parts made by a particular manufacturer.

(b) Limited ratings are issued for—

(1) Airframes of a particular make and model;

(2) Engines of a particular make and model;

(3) Propellers of a particular make and model;

(4) Instruments of a particular make and model;

(5) Radio equipment of a particular make and model;

(6) Accessories of a particular make and model;

(7) Landing gear components;

(8) Floats, by make;

(9) Nondestructive inspection, testing, and processing;

(10) Emergency equipment;

(11) Rotor blades, by make and model;

(12) Aircraft fabric work; and

(13) Any other purpose for which the Administrator finds the applicant's request is appropriate.

(c) For a limited rating for specialized services, the operations specifications of the station shall contain the specification used in performing that specialized service. The specification may either be a civil or military one that is currently used by industry and approved by the Administrator or one developed by the applicant and approved by the Administrator.

[Revision note: Combines §§ 52.27 and 52.27-1]

§ 145.35 Housing and facility requirements.

(a) An applicant for a domestic repair station certificate and rating, or for an additional rating, must comply with paragraphs (b) to (g) of this section and provide suitable—

(1) Housing for its necessary equipment and material;

(2) Space for the work for which it seeks a rating;

(3) Facilities for properly storing, segregating, and protecting materials, parts, and supplies; and

(4) Facilities for properly protecting parts and subassemblies during disassembly, cleaning, inspection, repair, alteration, and assembly;

so that work being done is protected from weather elements, dust, and heat; workers are protected so that the work will not be impaired by their physical efficiency; and maintenance operations have efficient and proper facilities.

(b) The applicant must provide suitable shop space where machine tools and equipment are kept and where the largest amount of bench work is done. The shop space need not be partitioned but machines and equipment must be segregated whenever—

(1) Machine or woodwork is done so near an assembly area that chips or material might inadvertently fall into assembled or partially assembled work;

(2) Unpartitioned parts cleaning units are near other operations;

(3) Fabric work is done in an area where there are oils and greases;

(4) Painting or spraying is done in an area so arranged that paint or paint dust can fall on assembled or partially assembled work;

(5) Paint spraying, cleaning, or machining operations are done so near testing operations that the precision of test equipment might be affected; and

(6) In any other case the Administrator determines it is necessary.

(c) The applicant must provide suitable assembly space in an enclosed structure where the largest amount of assembly work is done. The assembly space must be large enough for the largest item to be worked on under the rating he seeks and must meet the requirements of paragraph (a) of this section.

(d) The applicant must provide suitable storage facilities used exclusively for storing standard parts, spare parts, and raw materials, and separated from shop and working space. He must organize the storage facilities so that only acceptable parts and supplies will be issued for any job, and must follow standard good practices for properly protecting stored materials.

(e) The applicant must store and protect parts being assembled or disassembled, or awaiting assembly or disassembly, to eliminate the possibility of damage to them.

(f) The applicant must provide suitable ventilation for his shop, assembly, and storage areas so that the physical efficiency of his workers is not impaired.

(g) The applicant must provide adequate lighting for all work being done so that the quality of the work is not impaired.

(h) The applicant must control the temperature of the shop and assembly area so that the quality of the work is not impaired. Whenever special maintenance operations are being performed, such as fabric work or painting, the temperature and humidity control must be adequate to insure the airworthiness of the article being maintained.

[Revision note: Combines §§ 52.21, 52.21-1 and 52.21-2]

§ 145.37 Special housing and facility requirements.

(a) In addition to the housing and facility requirements in § 145.35, an applicant for a domestic repair station certificate and rating, or for an additional rating, for airframes, powerplants, propellers, instruments, accessories, or radios must meet the requirements of paragraphs (b) to (f) of this section.

(b) An applicant for an airframe rating must provide suitable permanent housing for at least one of the heaviest aircraft within the weight class of the rating he seeks. If the location of the station is such that climatic conditions allow work to be done outside permanent work docks may be used if they meet the requirements of § 145.35(a).

(c) An applicant for either a powerplant or accessory rating must provide suitable trays, racks, or stands for segregating complete engine or accessory assemblies from each other during assembly and disassembly. He must provide

covers to protect parts awaiting assembly or during assembly to prevent dust or other foreign objects from entering into or falling on those parts.

(d) An applicant for a propeller rating must provide suitable stands, racks, or other fixtures for the proper storage of propellers after being worked on.

(e) An applicant for a radio rating must provide suitable storage facilities to assure the protection of parts and units that might deteriorate from dampness or moisture.

(f) An applicant for an instrument rating must provide a reasonably dust free shop if the shop allocated to final assembly is not air conditioned. Shop and assembly areas must be kept clean at all times to reduce the possibility of dust or other foreign objects getting into instrument assemblies.

(Revision note: Based on § 52.21-3)

§ 145.39 Personnel requirements.

(a) An applicant for a domestic repair station certificate and rating, or for an additional rating, must provide adequate personnel who can perform, supervise, and inspect the work for which the station is to be rated. The officials of the station must carefully consider the qualifications and abilities of their employees and shall determine the abilities of its uncertificated employees performing maintenance operations on the basis of practical tests or employment records. The repair station is primarily responsible for the satisfactory work of its employees.

(b) The number of repair station employees may vary according to the type and volume of its work. However, the applicant must have enough properly qualified employees to keep up with the volume of work in process, and may not reduce the number of its employees below that necessary to efficiently produce airworthy work.

(c) Each repair station shall determine the abilities of its supervisors and shall provide enough of them for all phases of its activities. However, the Administrator may determine the ability of any supervisor by inspecting his employment and experience records or by a personal test. Each supervisor must have direct supervision over working groups but need not have over-all supervision at management level. Whenever apprentices or students are used in working groups on assemblies or other operations that might be critical to the aircraft, the repair station shall provide at least one supervisor for each 10 apprentices or students, unless the apprentices or students are integrated into groups of experienced workers.

(d) Each person who is directly in charge of the maintenance functions of a repair station must be appropriately certificated as a mechanic or repairman under Part ---- of this chapter (Present Part 24) and must have had at least 18 months of practical experience in the procedures, practices, inspection methods, materials, tools, machine tools, and equipment generally used in the work for which the station is rated. Experience as an apprentice or student mechanic may not be counted in computing the 18

months of experience. In addition, at least one of the persons so in charge of maintenance functions for a station with an airframe rating must have had experience in the methods and procedures prescribed by the Administrator for returning aircraft to service after 100-hour, periodic, and progressive inspections.

(e) Each limited repair station shall have employees with detailed knowledge of the particular maintenance function or technique for which it is rated, based on attending a factory school or long experience with the product or technique involved.

(Revision note: Combines §§ 52.22 and 52.22-1)

§ 145.41 Recommendation of certification for repairmen.

An applicant for a domestic repair station certificate and rating, or for an additional rating, that requires a repairman must, at the time of application, recommend and certify to the Administrator at least one person as a repairman, by stating that he is able to perform and supervise the work to which he is assigned. Each person so certified must be at or above the level of shop foreman or department head. A qualified person so recommended by the station is entitled to be certificated as a repairman.

(Revision note: Combines §§ 52.23 and 52.23-1)

Note: The words "that requires a repairman" are inserted to reflect § 52.22, which does not require a repairman for each repair station, but only for certain types.

§ 145.43 Records of supervisory and inspection personnel.

(a) Each applicant for a domestic repair station certificate and rating, or for an additional rating, must have, and each certificated domestic repair station shall maintain, a roster of—

(1) Its supervisory personnel, including the names of the officials of the station that are responsible for its management and the names of its technical supervisors, such as foreman and crew chiefs; and

(2) Its inspection personnel, including the names of the chief inspector and those inspectors who make final airworthiness determinations before releasing an article to service.

(b) The station shall also provide a summary of the employment of each person whose name is on the roster. The summary must contain enough information as to each person on the roster to show compliance with the experience requirements of this subpart, including—

(1) His present title (e.g., chief inspector, metal shop foreman, etc.);

(2) His total years of experience in the type of work he is doing;

(3) His past employment record, with names of places and term of employment by month, date, and year;

(4) The scope of his present employment (e.g., airframe overhaul, airframe final assembly, engine inspection, department, etc.); and

(5) The type and number of the mechanic or repairman certificate that he holds, and the ratings on that certificate.

(c) The station shall change the roster, as necessary, to reflect—

(1) Terminating the employment of any person whose name is on the roster;

(2) Assigning any person to duties that require his name to be carried on the roster; or

(3) Any appreciable change in the duties and scope of assignment of any person whose name is on the roster.

(d) The station shall send the roster and employment summaries required by this section, and any changes therein, to the Administrator for evaluation and thereafter shall keep them, subject to inspection by the Administrator upon his request.

(e) A domestic repair station may not use the services of a person directly in charge of maintenance or alteration unless it keeps current records on him as required by this section.

(Revision note: Combines §§ 52.24 and 52.24-1)

§ 145.45 Inspection systems.

(a) An applicant for a repair station certificate and rating, or for an additional rating, must have an inspection system that will produce satisfactory quality control and conform to paragraphs (b) to (f) of this section.

(b) The applicant's inspection personnel must be thoroughly familiar with all inspection methods, techniques, and equipment used in their specialty to determine the quality or airworthiness of an article being maintained or altered. In addition, they must—

(1) Maintain proficiency in using various inspection aids intended for that purpose;

(2) Have available and understand current specifications involving inspection tolerances, limitations, and procedures established by the manufacturer of the product being inspected and with other forms of inspection information such as FAA airworthiness directives and bulletins; and

(3) In cases where magnetic, fluorescent, or other forms of mechanical inspection devices are to be used, be skilled in operating that equipment and be able to properly interpret defects indicated by it.

(c) The applicant must provide a satisfactory method of inspecting incoming material to insure that, before it is placed in stock for use in an aircraft or part thereof, it is in a good state of preservation and is free from apparent defects or malfunctions.

(d) The applicant must provide a system of preliminary inspection of all articles he maintains to determine the state of preservation or defects. He shall enter the results of each inspection on an appropriate form supplied by it and keep the form with the article until it is released to service.

(e) The applicant must provide a system so that before working on any airframe, powerplant, or part thereof that has been involved in an accident, it will be inspected thoroughly for hidden damage, including the areas next to the obviously damaged parts. He shall enter the results of this inspection on the in-

spection form required by paragraph (d) of this section.

(f) At the time he applies for a repair station certificate, the applicant must prepare an inspection procedures manual to be maintained in current condition at all times thereafter. The manual must explain the internal inspection system of the repair station in a manner easily understood by any employee of the station. It must state in detail the inspection requirements in paragraphs (a) to (e) of this section, and the repair station's inspection system including the continuity of inspection responsibility, samples of inspection forms, and the method of executing them. The manual must refer whenever necessary to the manufacturer's inspection standards for the maintenance of the particular article. The repair station must give a copy of the manual to each of its supervisory and inspection personnel and make it available to its other personnel. The repair station is responsible for seeing that all supervisory and inspection personnel are thoroughly familiar with the manual.

[Revision note: Combines §§ 52.25 and 52.25-1]

§ 145.47 Equipment and materials: Ratings other than limited ratings.

(a) An applicant for a domestic repair station certificate and rating, or for an additional rating, must have the equipment and materials necessary to efficiently perform the functions appropriate to the ratings he seeks. An applicant for an airframe, propeller, powerplant, radio, instrument, or accessory rating must be equipped to perform the functions listed in Appendix A¹ to this part that are appropriate for the rating he seeks.

(b) The equipment and materials required by this part must be of such type that the work for which they are being used can be done competently and efficiently. The station shall test all inspection and test equipment at regular intervals to insure correct calibration. The equipment and materials required for the various ratings must be located on the premises, and under the full control of the station, unless they are used for a function that the repair station is authorized to obtain by contract. If it obtains them by contract, the repair station shall determine the airworthiness of the article involved, unless the contractor is an appropriately rated repair station.

(c) The applicant shall choose suitable tools and equipment for the functions named in Appendix A¹ to this part, as appropriate to each of his ratings, using those the manufacturer of the article involved recommends for maintaining or altering that article, or their equivalent.

[Revision note: Combines §§ 52.30, 52.30-1, 52.31, 52.32, 52.33, 52.34, 52.35 and 52.36]

¹ For the purposes of this circulation, Appendix A has not been printed. It will state present §§ 52.31-1, 52.32-1, 52.33-1, 52.34-1, 52.35-1, and 52.36-1 without changes.

§ 145.49 Equipment and materials: Limited rating.

(a) An applicant for a limited rating (other than specialized services) under § 145.33, must have the equipment and materials to perform any job function appropriate to the rating and class specified in § 145.47 for the rating he seeks. However, he need not be equipped for a function that does not apply to the particular make or model article for which he seeks a rating, if he shows that it is not necessary under the recommendations of the manufacturer of the article.

(b) An applicant for a rating for specialized services or techniques under § 145.33 must—

(1) For magnetic and penetrant inspection, have the equipment and materials for wet and dry magnetic inspection techniques, residual and continuous methods, portable equipment for the inspection of welds both on and off the aircraft;

(2) For emergency equipment maintenance, have the equipment and materials to perform inspection, repair, and test of all types of inflated equipment, the re-packing, re-marking, re-sealing, and re-stocking of life rafts, and the weighing, refilling, and testing of carbon dioxide fire extinguishers and oxygen containers;

(3) For rotor blade maintenance, have the equipment, materials, and technical data recommended by the manufacturer; and

(4) For aircraft fabric work, have the equipment and materials to apply protective coatings to structures, machine stitch fabric panels, perform covering, sewing, and rib stitching operations, apply dope and paint using temperature and humidity control equipment, install patches, grommets, tapes, hooks, and similar equipment, and refinish entire aircraft and aircraft parts.

[Revision note: Combines §§ 52.37 and 52.37-1]

Note: The two classes of emergency equipment ratings in § 52.37-1(2) are combined to reflect current industry practices.

§ 145.51 Privileges of certificates.

(a) A certificated domestic repair station may—

(1) Maintain or alter any airframe, powerplant, propeller, instrument, radio, or accessory, or part thereof, for which it is rated;

(2) Approve and return to service any article for which it is rated after it has been maintained or altered; and

(3) In the case of a station with an airframe rating, perform 100-hour, periodic, or progressive inspections, and return the aircraft to service.

However, a station may not approve any article for return to service under subparagraph (2) of this paragraph after major repair or major alteration unless the repair or alteration was made in accordance with a manual or specification or another technical data approved by the Administrator.

[Revision note: Combines §§ 52.40, 52.41, and 52.41-1]

§ 145.53 Limitations of certificates.

A certificated domestic repair station may not maintain or alter any airframe, powerplant, propeller, instrument, radio, or accessory for which it is not rated, and may not maintain or alter any article for which it is rated if it requires special technical data, equipment, or facilities that are not available to it.

[Revision note: Based on § 52.42]

§ 145.55 Maintenance of personnel, facilities, equipment, and materials.

Each certificated domestic repair station shall maintain personnel, facilities, equipment, and materials at least equal in quality and quantity to the standards required for the issue of the certificate and rating that it holds.

[Revision note: Based on § 52.43]

§ 145.57 Performance standards.

(a) Each certificated domestic repair station shall perform its maintenance and alteration operations in accordance with the standards in Part ---- of this chapter (Present Part 18). It shall maintain, in current condition, all manufacturers' service manuals, instructions, and service bulletins that relate to the articles that it maintains or alters.

(b) In addition, each certificated domestic repair station with a radio rating shall comply with those sections of Part ---- of this chapter (Present Part 18) that apply to electric systems, and shall use materials that conform to approved specifications for equipment appropriate to its rating. It shall use test apparatus, shop equipment, performance standards, test methods, alterations, and calibrations that conform to the manufacturers' specifications or instructions, approved specification, FAA accepted specifications of the Radio Technical Commission for Aeronautics, and, if not otherwise specified, to accepted good practices of the aircraft radio industry. The tolerances established by Part 9 of Title 47, Chapter I (47 CFR Part 9) apply to the making of radio transmitter frequency checks.

[Revision note: Combines §§ 52.44 and 52.44-1]

§ 145.59 Inspection of work performed.

(a) Each certificated domestic repair station shall, before approving an airframe, powerplant, propeller, instrument, radio, or accessory for return to service after maintaining or altering it, have that article inspected by a qualified inspector. After performing a maintenance or alteration operation, the station shall certify on the maintenance or alteration record of the article that it is airworthy.

(b) For the purposes of paragraph (a) of this section, the qualified inspector must be a person employed by the station, who has shown by experience as a journeyman that he understands the inspection methods, techniques, and equipment used in determining the airworthiness of the article concerned. He must also be proficient in using various types of mechanical and visual inspec-

tion aids appropriate for the article being inspected.

[Revision note: Combines §§ 52.45 and 52.45-1]

Note: § 52.46-1(c) is omitted as obsolete and surplusage.

§ 145.61 Performance records and reports.

Each certificated domestic repair station shall maintain adequate records of all work that it does, naming the certificated mechanic or repairman who performed or supervised the work, and the inspector of that work. The station shall keep each record for at least two years after the work it applies to is done.

[Revision note: Based on § 52.46]

§ 145.63 Reports of defects or unairworthy conditions.

(a) Each certificated domestic repair station shall report to the Administrator within 72 hours after it discovers any serious defect in, or other recurring unairworthy condition of, an airframe, powerplant, or propeller, or any component of any of them. The report shall be made on a form and in a manner prescribed by the Administrator, describing the defect or malfunction completely without withholding any pertinent information.

(b) In any case where the filing of a report under paragraph (a) of this section might prejudice the repair station, it shall refer the matter to the Administrator for a determination as to whether it must be reported. If the defect or malfunction could result in an imminent hazard to flight, the repair station shall use the most expeditious method it can to inform the Administrator.

[Revision note: Combines §§ 52.47 and 52.47-1]

Subpart C—Foreign Repair Stations

§ 145.71 General requirements.

A repair station certificate with appropriate ratings may be issued for a foreign repair station, if the Administrator finds that the station is necessary for maintaining or altering United States registered aircraft outside of the United States. A foreign repair station must meet the requirements for a domestic repair station certificate, except those in §§ 145.39 to 145.43.

[Revision note: Combines §§ 52.50 and 52.50-1]

§ 145.73 Scope of work authorized.

(a) A certificated foreign repair station may, with respect to United States registered aircraft, work only on aircraft that are used in operations conducted wholly or partly outside of the United States. The Administrator may prescribe operating specifications and limitations that he determines are necessary to comply with the airworthiness requirements of this chapter.

(b) A certificated foreign repair station may perform only the specific services and functions within the ratings and classes that are stated in its operating limitations.

[Revision note: Combines §§ 52.51 and 52.51-1]

§ 145.75 Personnel.

(a) Each applicant for a foreign repair station certificate and rating, or for an additional rating, must provide enough personnel who are able to perform, supervise, and inspect the work for which he seeks a rating, with regard being given to its volume of work.

(b) The supervisors and inspectors of each certificated foreign repair station must understand the regulations in this chapter, FAA airworthiness directives, and the maintenance and service instructions of the manufacturers of the articles to be worked on. However, they do not need airman certificates issued under this chapter and, along with the persons performing the work of the station, are not considered to be airmen within the meaning of section 101(7) of the Federal Aviation Act of 1958 (49 U.S.C. 1301) with respect to work performed in connection with their employment by the foreign repair station.

(c) In cases where the persons engaged in supervision or final inspection are not certificated under this chapter or by the country in which the station is located, their qualifications are determined by the Administrator, based on their ability to meet the requirements of paragraph (a) of this section as shown by oral or practical test or any other method the Administrator elects.

(d) No person may be responsible for the supervision or final inspection of work on an aircraft of United States registry at a foreign repair station unless he can read, write, and understand English.

[Revision note: Combines §§ 52.52 and 52.52-1]

§ 145.77 General operating rules.

Each certificated foreign repair station shall comply with the operating rules prescribed in Subpart B of this part, except for §§ 145.61 and 145.63.

[Revision note: Based on § 52.60]

§ 145.79 Records and reports.

(a) Each certificated foreign repair station shall maintain such records, and make such reports, with respect to United States registered aircraft, as the Administrator finds necessary, including those prescribed in paragraphs (b) and (c) of this section.

(b) Each certificated foreign repair station shall keep a record of the maintenance and alteration it performs on United States registered aircraft, in enough detail to show the make, model, identification number, and serial number of the aircraft involved, and a description of the work. In a case of major repairs or major alterations, or both, it shall report on a form and in a manner prescribed by the Administrator, giving the original copy to the aircraft owner and sending a copy to the Administrator through the FAA office having jurisdiction over the station. However, if a major repair or alteration is made on a United States scheduled flag air carrier aircraft, the report may be made in the log or other record provided by the car-

rier for that purpose. Upon request, the station shall make all of its maintenance records available to the Administrator.

(c) Each certificated foreign repair station shall, within 72 hours after it discovers any serious defect in, or other recurring unairworthy condition of, any airframe, powerplant, propeller, or any component of any of them, that it works on under this part, report that defect or unairworthy condition to the Administrator.

[Revision note: Combines §§ 52.61 and 52.61-1]

PART 145—DISTRIBUTION TABLE

Present section	Revised section	Present section	Revised section
52.0	145.1	52.24	145.43
52.1	(1)	52.24-1	145.43
52.5	145.11	52.25	145.45
52.5-1 (less		52.25-1	145.45
(c)-(f))	145.11	52.26	145.31
52.5-1(c)	145.15	52.26-1	145.31
52.5-1(d) and		52.27	145.33
(e)	145.13	52.27-1	145.33
52.5-1(f) (1st		52.30	145.47
sentence)	145.17	52.30-1	145.47
52.5-1(f) (last		52.31	145.47
sentence)	145.3	52.31-1	(1)
52.5-1(f) (less		52.32	145.47
1st and last		52.32-1	(1)
sentences)	145.15	52.33	145.47
52.6 (less last		52.33-1	(1)
sentence)	145.11	52.34	145.47
52.6 (last		52.34-1	(1)
sentence)	145.3	52.35	145.47
52.8-1	145.9	52.35-1	(2)
52.7	145.17	52.36	145.47
52.7-1	145.17	52.36-1	(2)
52.8	(2)	52.37	145.49
52.9	145.19	52.37-1	145.49
52.9-1	145.19	52.40	145.51
52.10	145.21	52.41	145.51
52.10 1	145.21	52.41-1	145.51
52.11	145.25	52.42	145.53
52.11-1	145.25	52.43	145.55
52.11-2	145.25	52.44	145.57
52.11-3	145.25	52.44-1	145.57
52.12	145.23	52.45	145.59
52.12-1	145.23	52.45-1	145.59
52.12-2	145.23	52.46	145.61
52.13	145.15	52.47	145.63
52.13-1	145.15	52.47-1	145.63
52.20	145.11	52.50	145.71
52.20-1	145.11	52.50-1	145.71
52.21	145.35	52.51	145.73
52.21-1	145.35	52.51-1	145.73
52.21-2	145.35	52.52	145.75
52.21-3	145.37	52.52-1	145.75
52.22	145.39	52.60	145.77
52.22-1	145.39	52.61	145.79
52.23	145.41	52.61-1	145.79
52.23-1	145.41		

¹ Transferred to Part 1.

² Executed.

³ Appendix A.

PART 147—MECHANIC SCHOOLS [NEW]

Subpart A—General

Sec.	
147.1	Applicability.
147.3	Certificate required.
147.5	Application and issue.
147.7	Duration of certificates.

Subpart B—Certification Requirements

147.11	Ratings.
147.13	Facilities, equipment, and material requirements.
147.15	Space requirements.
147.17	Instructional equipment requirements.
147.19	Material, tool, and shop equipment requirements.
147.21	General curriculum requirements.
147.23	Instructor requirements.

Subpart C—Operating Rules

Sec.	
147.31	Instruction, attendance, and tests.
147.33	Records.
147.35	Transcripts and graduation certificates.
147.37	Maintenance of facilities, equipment, and material.
147.39	Display of certificates.
147.41	Change of location.
147.43	Inspection.
147.45	Advertising.

Subpart A—General

§ 147.1 Applicability.

This part prescribes the requirements for issuing mechanic school certificates and associated ratings and the general operating rules for the holders of those certificates and ratings.

[Revision note: Based on § 53.01]

§ 147.3 Certificate required.

No person may operate as a certificated mechanic school without, or in violation of, a mechanic school certificate issued under this part.

[Revision note: Based on § 53.6 (last sentence)]

§ 147.5 Application and issue.

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

(1) A description of the proposed curriculum;

(2) A list of the facilities and materials to be used (with photographs of the facilities, if possible);

(3) A list of its instructors, including the kind of certificate and ratings held, the certificate number, and the subjects to be taught by each; and

(4) A statement of the maximum number of students it expects to teach at any one time.

(b) An applicant who meets the requirements of this part is entitled to a mechanic school certificate and associated ratings prescribing such operations specifications and limitations as are necessary in the interests of safety.

[Revision note: Combines §§ 53.5, 53.5-1, 53.6 (less last sentence), 53.12, 53.20, 53.20-1 and 53.21]

§ 147.7 Duration of certificates.

(a) A mechanic school certificate or rating is effective until it is surrendered, suspended, or revoked.

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

[Revision note: Combines §§ 53.7 and 53.7-1]

Subpart B—Certification Requirements

§ 147.11 Ratings.

The following ratings are issued under this part:

(a) Airframe.

(b) Powerplant.

(c) Airframe and powerplant.

[Revision note: Based on § 53.14]

§ 147.13 Facilities, equipment, and material requirements.

An applicant for a mechanic school certificate and rating, or for an additional rating, must have at least the facilities, equipment, and materials specified in §§ 147.15 to 147.19 that are appropriate to the rating he seeks.

[Revision note: Based on § 53.22]

§ 147.15 Space requirements.

An applicant for a mechanic school certificate and rating, or for an additional rating, must have such of the following properly heated, lighted, and ventilated facilities as are appropriate to the rating he seeks and as the Administrator determines are appropriate for the maximum number of students expected to be taught at any time:

(a) A classroom (or a drafting room used for classroom purposes when not being used as a drafting room).

(b) A drafting room with drafting tables, T squares, and other necessary drawing equipment.

(c) A stockroom arranged to assure proper separation from the working space for the segregation and protection of parts, tools, materials, and other similar articles.

(d) Suitable separate space in a permanent or temporary structure, with proper temperature control, for doping and paint spraying.

(e) Suitable separate space equipped with wash tank and degreasing equipment with air pressure, or other adequate cleaning equipment.

(f) Suitable separate space with either permanent, portable, or mobile test stands and test clubs for running-in engines.

(g) Suitable separate space, with adequate equipment, including benches, tables, and instruments, to disassemble, repair, assemble, test, service, and inspect—

(1) Ignition, electrical equipment, and appliances;

(2) Carburetors and fuel systems; and

(3) Hydraulic and vacuum systems for aircraft, aircraft engines, and their appliances.

(h) Suitable space, with adequate equipment, including tables, benches, horses, stands, and jacks, for disassembling, inspecting, assembling, and rigging aircraft.

(i) Suitable space, with adequate equipment, for disassembling, inspecting, overhauling, assembling, troubleshooting, and timing engines.

[Revision note: Combines §§ 53.24 and 53.24-1]

§ 147.17 Instructional equipment requirements.

(a) An applicant for a mechanic school certificate and rating, or for an additional rating, must have such of the following instructional equipment as is appropriate to the rating he seeks:

(1) Various kinds of fuselages, wings (or wing sections, in the case of large aircraft), control surfaces, landing gears, radios, instruments, propellers (including wood and metal fixed pitch and adjustable and controllable metal), and

aircraft reciprocating engines (including at least one opposed type, one in-line type, one radial type of at least 350 horsepower, and one supercharged type).

(2) At least one aircraft of a type currently certificated by FAA for private or commercial operation, with powerplant, propeller, instruments, two-way radio, landing lights, flares, and other equipment and accessories on which a mechanic might be required to work and with which he should be familiar.

(b) The equipment required by paragraph (a) of this section need not be in an airworthy condition. However, if it was damaged, it must have been repaired enough for complete assembly.

(c) Airframes, powerplants, propellers, appliances, and components thereof, on which instruction is to be given, and from which practical working experience is to be gained, must be so diversified as to show the different methods of construction, assembly, inspection, and operation when installed in an aircraft for use. There must be enough units so that not more than eight students will work on any one unit at a time.

(d) If the aircraft used for instructional purposes does not have retractable landing gear and wing flaps, the school must provide training aids, or operational mock-ups of them.

[Revision note: Combines §§ 53.25, 53.25-1, and 53.25-2]

§ 147.19 Material, tool, and shop equipment requirements.

An applicant for a mechanic school certificate and rating, or for an additional rating, must have an adequate supply of material and tools, and such of the shop equipment, special tools, and other miscellaneous tools and equipment listed in Appendix A¹ to this part, as are appropriate to the rating he seeks and are used in constructing and maintaining aircraft, to assure that each student will be properly instructed. The tools and shop equipment must be in satisfactory working condition and of the proper kind for the purpose for which they are to be used.

[Revision note: Based on § 53.26]

§ 147.21 General curriculum requirements.

(a) An applicant for a mechanic school certificate and rating, or for an additional rating, must have an approved curriculum that is designed to qualify his students to perform the duties of a mechanic for a particular rating or ratings.

(b) The curriculum must offer at least the following number of hours of instruction for the rating shown:

(1) Airframe—960 hours.

(2) Powerplant—960 hours.

(3) Combined airframe and powerplant—1,650 hours.

(c) An airframe curriculum must cover the subjects set forth in Appendix B² to this part.

¹ Appendix A has not been printed for the purposes of this circulation. It will state present § 53.26-1 without change.

² Appendix B has not been printed for the purposes of this circulation. It will state present § 53.40-1 without change.

(d) A powerplant curriculum must cover the subjects set forth in Appendix C¹ to this part.

(e) The curriculum must be so designed that at least 60 percent of the total curriculum time is spent in shop and laboratory instruction.

[Revision note: Combines §§ 53.27 (less last 12 words of last sentence), 53.27-1, 53.28, 53.40, and 53.41]

§ 147.23 Instructor requirements.

An applicant for a mechanic school certificate and rating, or for an additional rating, must provide such number of instructors holding appropriate mechanic certificates and ratings, as the Administrator determines necessary to provide adequate instruction and supervision of the students. However, he may provide specialized instructors, who are not certificated mechanics, to teach mathematics, physics, drawing, and similar subjects.

[Revision note: Combines §§ 53.42 and 53.42-1]

Subpart C—Operating Rules

§ 147.31 Instruction, attendance, and tests.

(a) A certificated mechanic school may not require any student to attend classes of instruction more than eight hours in any day or more than six days or 40 hours in any seven-day period.

(b) Each school shall give an appropriate test to each student who completes a subject at that school.

(c) A school may credit a student with instruction he has satisfactorily completed at another mechanic school, accredited college, State-owned vocational or trade school, or military technical specialty school. It may determine the amount of credit to be allowed by giving the applicant an entrance test equal to the one given to students who complete a course or phase at the school, or by an authenticated transcript of his grades from his former school, showing the curriculum in which he was enrolled, the hours of attendance, and his grades in each subject. However, in the case of an applicant with military technical specialty training, it may determine the amount of credit only on the basis of the entrance examination.

(d) A school may not change its approved curriculum unless the change is approved in advance.

(e) A school may not have more students enrolled than the number stated in its application for a certificate, unless it amends its application and has it approved.

[Revision note: Combines §§ 53.21-1, 53.27 (last 12 words of last sentence), 53.50, 53.51, 53.52, 53.52-1, 53.53, 53.53-1, and 53.53-2 (less last sentence)]

NOTE: § 53.51 is omitted as obsolete.

§ 147.33 Records.

(a) Each certificated mechanic school shall keep a current record of each student enrolled, showing—

¹ Appendix C has not been printed for the purposes of this circulation. It will state present § 50.41-1 without change.

(1) His attendance, courses, tests, and grades;

(2) The instruction credited to him under § 147.31(c), if any; and

(3) The authenticated transcript of his grades from that school.

It shall retain the record for at least two years after the end of the student's enrollment, and shall make each record available for inspection by the Administrator during that period.

(b) Each school shall keep a current progress chart or individual progress record for each of its students, showing the practical projects or laboratory work completed, or to be completed, by the student in each phase of his course.

[Revision note: Combines §§ 53.53-2 (last sentence), 53.56 and 53.56-1]

§ 147.35 Transcripts and graduation certificates.

(a) Each certificated mechanic school shall give a transcript of his grades to each student who is graduated from that school or who leaves it before being graduated. An official of the school shall authenticate the transcript. The transcript must state the curriculum and courses in which the student was enrolled, whether the student satisfactorily completed that curriculum and courses, and the final grades he received.

(b) Each school shall give a graduation certificate to each student that it graduates. An official of the school shall authenticate the certificate. The certificate must show the date of graduation and his average grade, reflecting his standard of performance during the entire course rather than the grades made on his final test.

[Revision note: Combines §§ 53.54, 53.55 and 53.55-1]

§ 147.37 Maintenance of facilities, equipment, and material.

(a) Each certificated mechanic school shall maintain its facilities, equipment, and material equal to the standards required for the issue of the certificate and rating that he holds.

(b) A school may not make a substantial change in facilities, equipment, or material that have been approved for a particular curriculum, unless that change is approved in advance.

[Revision note: Combines §§ 53.23 and 53.57]

§ 147.39 Display of certificate.

Each holder of a mechanic school certificate and ratings shall display them at a place in the school that is normally accessible to the public and is not obscured. The certificate must be available for inspection by the Administrator.

[Revision note: Combines §§ 53.9 and 53.9-1]

§ 147.41 Change of location.

The holder of a mechanic school certificate may not make any change in the school's location unless the change is approved in advance. If the holder desires to change the location he shall notify the Administrator, in writing, at least 30 days before the date the change is

contemplated. If he changes its location without approval, the certificate is revoked.

[Revision note: Combines §§ 53.10 and 53.10-1]

§ 147.43 Inspection.

The Administrator may, at any time, inspect a mechanic school to determine its compliance with this part. Such an inspection is normally made once each six months to determine if the school continues to meet the requirements under which it was originally certificated. After such an inspection is made, the school is notified, in writing, of any deficiencies found during the inspection. Other informal inspections may be made from time to time.

[Revision note: Combines §§ 53.11, 53.11-1 and 53.11-2]

§ 147.45 Advertising.

(a) A certificated mechanic school may not make any statement relating to itself that is false or is designed to mislead any person considering enrollment therein.

(b) Whenever a mechanic school indicates in advertising that it is a certificated school, it shall clearly distinguish between its approved courses and those that are not approved.

[Revision note: Based on § 53.13]

PART 147—DISTRIBUTION TABLE

Present section	Revised section	Present section	Revised section
53.0.....	147.1	53.26-1.....	(*)
53.1.....	(*)	53.27 (less last	
53.5.....	147.5	12 words of	
53.5-1.....	147.5	last sen-	
53.6 (last		tence)....	147.21
sentence)...	147.3	53.27 (last 12	
53.6 (less last		words of last	
sentence)...	147.5	sentence)...	147.31
53.7.....	147.7	53.27-1.....	147.21
53.7-1.....	147.7	53.28.....	147.21
53.8.....	(*)	53.40.....	147.21
53.8-1.....	(*)	53.40-1.....	(*)
53.9.....	147.39	53.41.....	147.21
53.9-1.....	147.39	53.41-1.....	(*)
53.10.....	147.41	53.42.....	147.23
53.10-1.....	147.41	53.42-1.....	147.23
53.11.....	147.43	53.50.....	147.31
53.11-1.....	147.43	53.51.....	147.31
53.11-2.....	147.43	53.52.....	147.31
53.12.....	147.6	53.52-1.....	147.31
53.13.....	147.65	53.53.....	147.31
53.14.....	147.11	53.53-1.....	147.31
53.20.....	147.8	53.53-2 (less	
53.20-1.....	147.5	last sen-	
53.21.....	147.5	tence)....	147.31
53.21-1.....	147.31	53.53-2 (last	
53.22.....	147.13	sentence)...	147.33
53.23.....	147.37	53.54.....	147.35
53.24.....	147.15	53.55.....	147.35
53.24-1.....	147.15	53.55-1.....	147.35
53.25.....	147.17	53.56.....	147.33
53.25-1.....	147.17	53.56-1.....	147.33
53.25-2.....	147.17	53.57.....	147.37
53.26.....	147.10		

¹ Transferred to Part 1.

² Executed.

³ Appendix A.

⁴ Appendix B.

⁵ Appendix C.

**PART 149—PARACHUTE LOFTS
[New]**

Sec.	
149.1	Applicability.
149.3	Application and issue.
149.5	Duration of certificate.

- Sec.
 149.7 Cooperation during inspection or test.
 149.9 Persons authorized to maintain or alter parachutes.
 149.11 Ratings.
 149.13 Eligibility requirements: General.
 149.15 Reports and records.
 149.17 Maintenance of personnel, facilities, equipment, and material.
 149.19 Maintenance and alteration standards.
 149.21 Material standards.
 149.23 Drop testing.
 149.25 Display of certificate.
 149.27 Change of location.

§ 149.1 Applicability.

This part prescribes the requirements for issuing parachute loft certificates and associated ratings and the general operating rules for the holders of those certificates and ratings.

[Revision note: Supplied]

§ 149.3 Application and issue.

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

(b) An applicant who meets the requirements of this part is entitled to a parachute loft certificate and appropriate ratings.

(c) The holder of a parachute loft certificate that has been revoked may not apply for a certificate and rating under this part for one year after it is revoked, unless the order of revocation provides otherwise.

[Revision note: Combines §§ 54.3, 54.5, 54.11 and 54.14]

NOTE: § 54.11 is omitted as surplusage.

§ 149.5 Duration of certificate.

(a) A parachute loft certificate is effective until it is surrendered, suspended, or revoked. However, the Administrator may cancel such a certificate at any time within 60 days after the date it is issued.

(b) The holder of a parachute loft certificate that is surrendered, suspended, or revoked, shall upon the Administrator's request, return it to the Administrator.

[Revision note: Combines §§ 54.4 and 54.12]

§ 149.7 Cooperation during inspection or test.

Upon the Administrator's request, each applicant for a parachute loft certificate must, and each holder of such a certificate shall, cooperate fully during any inspection or test of him, or his personnel, facilities, equipment, and records, by the Administrator.

[Revision note: Based on § 54.13]

§ 149.9 Persons authorized to maintain or alter parachutes.

(a) Only the following persons may maintain or alter a parachute:

(1) Any person authorized by Part ____ of this chapter [Present Part 25].

(2) A certificated parachute loft with an appropriate rating.

(3) The manufacturer.

(4) Any other manufacturer that the Administrator considers to be competent.

(b) Each person who maintains or alters a parachute must perform that maintenance or make that alteration in accordance with approved manuals and specifications.

[Revision note: Based on § 54.22]

§ 149.11 Ratings.

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

(1) Packing and general maintenance (not including major repair, inspection, or overhaul).

(2) Canopy overhaul.

(3) Harness overhaul.

(4) Metal parts and container overhaul.

(5) Drop testing.

(b) A parachute loft rating record is attached to each certificate issued under this part. It contains the names of the ratings issued to the holder of the certificate.

[Revision note: Combines §§ 54.1 and 54.16]

§ 149.13 Eligibility requirements: general.

To be eligible for a parachute loft certificate and associated ratings, or for an additional rating, an applicant must—

(a) Have personnel who are certificated and appropriately rated under Part ____ of this chapter [Present Part 25] and who are qualified to perform or supervise the kind of work for which the applicant seeks a rating; and

(b) Have the equipment, material, and facilities necessary to do efficiently the kind of work for which he seeks a rating, including suitable housing that is adequately heated, lighted, and ventilated, an adequate inspection system, adequate drawing equipment, and adequate facilities for segregating and storing parts and materials.

[Revision note: Based on § 54.2]

§ 149.15 Reports and records.

(a) Each holder of a parachute loft certificate shall make an adequate record, including the names of the persons doing the work, of all work done by him. He shall keep each record made for at least two years after the work is done.

(b) Each holder of a parachute loft certificate shall report, on a form prescribed by the Administrator, any recurring or serious defect, or other unairworthy conditions, that he finds in a parachute or a part thereof.

[Revision note: Combines §§ 54.15, 54.17, and 54.21]

NOTE: § 54.17 is omitted as obsolete.

§ 149.17 Maintenance of personnel, facilities, equipment, and material.

Each holder of a parachute loft certificate shall maintain personnel, facilities, equipment, and material at least equal to that currently required by § 149.13 for the issue of the certificate and ratings he holds.

[Revision note: Based on § 54.18]

§ 149.19 Maintenance and alteration standards.

Each holder of a parachute loft certificate shall perform maintenance and alteration operations in a workmanlike manner so as to maintain the article worked on in, or restore it to, an airworthy condition.

[Revision note: Based on § 54.19]

§ 149.21 Material standards.

Each holder of a parachute loft certificate shall use materials of proper strength and quality for the maintenance or alteration operation being performed.

[Revision note: Based on § 54.20]

§ 149.23 Drop testing.

(a) Only the following may drop test a parachute:

(1) The manufacturer.

(2) Any other manufacturer that the Administrator considers to be competent.

(3) A certificated parachute loft with a drop testing rating.

(b) Each holder of a parachute loft certificate shall drop test each parachute on which he has performed a major repair or alteration on a canopy, harness, container, accessory, or any combination of them, whenever the certificated master parachute rigger who inspected it considers that the repair or alteration may have affected the structural, functional, or other airworthiness characteristic of the article.

(c) Whenever it is necessary to determine the functional characteristics of an entire parachute assembly, the loft shall drop test it with a 150 pound dummy man (not including the weight of the parachute) at an indicated airspeed of 70 miles an hour and an altitude of at least 500 feet above the ground.

(d) Whenever it is necessary to determine the material strength values in an entire parachute assembly, or the material airworthiness of the entire assembly before maintenance, the loft shall drop test it with a 190 pound dummy man (not including the weight of the parachute) at an indicated airspeed of 120 miles an hour and an altitude of at least 500 feet above the ground.

[Revision note: Based on § 54.23]

§ 149.25 Display of certificate.

Each holder of a parachute loft certificate and ratings shall display them in a prominent place in the parachute loft.

[Revision note: Based on § 54.10]

§ 149.27 Change of location.

The holder of a parachute loft certificate may not make any change in the loft's location unless the change is approved, in writing, in advance. If the holder desires to change the location he shall mail the request to the Assistant Administrator of the region in which the loft is located.

[Revision note: Based on § 54.6]

PART 149—DISTRIBUTION TABLE

<i>Present section</i>	<i>Revised section</i>	<i>Present section</i>	<i>Revised section</i>
54 1.....	149.11	54.15.....	149.15
54 2.....	149.13	54.16.....	149.11
54 3.....	149.3	54.17.....	149.15
54 4.....	149.5	54.18.....	149.17
54 5.....	149.3	54.19.....	149.19
54 6.....	149.27	54.20.....	149.21
54 10.....	149.25	54.21.....	149.15
54 11.....	149.3	54.22.....	149.9
54 12.....	149.5	54.23.....	149.23
54 13.....	149.7	54.30.....	(¹)
54 14.....	149.3		

¹ Transferred to Part 1.

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8:45 a.m.]