

# federal register

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**Monday**  
**October 5, 1998**

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**Part III**

**Department of  
Transportation**

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**Federal Aviation Administration**

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**14 CFR Part 61 et al.**  
**Licensing and Training of Pilots, Flight  
Instructors, and Ground Instructors  
Outside the United States; Final Rule**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Parts 61, 67, 141, and 142**

[Docket No. FAA-1998-4518; Amendment Nos. 61-106, 67-18, 141-11 & 142-3]

RIN 2120-AG66

**Licensing and Training of Pilots, Flight Instructors, and Ground Instructors Outside the United States**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** This final rule removes language from the Federal Aviation Regulations that restricts the licensing of foreign persons outside of the United States and that restricts the operation of pilot schools and training centers that are located outside of the United States. The restrictive language was originally placed in the regulations because of administrative concerns that are no longer applicable. The restrictive language was identified during harmonization efforts currently underway between the Federal Aviation Administration (FAA) and the European Joint Aviation Authorities (JAA) as an obstruction to harmonization. Failure to harmonize FAA and JAA rules on licensing and training could be detrimental to FAA pilot schools and training centers that seek to train students from the JAA member states. As part of the FAA's commitment to reduce restrictions that are not safety driven and to further harmonize our regulations with our European neighbors, the FAA is removing this restrictive language.

**DATES:** This final rule is effective October 5, 1998. Comments must be submitted on or before November 4, 1998.

**ADDRESSES:** Comments on this final rule should be mailed or delivered, in duplicate to: U.S. Department of Transportation Dockets, Docket No. FAA-98-4518, 400 Seventh Street, SW, Room Plaza 401, Washington, DC 20590. Comments may also be sent electronically to the following Internet

address: 9-NPRM-CMTS@faa.dot.gov. Comments may be filed and/or examined in Room Plaza 401 between 10 a.m. and 5 p.m. weekdays except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Warren Robbins, Certification Branch (AFS-840), General Aviation and Commercial Division, Flight Standards Service, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267-8196.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

This final rule is being adopted without prior notice and prior public comment. The Regulatory Policies and Procedures of the Department of Transportation (DOT) (44 FR 1134; February 26, 1979), however, provide that, to the maximum extent possible, operating administrations for the DOT should provide an opportunity for public comment on regulations issued without prior notice. Accordingly, interested persons are invited to participate in this rulemaking by submitting such written data, views, or arguments, as they may desire. Comments relating to environmental, energy, federalism, or international trade impacts that might result from this amendment also are invited. Comments must include the regulatory docket or amendment number and must be submitted in triplicate to the address above. All comments received, as well as a report summarizing each substantive public contact with FAA personnel on this rulemaking, will be filed in the public docket. The docket is available for public inspection before and after the comment closing date.

The FAA will consider all comments received on or before the closing date for comments. Late filed comments will be considered to the extent practicable. This final rule may be amended in light of the comments received.

Commenters who want the FAA to acknowledge receipt of their comments submitted in response to this final rule must include a preaddressed, stamped postcard with those comments on which the following statement is made: "Comments to Docket No. FAA-1998-

4518." The postcard will be date-stamped by the FAA and mailed to the commenter.

**Availability of Final Rule**

Any person may obtain a copy of this final rule by submitting a request to: FAA, Office of Rulemaking, Attention: ARM-1, 800 Independence Avenue, SW., Washington, DC 20591; or by telephoning (202) 267-9680. Individuals requesting a copy of this final rule should identify their request with the amendment number or docket number.

An electronic copy of this final rule may be downloaded, by using a modem and suitable communications software, from: the FAA regulations section of the FedWorld electronic bulletin board service (telephone: (703) 321-3339); the Government Printing Office's electronic bulletin board service (telephone: (202) 512-1661); or the FAA's Aviation Rulemaking Advisory Committee Bulletin Board service (telephone: (202) 267-5948).

Internet users may reach the FAA's web page at <http://www.faa.gov>, or the Government Printing Office's web page at <http://www.access.gpo.gov/nara>, for access to recently published rulemaking documents.

**Small Entity Inquiries**

The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) requires the FAA to report inquiries from small entities concerning information on, and advice about, compliance with statutes and regulations within the FAA's jurisdiction, including interpretation and application of the law to specific sets of facts supplied by a small entity.

If you are a small entity and have a question, contact your local FAA official. If you do not know how to contact your local FAA official, you may contact Charlene Brown, Program Analyst Staff, Office of Rulemaking, ARM-27, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, 1-888-551-1594. Internet users can find additional information on SBREFA in the "Quick Jump" section of the FAA's web page at <http://www.faa.gov> and may send electronic inquiries to the

following Internet address: 9-AWA-SBREFA@faa.dot.gov.

### Background

Over the past several years, the FAA has been involved in harmonization efforts with the JAA and the European Civil Aviation Conference (ECAC). During this time, the JAA has been finalizing the Joint Aviation Regulations (JAR) on Flight Crew Licensing (FCL), which are scheduled to go into effect in July 1999. The development of the JAR FCL has led the FAA and JAA to compare and contrast one another's pilot licensing and training regulations to determine where harmonization would be appropriate. As a result of this harmonization effort, the FAA and JAA have identified certain restrictive language in the FAA regulations and the JAR FCL. The restrictive language, if not removed, provides an obstruction to the harmonization efforts underway between the FAA and the JAA.

### FAA Restrictions

The restrictive language in the FAA Regulations concerns the licensing and training of foreign pilots outside of the U.S. In particular, the FAA regulations do not allow pilot certificates or medical certificates to be issued outside of the U.S. to persons who are not U.S. citizens or resident aliens of the U.S. (14 CFR 61.2 and 67.5, respectively). In addition, foreign students may not take the practical test for a pilot certificate outside of the U.S. (14 CFR 61.2). There are a few exceptions to these requirements, but they generally apply only to support U.S. concerns (e.g., a certificate may be issued when the Administrator finds that the certificate is needed for the operation of a U.S.-registered aircraft).

Also, the FAA regulations do not allow FAA-certificated pilot schools to have a base or other facility located outside the U.S. unless that base or facility is needed for the training of U.S. citizens (14 CFR 141.15). FAA-certificated training centers are allowed to be located outside of the U.S., but they are subject to special rules that limit what they can offer foreign students (14 CFR section 142.19). For example, an FAA-certificated training center located outside of the U.S. may prepare and recommend foreign applicants, whom already hold FAA certificates, only for additional authorizations, endorsements, and ratings. An FAA-certificated training center located outside of the U.S. may prepare and recommend U.S. applicants, whether they already hold an FAA certificate or not, for pilot

certificates, ratings, authorizations, and endorsements.

The FAA placed the above restrictive language into the FAA regulations in 1982 in response to administrative concerns. Specifically, the FAA was concerned with staffing and budgetary resources for FAA activity outside of the U.S. Additionally, the FAA wanted to encourage foreign governments to develop aeronautical codes and administrative capabilities of their own that would permit them to conduct their own certification functions.

Over the past decade and a half, the FAA has expanded its international activity and now has the staffing resources overseas to address certification and oversight concerns. In addition, in 1980 the U.S. Congress passed the International Air Transportation Competition Act of 1979, which directed the FAA to collect fees for airman and repair station certificates issued outside the U.S. Based on this Act, the FAA established fixed fees for the issuance of airman certificates to foreign nationals outside of the U.S. (14 CFR part 187, appendix A). This fee collection provision has enabled the FAA to overcome the budgetary concerns of issuing certificates to foreign airman outside of the U.S. Finally, foreign countries have developed their own aviation programs, including certification of airman.

Therefore, after reviewing the purpose and intent of the restrictive language, the FAA has determined that the administrative concerns that justified placing the geographic limitations into the FAA regulations are no longer applicable.

### JAA Restrictions

The restrictive language in the JAR FCL provides, in pertinent part, that an applicant for a JAA certificate must receive training from a Flying Training Organization (FTO) or Type Rating Training Organization (TRTO) approved by a member state of the JAA. No such approval will be granted unless the FTO or TRTO principal place of business for training and registered office are located in that JAA member state, and the FTO or TRTO is owned directly or through majority ownership by a JAA member state or a national of a JAA member state or both. The JAR FCL does not allow for the crediting of training time received from an unapproved FTO or TRTO.

The JAR FCL also does not allow for the conversion of a non-JAA State license to a JAA license unless an arrangement exists between the JAA and the non-JAA member state. At this time, there is not an arrangement between the FAA and the JAA for conversion of

airman licenses. Such a conversion arrangement is one area that the FAA and JAA are discussing as part of the harmonization efforts. These harmonization efforts, however, have become more difficult as a result of the geographic restrictions in one another's regulations. The JAA has indicated that they may remove the JAR FCL restrictive language once the FAA removes the restrictive language in the FAA regulations.

### Affect on U.S. Schools

If the FAA does not remove the restrictive language in the FAA regulations discussed above, the JAA will not remove the restrictive language in the JAR FCL. Consequently, there could be a potentially detrimental affect on FAA-certificated pilot schools and training centers that seek to train students from the JAA member states or any person interested in obtaining a JAA license. FAA-certificated pilot schools and training centers would not meet the geographic or ownership requirements necessary to gain JAA approval as an FTO or TRTO. As a result, training received at FAA-certificated pilot schools or training centers could not be credited toward a JAA license.

In addition, as discussed above, the JAR FCL provide that a license issued by a non-JAA State may be converted to a JAA license only if an arrangement exists between the JAA and the non-JAA State. At this time, there is not a conversion arrangement between the FAA and the JAA and if the JAR FCL restrictive language is not removed the harmonization efforts underway may not produce such a conversion arrangement. As a result, FAA pilot certificates could not be converted to JAA licenses.

Currently, FAA-certificated pilot schools and training centers provide a significant amount of training to individuals from JAA member states. If the JAR FCL goes into effect with the restrictive language in July 1999, significant economic hardship may be endured by many FAA-certificated pilot schools and training centers, since students from JAA member states would no longer seek FAA certificates or training from them.

Accordingly, the FAA is recommending to the JAA that they remove the restrictive language from the JAR FCL before it goes into effect. To support this, the FAA must show good faith by removing licensing and training restrictions in the FAA regulations that are not safety driven. The removal of the restrictive language is urgently needed as the implementation date of the JAR FCL is July 1999; the JAA FCL

Committee will meet in September 1998 to consider amendment of the language in the JAR FCL, which goes before the full JAA Committee for adoption in October 1998.

#### Section-by-section Analysis

#### Part 61 Certification: Pilots, Flight Instructors, and Ground Instructors

##### Section 61.2 Certification of Foreign Pilots, Flight Instructors, and Ground Instructors

This section currently provides that an airman certificate may not be issued to a person who is not a citizen of the U.S. or a resident alien of the U.S. unless that person passes the appropriate practical test within the U.S. There are five exceptions to this restriction for specific needs; that is, the certificate must be needed for the operation of U.S.-registered aircraft. This section also provides that FAA-certificated training centers located outside the U.S. may prepare and recommend only U.S. citizens for airman certificates and may only issue certificates to U.S. citizens.

This section was originally established in 1982 (47 FR 35690; August 16, 1982) in response to "the continuous expansion in worldwide demand for FAA certification services" and the "undue burden [the demand was placing] on FAA budgetary and manpower resources." These administrative concerns, and the potential fear that "[o]verly free exportation of U.S. certificates could deter the development of competent, indigenous certification programs," convinced the FAA to restrict the certification of foreign nationals outside of the U.S. The FAA found support for this decision in 49 U.S.C. section 44703(d), which gives the Administrator of the FAA the discretion to restrict or prohibit the issuance of airman certificates to aliens. In 1996, the FAA implemented the new regulations concerning the certification and operating rules for FAA-certificated training centers (61 FR 34508; July 2, 1996). As part of that rule, section 61.2 was amended to provide that FAA-certificated training centers located outside the U.S. may prepare and recommend only U.S. citizens for airman certificates and may issue certificates only to U.S. citizens. That amendment carried forward the policy of the FAA not to issue certificates to foreign nationals outside the U.S., and did not consider whether this policy was still appropriate.

The FAA/JAA harmonization effort over the past several years has identified

this section as one of the obstructions to the harmonization efforts.

As noted in the general discussion above, the FAA has determined that the original concerns behind promulgating this section are no longer applicable. The FAA has put in place the appropriate resources to handle FAA certification services outside the United States, and the agency is no longer concerned about creating a disincentive for foreign airman certification programs. Accordingly, the FAA is removing this section in its entirety and will be reserving this section for future needs.

#### Part 67 Medical Standards and Certification

##### Section 67.5 Certification of Foreign Airmen

This section provides that a person who is neither a citizen of the U.S., nor a resident alien of the U.S., may not be issued an FAA medical certificate outside the U.S. unless the Administrator finds that the certificate is needed for the operation of a U.S.-registered aircraft.

This section was established at the same time as 14 CFR 61.2, discussed above, in 1982 (47 FR 35690). As stated above, that rule was adopted in response to administrative concerns and to encourage foreign governments in the development of competent, indigenous airman certification programs. As these concerns are no longer applicable, and to encourage harmonization with our European neighbors where possible, the FAA is removing airman licensing requirements that are not safety driven. As a result, the FAA is removing and reserving this section in its entirety.

#### Part 141 Pilot Schools

##### Section 141.15 Location of Facilities

This section provides that FAA-certificated pilot schools or provisional pilot schools may not have a base or facility located outside of the U.S. unless the Administrator finds the location of that base or facility is needed for the training of students who are U.S. citizens.

This section was established as part of an overall revision to the standards for the certification of FAA-certificated pilot schools in 1974 (39 FR 20146; June 6, 1974). In the preamble to that rule, the FAA stated that the restriction on the location of FAA-certificated pilot schools outside the U.S. reflected a long-standing FAA policy that merely was being stated in the regulation. The FAA also stated that "the purpose of certificated pilot schools is to provide pilot training for citizens of the U.S."

As previously discussed, this long-standing FAA policy restricting the training and certification of foreign nationals outside of the U.S. was based mostly on administrative concerns that are no longer applicable. In addition, as FAA-certificated pilot schools have been, and currently are, providing training to a significant number of foreign nationals within the U.S., the purpose of FAA-certificated pilot schools has expanded to train both U.S. citizens and foreign nationals. For many FAA-certificated pilot schools the training of foreign students provides a major source of income.

The JAA and the ECAC have determined that this section is not only a roadblock to harmonization efforts but has encouraged them to place similar geographic restrictions in the JAR FCL. As discussed earlier in the background section of this preamble, if the JAA maintains the restrictive language in the JAR FCL, foreign nationals of JAA member states will no longer seek training from FAA-certificated schools as that training would not longer be recognized by the JAA. Because the FAA has determined that this geographic limitation is no longer necessary and is an obstruction to harmonization as indicated by the JAA and the ECAC, the FAA is removing and reserving this section in its entirety.

#### Part 142 Training Centers

##### Section 142.15 Facilities

This section primarily addresses the physical characteristics of the facilities that a training center is required to provide. The last paragraph of this section (14 CFR 142.15(e)), however, provides that a training center certificate may be issued to an applicant having a business office or training center located outside of the U.S. This permissive language is unnecessary since without this provision, it would be clear that there are no geographic restrictions in part 142 for FAA-certificated training centers. The FAA is removing it to avoid any possible confusion.

##### Section 142.17 Satellite Training Centers

This section provides the requirements that must be met for a training center to conduct training at a satellite training center located in the U.S. This section was limited to satellite training centers located within the United States because the FAA provided special rules for training centers located outside the United States under 14 CFR section 142.19.

As discussed below, the FAA is removing section 142.19 in its entirety.

As there will no longer be special rules for FAA-certificated training centers located outside of the United States, the FAA is removing the limitation in this section that references only satellite training centers located within the United States. FAA-certificated training centers, whether located within or outside of the United States, that want to operate satellite training centers must meet the requirements under this section.

#### **Section 142.19 Foreign Training Centers: Special Rules**

This section currently provides that a training center located outside of the U.S. is subject to special rules that limit what training they can provide to foreign students. As already discussed above, an FAA-certificated training center located outside of the United States may only prepare and recommend foreign applicants, whom already hold FAA certificates, for additional authorizations, endorsements, and ratings. An FAA-certificated training center located outside of the U.S. may prepare and recommend U.S. applicants, whether they already hold an FAA certificate or not, for pilot certificates, ratings, authorizations, and endorsements.

The FAA placed this restrictive language into this section for the same reason as that for section 61.2. As discussed above, section 61.2 was established in response to administrative and potential "over-dominance" concerns that are no longer applicable. Section 142.19 was identified as a possible obstruction to harmonization. For the same reason the FAA is removing section 61.2, the FAA is removing and reserving this section in its entirety.

#### **Good Cause for Immediate Adoption**

Sections 553(b)(3)(B) and 553(d)(3) of the Administrative Procedures Act (APA) (5 U.S.C. 553(b)(3)(B) and 553(d)(3)) authorize agencies to dispense with certain notice procedures for rules when they find "good cause" to do so. Under section 553(b)(3)(B), the requirements of notice and opportunity for comment do not apply when the agency for good cause finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Section 553(d)(3) allows an agency, upon finding good cause, to make a rule effective immediately, thereby avoiding the 30-day delayed effective date requirement in section 553.

The FAA finds that notice and public comment to this final rule are impracticable, unnecessary, and

contrary to the public interest. The provisions in this final rule remove restrictive language affecting the licensing and training of foreign pilots outside of the U.S. The removal of the restrictive language will not adversely affect the licensing and training of U.S. pilots either within or outside of the U.S. In addition, as discussed above, the removal of the restrictive language will not have a safety impact, because the language was adopted to meet administrative concerns that are no longer applicable. As a result, the FAA has determined that notice and public comment are unnecessary because the FAA believes that the public will not be interested in this rulemaking.

The FAA has determined that there is a need to remove the restrictive language immediately, to provide an inducement for the JAA to consider removing its restrictions on licensing and training. Without this reciprocal JAA action, there could be economic losses the FAA-certificated pilot schools and training centers that seek to continue to train foreign students from the JAA member states, both inside and outside of the U.S. As discussed earlier, the JAR FCL restrictive language will not allow an individual to convert an FAA pilot license, absent an arrangement between the JAA and the FAA, or to receive credit for flight training unless it is received from an JAA-approved FTO or TRTO. Currently, there is no arrangement between the FAA and the JAA for conversion of certificates and FAA-certificated pilot schools and training centers do not meet the requirements for JAA approval.

The JAA has indicated that they may remove the JAR FCL restrictive language if the FAA removes the restrictive language in the FAA regulations. As discussed earlier, the JAA will be making final decisions regarding any amendments to the language of the JAR FCL in the very near future. Therefore while notice and comment on this amendment are unnecessary, they are also impracticable.

#### **Regulatory Evaluation**

Executive Order 12866, "Regulatory Planning and Review," dated September 30, 1993, directs the Federal agencies to promulgate new regulations or modify existing regulations only if benefits to society for each regulatory change outweigh potential costs. The order also requires the preparation of an economic analysis of all "significant regulatory actions" except those responding to emergency situations or other narrowly defined exigencies.

The FAA has determined that this final rule is not significant under

Executive Order 12866 or the Regulatory Policies and Procedures of the Department of Transportation (DOT) (44 FR 11034; February 26, 1979). The Regulatory Policies and Procedures of the DOT require, for non-significant rulemakings, the preparation of a regulatory evaluation that analyzes the economic consequences of the regulatory action. This section contains the full regulatory evaluation prepared by the FAA that provides information on the economic consequences of this regulatory action. In addition to the regulatory evaluation, this section also contains a regulatory flexibility determination required by the 1980 Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) and an international trade impact assessment. Accordingly, the FAA makes the following economic evaluation of this final rule.

This final rule merely removes language from the Federal Aviation Regulations that restricts the licensing of foreign persons outside of the U.S. and that restricts the operation of FAA-certificated pilot schools and training centers that are located outside of the U.S. The restrictive language was originally placed in the regulations because of administrative concerns that are no longer applicable. The restrictive language was identified during harmonization efforts currently underway between the FAA and the JAA as an obstruction to harmonization and as potentially detrimental to FAA-certificated pilot schools and training centers that seek to train students from the JAA member states. As part of the FAA's commitment to reduce restrictions that are not safety driven and to further harmonize our regulations with our European neighbors, the FAA is removing the above restrictive language.

#### **Cost-benefit Analysis**

This final rule does not change the training or certification requirements for obtaining FAA certificates, it only removes geographic limitations on where the training and certification of foreign nationals may be given. This final rule does not affect the training and certification of U.S. citizens either within or outside of the United States. As a result, this final rule does not, in economic terms, alter the process of training and certification for pilots, flight instructors, and ground instructors. Accordingly, the FAA has determined that there are no economic costs associated with this final rule.

An expected benefit of the proposed rule is continuation of existing international trade with respect to the provision of pilot training by U.S.

companies. As discussed in the background section of this preamble, the FAA is concerned about the JAR FCL language that would not allow for the crediting of training time received from unapproved FTOs or TRTOs, namely FAA-certificated pilot schools or training centers. FAA-certificated pilot schools and training centers currently provide training to a significant number of individuals from JAA member states. If the JAR FCL goes into effect in July 1999, significant economic hardship may be endured by many FAA-certificated pilot schools and training centers as students from JAA member states would no longer seek training from them. Further, foreign students that come to the U.S. for flight training provide indirect benefits; they inject money above and beyond tuition costs into the U.S. economy. The FAA is recommending to the JAA that they remove the restrictive language from the JAR FCL. To support this, the FAA must show good faith by removing licensing and training restrictions in the FAA regulations that are not safety driven. Therefore, the FAA has determined that the failure to implement this final rule will result indirectly in economic losses to FAA-certificated pilot schools and training centers and the U.S. economy.

#### Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide range of small entities, including small businesses, not-for-profit organizations and small government jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA) as described in the Act.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 Act provides that the head of the agency may so certify and an RFA is not required. The certification must include a statement providing the factual basis

for this determination, and the reasoning should be clear.

The FAA conducted the required review of this final rule and determined that it will not have a significant economic impact, positive or negative, on a substantial number of small entities. This final rule, while it does affect FAA-certificated pilot schools and training centers, does not impose any cost on them. This final rule merely removes geographic limitations on FAA-certificated pilot schools and training centers for the training and certification of foreign nationals outside of the United States. Accordingly, pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), the FAA certifies that this final rule will not have a significant impact on a substantial number of small entities. The FAA solicits comments from the public regarding this determination.

#### International Trade Impact Analysis

The Office of Management and Budget (OMB) requires Federal agencies to determine whether any rule or regulation will have an impact on international trade. The FAA has determined that this final rule will affect the operations of businesses involved in the sale of aviation services, specifically, FAA-certificated pilot schools and training centers. It affects FAA-certificated pilot schools and training centers by removing restrictive language that placed geographic limitations on where they could be located and on what training and certification they could provide to foreign nationals outside of the U.S. The FAA has determined that this final rule promotes international trade. While the FAA believes that this final rule will promote international trade, the more tangible benefit of this final rule will be the enhancement of harmonization efforts currently underway between the FAA and the JAA.

#### Federalism Implications

This final rule will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

#### Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (Pub. L. 104-13 (May 22, 1995)), there are no

requirements for information collection associated with this final rule.

#### Unfunded Mandates Reform Act Assessment

In accordance with the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4 (March 22, 1995)), there are no Federal mandates in this final rule that meet the required cost threshold.

#### List of Subjects

##### 14 CFR Part 61

Airmen, Certification, Flight instructors, Foreign airmen, Ground instructors, Pilots, Students, Training.

##### 14 CFR Part 67

Airmen, Certification, Foreign airmen, Medical certification.

##### 14 CFR Part 141

Airmen, Certification, Educational facilities, Flight instructors, Foreign students, Ground instructors, Pilots, Schools, Students, Training.

##### 14 CFR Part 142

Airmen, Certification, Educational facilities, Foreign students, Instructors, Pilots, Schools, Students, Training.

#### The Amendments

In consideration of the foregoing the Federal Aviation Administration amends Chapter I of Title 14 Code of Federal Regulations as follows:

#### PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

1. The authority citation for part 61 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701-44703, 44709-44711, 45102-45103, 45301-45302.

##### § 61.2 [Removed]

2. Remove § 61.2.

#### PART 67—MEDICAL STANDARDS AND CERTIFICATION

3. The authority citation for part 67 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701-44703, 44707, 44709-44711, 45102-45103, 45301-45303.

##### § 67.5. [Removed]

4. Remove § 67.5

#### PART 141—PILOT SCHOOLS

5. The authority citation for part 141 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701-44703, 44707, 44709-44711, 45102-45103, 45301-45302.

**§ 141.15 [Removed]**

6. Remove § 141.15

**PART 142—TRAINING CENTERS**

7. The authority citation for part 142 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 40119, 44101, 44701–44703, 44705, 44707, 44709–44711, 45102–45103, 45301–45302.

**§ 142.15 [Amended]**

8. In § 142.15, remove paragraph (e).

9. Section 142.17 is amended by revising paragraph (a) introductory text to read as follows:

**§ 142.17 Satellite training centers.**

(a) The holder of a training center certificate may conduct training in accordance with an approved training program at a satellite training center if—

\* \* \* \* \*

**§ 142.19 [Removed]**

10. Remove § 142.19.

Issued in Washington, DC, on September 30, 1998.

**Jane F. Garvey,**  
*Administrator.*

[FR Doc. 98–26602 Filed 10–2–98; 8:45 am]

BILLING CODE 4910–13–M

# Corrections

Federal Register

Vol. 54, No. 175

Tuesday, September 12, 1989

on page 34284 in the issue of Friday, August 18, 1989, make the following corrections:

**§ 91.185 [Corrected]**

1. On page 34303, in the second column, in § 91.185(c)(2) introductory text, in the third line, "segment" was misspelled.

**§ 91.323 [Corrected]**

2. On page 34310, in the third column, in § 91.323(a)(2), in the fourth line, "1" should be removed.

**§ 91.409 [Corrected]**

3. On page 34312, in the first column, in § 91.409(d)(2)(ii), in the third line, after "routine", insert "and detailed inspections will be performed and including".

**§ 91.801 [Corrected]**

4. On page 34322, in the first column, in § 91.801(b), in the sixth line from the bottom of the paragraph, after "under" insert a comma.

**PART 91 Appendix A—[Corrected]**

5. On page 34328, in Appendix F to part 91, in the 3rd column, in the 10th line, before "5", insert "2"

**Note:** For a Federal Aviation Administration correction to the document referenced in this correction, see the Rules and Regulations section of this issue.

BILLING CODE 1505-01-D

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 91**

[Docket No. 18334; Amdts. No. 1-36, 21-66, 23-37, 25-68, 27-24, 29-27, 31-5, 33-13, 35-8, 36-18, 43-31, 45-18, 47-24, 61-84, 63-27, 65-34, 71-13, 91-211, 93-58, 99-11, 103-3, 121-206, 125-12, 127-43, 133-10, 135-32, 137-12, 141-11]

**RIN 2120-AA13**

**Revision of General Operating and Flight Rules**

*Correction*

In rule document 89-18775 beginning

# Rules and Regulations July 13, 1962

"Civil Air Regulations" and "Regulations of the Administrator".

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

Subchapter H [New] was published as a notice of proposed rule making in the FEDERAL REGISTER on April 19, 1962 (27 F.R. 3756), and circulated as Draft Release 62-16.

Some of the comments received recommend specific substantive changes to the regulations. Although some of the recommendations might, upon further study, appear to be meritorious, they cannot be adopted as a part of the recodification program. The purpose of the program is simply to streamline and clarify present regulatory language and to delete obsolete or redundant provisions. To attempt substantive change (other than minor, relaxatory ones that are completely noncontroversial) would delay the project and would be contrary to the ground rules specified for it in the FEDERAL REGISTER on November 15, 1961 (26 F.R. 10698) and Draft Release 61-25. However, all comments of this nature will be preserved and considered in any later substantive revision of the affected parts. As a result, with one exception, no change has been made in the substance of the rules contained in the notice of proposed rule making. The exception is a clarification and relaxation of the rule relating to work performed off station by repair stations. A new subparagraph (d) has been added to § 145.51 to make it clear that a certificated repair station may under quality controlled circumstances perform maintenance or alteration at a place other than the repair station. One other major change, although not substantive, is the deletion of policy material formerly contained in CAM §§ 53.40-1 and 53.41-1 relating to the details of mechanic school curricula, and their replacement by language based on CAR §§ 53.40 and 53.41. The deleted material was not mandatory and will be considered for inclusion in the Agency Advisory Circular System.

Other comments received suggested changes in style or format or in technical wording. These comments were carefully considered and, where consistent with the style, format, and terminology of the recodification project, were adopted.

The definitions, abbreviations, and rules of construction contained in Part 1 [New] published in the FEDERAL REGISTER on May 15, 1962 (27 F.R. 4587) apply to the new Subchapter H.

Interested persons have been afforded an opportunity to participate in the making of this regulation, and due con-

## **Title 14—AERONAUTICS AND SPACE**

### **Chapter I—Federal Aviation Agency**

[Reg. Docket No. 1157]

#### **PART 50—AIRMAN AGENCY CERTIFICATES**

#### **PART 51—GROUND INSTRUCTOR RATING**

#### **PART 52—REPAIR STATION CERTIFICATES**

#### **PART 53—MECHANIC SCHOOL CERTIFICATES**

#### **PART 54—PARACHUTE LOFT CERTIFICATES AND RATINGS**

#### **PART 141—PILOT SCHOOLS [NEW]**

#### **PART 143—GROUND INSTRUCTORS [NEW]**

#### **PART 145—REPAIR STATIONS [NEW]**

#### **PART 147—MECHANIC SCHOOLS [NEW]**

#### **PART 149—PARACHUTE LOFTS [NEW]**

#### **Schools and Other Certificated Agencies**

This amendment adds Subchapter H "Schools and Other Certificated Agencies" to Chapter I of Title 14 of the Code of Federal Regulations. The amendment is a part of the program of the Federal Aviation Agency to recodify its regulatory material into a new series of regulations called the "Federal Aviation Regulations" to replace the present

*Recodification*

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## RULES AND REGULATIONS

(iv) Effects of power usage during slow flight.

(10) *Integrated instrument instruction.* Dual instruction in attitude control of airplanes solely by reference to instruments, integrated with the primary dual instruction prescribed in subdivisions (5), (6), (7), (8), and (9) of this subparagraph.

(b) *Phase II—Navigational and critical situations—(1) Pattern and track flying.* (i) Principles for establishing and maintaining a track over the ground.

(ii) Constant radius turns about a point.  
(iii) "S" around pylons.  
(iv) "S" turns across a road.  
(v) Making good a desired track for a prolonged period (traffic patterns, rectangular areas, etc.).

(2) *Emergencies and critical situations.* (i) Principles and safe flying practices involved, when encountering items below:

(a) Being lost.  
(b) Low on fuel.  
(c) Turbulent air.  
(d) Adverse flight visibility conditions.  
(e) Radio station shutdowns.  
(f) Motor trouble.  
(g) Loss of performance due to high altitudes, high temperatures, downdrafts in mountainous terrain.

(h) Instrument/communication/navigation/equipment trouble.

(i) Icing conditions (carburetor, wings, propeller).

(3) *Small, soft, and high/altitude temperature field operations.* (i) Principles and safe flying practices for effecting takeoffs and landings, climbout and approach flight plans.

(ii) Takeoffs and landings at small fields (including operation over obstacles).

(iii) Takeoffs and landings on soft surfaces.

(iv) Takeoffs and landings under conditions of high density/operational altitudes.

(4) *Cross-country flying (5 hours solo minimum).* (i) Principles and safe flying practices for preflight preparations, operations within airplane's operational limitations, use of FAA facilities, and compliance with Parts 43, 80, and 62 of this chapter.

(ii) Loading of airplane.  
(iii) Weather information.  
(iv) Facilities to be used.  
(v) Operations to strange airports of varying size, altitudes, traffic conditions, etc.

(5) *Radio.* (i) Airport traffic control procedures.

(ii) Preparing, filing, and closing flight plans.

(iii) Use of radio aids to navigation.

(c) *Minimum total course times.* (1) Flight time, 35 hours.

(2) Ground instruction time, 8 hours, 45 minutes.

(d) *Progress checks.* (1) Solo.  
(2) Basic flying phase.  
(3) Navigational and critical situations phase.

(4) Final (for FAA certificate).

#### APPENDIX B—FLIGHT TRAINING—COMMERCIAL FLYING SCHOOLS

The training that must be included in the required hours of flight time under § 143.63 is as follows:

(a) *Phase I—basic flying—(1) Aircraft equipment familiarization and procedures for control and use.* (i) Principles and procedures for control and use of flight force(s) effects on wing tail surface, flight controls and for control and use of power effects through mixture, carburetor heat, etc.

(ii) Use of cockpit controls.

(iii) Fuel system operation, octane required.

(iv) Fire extinguisher, first aid kit, etc.

(2) *Preflight preparatory procedures.* (i) Principles involved in each preparatory procedure.

(iv) Hand signals for ground operations.  
(v) Equipment checks.

(vi) Local taxing and traffic rules.

(3) *Taxiing and parking.* (i) Principles and safety practices in taxiing and parking, including engine operation and speed control under typical wind and surface conditions.

(ii) Taxiing and parking operations, including airplane response to engine and flight controls under typical wind and surface conditions.

(iii) (If seaplane training.) Principles, procedures, and operations on water bodies (calm and choppy), involving taxiing, sailing, beaching, docking, and mooring.

(iv) (If seaplane training.) Principles, procedures, and operations on water subject to tidal or current action involving sailing and beaching, docking, and mooring.

(4) *Takeoffs and landings.* (i) Principles and procedures for obtaining ground path control; takeoff and climbouts at the best angle of climb speed, and flared landings, transition to touchdown without gear side loads.

(ii) Operations on hard surfaced runways.

(iii) Operations on sod surfaced areas.

(iv) Operations at controlled airports.

(v) Operations at uncontrolled airports.

(vi) Operations in heavy local traffic.

(vii) Operations in crosswinds.

(viii) Operations in gusty winds.

(ix) Landings using power-on approaches and allops.

(x) (If seaplane training.) Principles and procedures and operations involving takeoffs and landings.

(xi) (If seaplane training.) Operations from water affected by tide and current.

(5) *Straight and level flight.* (i) Principles for attitude maintenance in gusty air, momentary deviations, etc.

(ii) Maintenance of airplane attitude by visual reference (wing tips to horizon, etc.).

(iii) Maintenance of flight path over ground.

(6) *Turns.* (i) Principles of and familiarization with aerodynamic forces involved and available for turning purposes under full load and varying power conditions.

(ii) Flight control functions.

(iii) Principles in overbanking tendencies.

(iv) Principles for establishing and maintaining a desired bank (ref. to wing tips), and a desired altitude (angle of attack, power, etc.).

(v) Transitions to and maintenance of desired banks and altitudes.

(7) *Climbs and glides.* (i) Principles of establishing and maintaining a normal angle in climbs and descents.

(ii) 10°-30° banked turns.

(iii) 30°-60° banked turns.

(iv) Spirals with bank at least 45° through 720°-1080°.

(v) Use of power and speed control to maintain preassigned rates of descent and ascent.

(8) *Stalls.* (i) Principles for detection of incipient stalls and effecting recovery to straight and level flight with minimum loss of altitude.

(ii) Stalls and recoveries from takeoff and departure configurations.

(iii) Stalls and recoveries from approach and landing configurations.

(iv) Stalls and recoveries from accelerated maneuvering.

(v) Fully developed stalls and recoveries, including correct power usage, to level flight.

(9) *Flight at minimum controllable airspeed (slow flight).* (i) Principles for establishing and maintaining slow flight.

(ii) Stabilized slow flight in turns at constant altitude.

(iii) Stabilized slow flight in turning climbs and descents.

(iv) Effects of power usage during slow

(b) *Phase II—Navigational and critical situations—(1) Pattern and track flying.* (i) Principles for establishing and maintaining a track over the ground.

(ii) Constant radius turns about a point.

(iii) "S" around pylons.

(iv) "S" turns across a road.

(v) Making good a desired track for a prolonged period (traffic patterns, rectangular areas, etc.).

(2) *Emergencies and critical situations.* (i) Principles and safe flying practices involved when encountering items below:

(a) Being lost.

(b) Low on fuel.

(c) Turbulent air.

(d) Adverse flight visibility conditions.

(e) Radio station shutdowns.

(f) Motor trouble.

(g) Loss of performance due to high altitudes, high temperatures, downdrafts in mountainous terrain.

(h) Instrument/communication/navigation/equipment trouble.

(i) Icing conditions (carburetor, wings, propeller).

(ii) Principles and procedures for determining and executing a course of action for forced landings that, if carried through, would most likely result in a safe landing with minimum, if any, damage to the airplane or injury to occupants.

(3) *Small, soft and high altitude/temperature field operations.* (i) Principles and safe flying practices for effecting takeoffs and landings, climbout and approach flight plans.

(ii) Takeoffs and landings at small fields (including operation over obstacles).

(iii) Takeoffs and landings on soft surfaces.

(iv) Takeoffs and landings under conditions of high density/operational altitudes.

(4) *Cross-country flying and radio navigation (20 hours).* (i) Principles and safe flying practices for preflight preparations, operations within airplane's operational limitations, use of FAA facilities and compliance with Parts --- and --- of this chapter [§ 43.60] and Part 320, "Notification and Reporting of Aircraft Accidents and Overdue Aircraft," issued by the Civil Aeronautics Board, and which is on sale at the Government Printing Office for 5 cents.

(ii) Loading of airplanes.

(iii) Weather information.

(iv) Facilities to be used.

(v) Operations to strange airports of varying size, altitudes, traffic conditions, 350 miles distant, etc.

(vi) Operations to airports in which flight plans are filed, followed, and closed, one or more radio aids to navigation are used; and dead reckoning navigation employed. Procedures for operation in Air Defense Identification Zones.

(5) *Basic instrument flying (minimum 10 hours, 5 hours instrument instruction).* The specified 10 hours of instrument training shall be given by a rated instrument flight instructor; the remaining 5 hours may be given by the holder of a flight instructor certificate with an airplane rating.

(i) Principles and procedures for maintaining and controlling airplane flight altitudes and speeds (solely by reference to instruments), and maintaining flight within the airplane's operational limitations.

(ii) Operations using a gyroscopically operated bank and direction indicator, a gyroscopically operated rate of turn indicator, a gyroscopically operated pitch indicator, a sensitive altimeter, and a sweep second clock.

(iii) Principles and procedures for coping with turbulent air conditions, including recommended airspeed, airplane configuration and power settings.

(iv) Operations (solely by reference to instruments) in turbulent air.

(4) *Night flying (minimum 5 hours) (10*

procedures for conduct of night flights from takeoff to destination and landing, including procedures for coping with critical and including emergency situations.

(1) Operations at night (during the period from one hour after sunset to one hour before sunrise) must include at least 10 takeoffs and landings to complete stops with student as pilot in command and sole manipulator of the controls.

(7) Transition to and operation of representative current type transportational airplanes (5 hours solo minimum). (1) Principles and procedures to be followed in making a transition from a familiar type airplane to one with significantly different flight performance and operating characteristics. Includes determination of the correct fuel consumption and use of fuel system tanks, selector(s) and indicator(s), use of flaps for takeoff and landing under various configurations and conditions of loading, loading to be within e.g. limits, operational recommended speeds and limitations for the engine and airplane, procedures for use of communication, navigation, and flight instrumentation equipment, and procedures to be used under the emergency situations and for normal gear extension (if applicable).

(1) Operation of different type transportational airplanes at gross weight, which will include preflight procedures, takeoffs and departures, inflight maneuvers at minimum controllable airspeed, the design maximum structural cruising speed, best angle and rate of climb airspeed(s) and configuration(s); approaches and landing using recommended approach speed and configuration, and post-flight procedures.

(c) Minimum total course times. (1) Flying time, 160 hours.

(1) Solo flight, 100 hours.

(1) Cross-country solo, 20 hours.

(2) Ground instruction, 40 hours.

(d) Progress checks. (1) Solo.

(2) Basic flying phase.

(3) Navigation and critical situations phase:

(1) VFR operations.

(1) Basic instrument flying.

(1) Night flying.

(4) Final (for FAA certificate).

#### APPENDIX C—FLIGHT TRAINING—INSTRUMENT FLYING SCHOOL

The training that must be included in the required hours of instruction under § 141.65 is as follows:

(a) Phase I—Basic instrument flying—(1) Straight and level flight. (1) Principles, procedures, and operating limitations for all flight instruments for control of attitude, altitude, direction, and speed.

(1) Smooth air operation at cruising speed.

(1) Turbulent air operation at recommended rough airspeed.

(2) Turns. (1) Principles, procedures, and operating limitations for control of rate of turn to predetermined headings (including timed turns).

(1) Smooth air operation at cruising speed.

(1) Turbulent air operation at recommended rough airspeed.

(3) Climbs, descents, and spirals. (1) Principles, procedures, and operating limitations for control of rate of climb and descent to predetermined altitudes.

(1) Smooth air operation at recommended best rate of climb and glide speeds and airplane configurations.

(1) Same as (1) of this subdivision, but in rough air.

(4) Stalls. (1) Principles and procedures for detection of and recovery from partial and full stalls.

(1) Stall detection and recoveries.

(1) Full stall recoveries.

(5) Recovery from unusual attitudes. (1) Principles and procedures for coping with unusual attitudes and for critical engine

inoperative situations on multiengine airplanes (including effecting recoveries within operating and structural limitations).

(1) Recoveries to level flight attitudes and speeds.

(1) Operation with critical engine inoperative (multiengine airplanes only).

(b) Phase II—IFR communications, navigation and approaches—(1) Estimation of arrival times. (1) Principles and procedures for preparing a complete flight plan and the correct computation of estimated arrival times over check points, at destination, and at an alternate airport.

(1) Flight planning. (Weather data, navigational procedures, airplane performance data, flight charts, approach procedures etc.).

(1) Flight from point to point.

(2) Tuning radio equipment. (1) Principles and procedures for selection of frequencies, use of volume control, use of voice and range filters, use of dual equipment—when installed.

(1) Use of equipment in flight.

(3) Orientation. (1) Principles and procedures for orienting on a range leg, or radial, and identification of position.

(1) Range orientation and identification from an unknown position.

(4) Following a range leg or radial. (1) Principles and procedures for aligning with and maintaining flight path and altitude along range leg or radial.

(1) Range leg or radial alignment and following.

(5) Locating range stations. (1) Principles and procedures for locating and identifying arrival over station.

(1) Location and identification of station.

(6) Instrument approach procedures. (1) Principles and procedures for execution of the correct approach procedure for the station and airport involved. (Includes familiarization with radio facility charts, radio range charts, and terminal charts.)

(1) Execution of approaches to standard minimums for airport involved. (Also to 500 feet and one mile at some other airport if local airport has higher minimums.)

(7) Missed approach procedures. (1) Principles and procedures for execution of the correct missed approach procedures.

(1) Execution of missed approach procedures for airport involved.

(8) Air traffic control procedures. (1) Familiarization with and procedures for compliance with ATC clearances and/or instructions, including holding and emergency procedures.

(1) Receipt and execution of ATC clearances and/or instructions.

(c) Minimum total course times. (1) Ground instruction, 80 hours.

(2) Flying time (20 hours in flight), 30 hours.

(d) Progress checks. (1) Phase I—Basic instrument flying.

(2) Phase II—IFR communications, navigation, and approaches.

#### APPENDIX D—FLIGHT TRAINING—FLIGHT INSTRUCTOR SCHOOL

The training that must be included in the required hours of instruction under § 141.67 is as follows:

(a) Flight portion, 25 hours of flying—(1) Phase I—performance skills. (1) All items and maneuvers listed in Part 61 of this chapter for private, commercial, and flight instructor flight tests; all items and maneuvers listed in Appendices A and B to this part; lazy 8's and chandelles.

(2) Phase II—instructional skills. (1) Development of methods, skills, and techniques of imparting knowledge, skills, etc., to students in all of the items and maneuvers of Phase I.

(b) Ground instruction portion, 40 hours—

(1) Fundamentals of flight instruction. (1) Basic learning characteristics.

(1) Determination of objectives, or aims.

(1) Instructional management (preparation and execution).

(1) Teaching methods and techniques.

(1) Evaluation techniques.

(2) Analysis of flight maneuvers and flight techniques. (1) Theory of flight.

(1) Control functions and effects.

(1) Common student errors—causes and remedies.

(1) Common flight instructor deficiencies—causes and remedies.

(1) Principles of safety.

### 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 procedure.

143.17 Re-testing after failure.

143.19 Recent experience.

143.21 Display of certificate.

143.23 Change of address.

AUTHORITY: §§ 143.1 to 143.23 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, and 1427).

#### § 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 those certificates and ratings.

#### § 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.

#### § 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.

#### § 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.

#### § 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.

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## § 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.

## § 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.

## § 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 percent.

## § 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.

## § 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.

## § 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.

## § 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, Airman Certification Branch, Oklahoma City, Oklahoma, in writing, of his new address.

## PART 143—DISTRIBUTION TABLE

Former section	Revised section	Former 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.

AUTHORITY: §§ 145.1 to 145.79 issued under secs. 313, 314, 601, and 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, and 1427).

## Subpart A—General

## § 145.1 Applicability.

(a) This part prescribes the requirements for issuing repair station certificates and associated ratings to facilities for the maintenance and alteration of airframes, powerplants, propellers, or appliances, and prescribes 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".

## § 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 as a certificated repair station until the certificate has been issued to him.

## § 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 A; 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, as applicable, 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.

## § 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.

## § 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 cer-

tificate 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.

#### § 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, or renewed, 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.

#### § 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.

#### § 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.

#### § 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.

#### § 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.

#### 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.

#### § 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.

#### § 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 (h) of this section and provide suitable—

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(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.

#### § 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.

#### § 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 em-

ployment 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 65 of this chapter 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.

#### § 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.

#### § 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 informa-

tion 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.

#### § 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 inspection 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 thoroughly understand the manual.

#### § 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 A 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 A 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.

#### § 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, and 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 inspections, repairs, and tests of all kinds of inflated equipment, the repacking, re-marking, re-sealing, and restocking 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.
- #### § 145.51 Privileges of certificates.
- A certificated domestic repair station may—
- (a) Maintain or alter any airframe, powerplant, propeller, instrument, radio, or accessory, or part thereof, for which it is rated;
  - (b) Approve for return to service any article for which it is rated after it has been maintained or altered;
  - (c) In the case of a station with an airframe rating, perform 100-hour, periodic, or progressive inspections, and return the aircraft to service; and
  - (d) Maintain or alter any article for which it is rated at a place other than the repair station, if—
- (1) The function would be performed in the same manner as when performed at the repair station and in accordance with §§ 145.57 to 145.61;
  - (2) All necessary personnel, equipment, material, and technical data is available at the place where the work is to be done; and
  - (3) The inspection procedures manual of the station sets forth approved procedures governing work to be performed at a place other than the repair station.
- However, a station may not approve any article for return to service under sub-

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paragraph (b) or (d) of this paragraph after major repair or major alteration unless the repair or alteration was made in accordance with a manual or specification or other technical data approved by the Administrator.

#### § 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.

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

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

#### § 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.

#### § 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.

#### § 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.

#### § 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 aircraft, 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.

### 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.

#### § 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.

#### § 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.

#### § 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, and has the privileges of a domestic repair station as provided in § 145.51.

#### § 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 carrier for that purpose. Upon request, the station shall make all of its maintenance and alteration 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 aircraft, 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.

PART 145—DISTRIBUTION TABLE

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

<sup>1</sup> Transferred to Part 1.  
<sup>2</sup> Executed.  
<sup>3</sup> Appendix A.

APPENDIX A

NOTE: An asterisk (\*) indicates that the applicant need not have equipment and materials on his premises for this function provided he contracts that particular type work to an outside agency having such equipment and materials.

(a) An applicant for any class of airframe rating must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

(1) *Classes 1 and 2—composite construction of aircraft*—(i) Steel structural components. Repair or replace steel tubes and fittings, using proper welding techniques when appropriate.

Anticorrosion treatment of the interior and exterior of steel parts.

Metal plating or anodizing.\*  
 Simple machine operations such as making bushings, bolts, etc.,

Complex machine operations involving the use of planers, shapers, milling machines, etc.\*

Fabricate steel fittings.  
 Abrasive air blasting and chemical cleaning operations.\*

Heat treatment.\*  
 Magnetic inspection.\*  
 Repair or rebuild metal tanks.\*

(ii) *Wood structure*. Splice wood spars, Repair ribs and spars (wood), Fabricate wood spars.\*

Repair or replace metal ribs,  
 Interior alignment of wings,  
 Repair or replace plywood skin,

Treatment against wood decay.  
 (iii) *Alloy skin and structural components*. Repair and replace metal skin, using power tools and equipment.

Repair, replace, and fabricate alloy members and components such as tubes, channels, cowling, fittings, attach angles, etc.,

Alignment of components, using jigs or fixtures as in the case of joining fuselage sections or other similar operations,

Make up wooden forming blocks or dies,  
 Fluorescent inspection of alloy components.\*

(iv) *Fabric covering*. Repairs to fabric surfaces,  
 Recovering and refinishing of components and entire aircraft.\*

(v) *Control systems*. Renewing control cables, using swaging and splicing techniques,

Rigging complete control system,  
 Renewing or repairing all control system hinge point components such as pins, bushings, etc.,

Install control system units and components.

(vi) *Landing gear systems*. Renew or repair all landing gear hinge point components and attachments such as bolts, bushings, fittings, etc.,

Overhaul and repair elastic shock absorber units,

Overhaul and repair hydraulic-pneumatic shock absorber units,\*

Overhaul and repair brake system components.\*

Conduct retraction cycle tests,  
 Overhaul and repair electrical circuits,  
 Overhaul and repair hydraulic system components.\*

Repair or fabricate hydraulic lines.

(vii) *Electric wiring systems*. Diagnose malfunctions,  
 Repair or replace wiring,

Installation of electrical equipment,  
 Bench check electrical components (this check is not to be confused with the more complex functional test after overhaul).

(viii) *Assembly operations*. Assembly of airframe component parts such as landing gear, wings, controls, etc.,

Rigging and alignment of airframe components, including the complete aircraft and control system,

Installation of powerplants,  
 Installation of instruments and accessories,  
 Assembly and fitting of cowling, fairings, etc.,

Repair and assembly of plastic components such as windshields, windows, etc.,  
 Jack or hoist complete aircraft,

Conduct aircraft weight and balance operations (this function will be conducted in draft free area)\*,  
 Balance control surfaces.

(b) An applicant for any class of powerplant rating must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

(1) *Class 1; Engines up to and including 400 horsepower*. (i) Maintain, repair, and alter powerplants, including replacement of parts:

Chemical and mechanical cleaning,  
 Disassembly operations,  
 Replacement of valve guides and seats,  
 Replacement of bushings, bearings, pins, inserts, etc.,

Plating operations (copper, silver, cadmium, etc.),\*

Heating operations (involving the use of recommended techniques requiring controlled heating facilities),

Chilling or shrinking operations,  
 Removal and replacement of studs,  
 Inscribing or affixing identification information,

Painting of powerplants and components,  
 Anticorrosion treatment for parts,

Replacement and repair of powerplant alloy sheet metal and steel components such as baffles, fittings, etc.\*

(ii) Inspect all parts, using appropriate inspection aids:

Magnetic, fluorescent and other acceptable inspection aids,\*

Precise determination of clearances and tolerances of all parts,  
 Inspection for alignment of connecting rods, crankshafts, impeller shafts, etc.,\*

Inspection of valve springs.  
 (iii) Accomplish routine machine work:

Precision grinding, honing and lapping operations (includes crankshaft, cylinder barrels, etc.),\*

Precision drilling, tapping, boring, milling and cutting operations,  
 Reaming of inserts, bushings, bearings and other similar components,  
 Refacing of valves.

(iv) Perform assembly operations:  
 Valve and ignition timing operations,  
 Fabricate and test ignition harnesses,  
 Fabricate and test rigid and flexible fluid lines,

Prepare engines for long- or short-term storage,  
 Functional check powerplant accessories (this check is not to be confused with the more complex performance test of overhaul)\*,

Hoist engines by mechanical means,  
 Install engines in aircraft,\*

Align and adjust engine controls.\*

(v) Test overhauled powerplants in compliance with manufacturer's recommendations:

The test equipment will be the same as recommended by the manufacturers of the particular engines undergoing test or equivalent equipment that will accomplish the same purpose. The testing function may be performed by the repair station itself, or may be contracted to an outside agency. In either case the repair station will be responsible for the final acceptance of the tested engine.

(2) *Class 2; engines above 400 horsepower*. (Same as class 1.)

(3) *Class 3; turbine engines*. Functional and equipment requirements for turbine engines will be governed entirely by the recommendations of the manufacturer, including techniques, inspection methods, and test.

(c) An applicant for all classes of propeller ratings must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

(1) *Class 1; fixed-pitch propellers*. (i) Maintain, repair, and alter propellers, including installation and the replacement of parts:

Replace blade tipping,  
 Refinish wood propellers,  
 Make wood inlays,  
 Refinish plastic blades,  
 Straighten bent blades within repairable tolerances,

Modify blade diameter and profile,  
 Polish and buff,  
 Painting operations,  
 Remove from and reinstall on powerplants.

(ii) Inspect components, using appropriate inspection aids:

Inspect propellers for conformity with manufacturer's drawings and specifications,  
 Inspect hubs and blades for failures and defects, using magnetic or fluorescent inspection devices.\*

Inspect hubs and blades for failures and defects, using all visual aids, including the etching parts,  
 Inspect hubs for wear of splines or keyways or any other defect.

(iii) Repair or replace components: (Not applicable to this class.)

(iv) Balance propellers:  
 Test for proper track on aircraft,  
 Test for horizontal and vertical unbalance (this test will be accomplished with the use of precision equipment).

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(v) Test propeller pitch changing mechanism: (Not applicable to this class.)

(2) *Class 2; all other types by make.* (i) Maintain, repair, and alter propellers, including installation and the replacement of parts:

All functions listed under Class 1 of paragraph (c)(1)(i) of this Appendix when applicable to the make and model for which rated.

Properly lubricate moving parts, Assemble complete propeller and sub-assemblies, using special tools when required.

(ii) Inspect components, using appropriate inspection aids:

All functions listed under Class 1 of paragraph (c)(2)(ii) of this Appendix when applicable to the make and model for which rated.

(iii) Repair or replace component parts: Replace blades, hubs, or any of their components,

Replace or repair anti-icing devices, Remove nicks or scratches from blades, Repair or replace electrical propeller components.

(iv) Balance propellers: All functions listed under Class 1 of paragraph (c)(1)(iv) of this Appendix, when applicable to the make and model for which rated.

(v) Test propeller pitch changing mechanism:

Test hydraulically, propellers, and components.

Test electrically operated propellers and components.

Test of constant speed devices.\*

(d) An applicant for all classes of radio ratings must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

(1) *Class 1; communications equipment.*

(i) Diagnose radio malfunctions: Check aircraft wiring, antennas, connectors, relays and other associated radio components to detect installation faults,

Check engine ignition systems and aircraft accessories to determine sources of electrical interference,

Check aircraft power supplies for adequacy and proper functioning.

(ii) Maintain, repair, and alter, radios, including installation and the replacement of parts:

Overhaul, test and check dynamotors, inverters, and other radio rotary electrical apparatus.\*

Paint and refinish equipment containers.\*

Accomplish appropriate methods of marking calibrations, or other information on radio control panels and other components, as required.\*

Make and reproduce drawings, wiring diagrams and other similar material required to record alterations and/or modifications to radios (photographs may be used in lieu of drawings when it will serve as an equivalent or better means of recording).\*

Fabricate tuning shaft assemblies, brackets, cable assemblies, and other similar components used in radios or aircraft radio installations.\*

Align tuned circuits (RF and IF), Test and repair head sets, speakers, and microphones.

Install and repair aircraft antennas, Install complete radio systems in aircraft and prepare weight and balance reports\* (that phase of radio installation requiring alterations to the aircraft structure must be performed, supervised and inspected by qualified personnel).

Measure modulation values, noise and distortion in radios,

Measure audio and radio frequencies, Measure radio transmitter power output,

Measure radio component values (inductance, capacitance, resistance, etc.),

Measure aircraft radio antenna, lead-in and transmission line direct current resistance by appropriate methods,

Determine proper aircraft radio antenna, lead-in and transmission line characteristics and locations for type or radio equipment to which connected,

Determine operational condition of radio equipment installed in aircraft by using appropriate portable test apparatus,

Determine proper location for radio antennas on aircraft.

(iii) Inspect and test radios:

Perform physical inspection of radio systems and components by visual and mechanical methods,

Perform electrical inspection or radio systems and components by means of appropriate electrical and/or electronic test instruments,

Test radio instruments.\*

Test all types of electronic tubes used in equipment appropriate to this rating,

Test electrical components of radios, such as resistors, condensers, transformers, chokes and other related items.

(iv) Make frequency checks: Measure radio frequencies to appropriate tolerances and calibrate equipment to such tolerances when applicable.

(v) Perform such calibrations as are necessary for the proper operation of radios: This applies to all functions listed under subparagraphs (i) through (iv) of this paragraph.

(2) *Class 2; navigational equipment.*

(i) Diagnose radio malfunctions: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(i) of this Appendix.

(ii) Maintain, repair, and alter radios, including installation and the replacement of parts:

Measure loop antenna sensitivity by appropriate methods,

Determine and compensate quadrantal error in aircraft direction finder radio equipment,

Measure radio frequency transmission line attenuation.

(iii) Inspect and test radios: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(iii) of this Appendix.

(iv) Make frequency checks: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(iv) of this Appendix.

(v) Perform such calibrations as are necessary for the proper operation of radios: Calibrate instrument landing system equipment to approved performance standards,

Calibrate VHF navigational systems to approved performance standards,

Calibrate VHF marker beacon receiver systems to approved performance standards,

Calibrate any navigational equipment, approach aids or similar equipment, appropriate to this rating, to approved performance standards,

Determine wave forms and phase in radios when applicable.

(3) *Class 3; radar equipment.* (i) Diagnose radio (radar) malfunctions: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(i) of this Appendix.

(ii) Maintain, repair, and alter radios (radar), including installation and the replacement of parts:

Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraphs (d)(1)(ii) and (2)(ii) of this section,

Metal plate transmission lines, wave guides, and similar equipment, in accordance with appropriate specifications,

Pressurize appropriate radar equipment with dry air, nitrogen or other specified gases.

(iii) Inspect and test radios: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(iii) of this Appendix.

(iv) Make frequency checks: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(iv) of this Appendix.

(v) Perform such calibrations as are necessary for the proper operation of radios: Provide equipment and material which are satisfactory to perform all functions listed under Class 1 of paragraph (d)(1)(v) of this Appendix.

(e) An applicant for any class of instrument rating must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

(1) *Class 1; mechanical instruments.* (i) Diagnose instrument malfunctions: Equipment must be satisfactory to diagnose malfunction of the following instruments:

Rate of climb indicators,  
Altimeters,  
Airspeed indicators,  
Vacuum indicators,  
Oil pressure gauges,  
Fuel pressure gauges,  
Hydraulic pressure gauges,  
De-icing pressure gauges,  
Pitot-static tube,  
Direct indicating compasses,  
Direct indicating tachometers,  
Accelerometer,  
Direct reading fuel quantity gauges,  
Optical (sextants, drift sights, etc.).\*

(ii) Maintain, repair, and alter instruments, including installation and the replacement of parts: Equipment and materials must be satisfactory to perform these functions on instruments listed under Class 1 of subparagraph (i) of this paragraph. The function of installation includes fabrication of instrument panels and other installation structural components. The repair station should be equipped to perform this function. However, it may be contracted to a competent outside agency equipped to perform the function.

(iii) Inspect, test, and calibrate instruments. Equipment and materials must be satisfactory to perform these functions on and off the aircraft, when appropriate, on all instruments under Class 1 of subparagraph (i) of this paragraph.

(2) *Class 2; electrical instruments.* (i) Diagnose instrument malfunctions: Equipment must be satisfactory to diagnose malfunctioning of the following instruments:

Tachometers,  
Synchroscope,  
Electric temperature indicators,  
Electric resistance type indicators,  
Moving magnet type indicators,  
Resistance type fuel indicators,  
Warning units (oil-fuel),  
Selsyn systems and indicators,  
Synchro style systems and indicators,  
Remote indicating compasses,  
Fuel quantity indicators,  
Oil quantity indicators,  
Radio indicators,  
Ammeters,  
Voltmeters.

(ii) Maintain, repair, and alter instruments, including installation and replacement of parts: Equipment and materials must be satisfactory to perform these functions on instruments listed under Class 2 of paragraph (e)(2)(i) of this Appendix. The function of installation includes fabrication of instrument panels and other installation structural components. The repair station should be equipped to perform this function. However, it may be contracted

to a competent outside agency equipped to perform the function.

(iii) Inspect, test, and calibrate instruments: Equipment and materials must be satisfactory to perform these functions on and off the aircraft, when appropriate, on all instruments under Class 2 of paragraph (e) (2) (1) of this Appendix.

(3) *Class 3; gyroscopic instruments.* (1) Diagnose instrument malfunctions: Equipment must be satisfactory to diagnose malfunctioning of the following instruments: Turn and bank indicators.

Directional gyros,  
Horizontal gyros,  
Autopilot control units and components.

(ii) Maintain, repair, and alter instruments, including installation and replacement of parts: Equipment and materials must be satisfactory to perform these functions on instruments listed under Class 3 of subparagraph (1) of this paragraph. The function of installation includes fabrication of instrument panels and other installation structural components. The repair station should be equipped to perform this function. However, it may be contracted to a competent outside agency equipped to perform the function.

(iii) Inspect, test, and calibrate instruments: Equipment and materials must be satisfactory to perform these functions on and off the aircraft, when appropriate, on all instruments under Class 3 of subparagraph (1) of this paragraph.

(4) *Class 4; electronic instruments.* (1) Diagnose instrument malfunctions: Equipment must be satisfactory to diagnose malfunctioning of the following instruments:

Remote reading direction indicators,  
Distance measuring equipment,  
Other electronic instruments.

(ii) Maintain, repair, and alter instruments, including installation and replacement of parts: Equipment and materials must be satisfactory to perform these functions on instruments listed under Class 4 of subparagraph (1) of this paragraph. The function of installation includes fabrication of instrument panels and other installation structural components. However, it may be contracted to a competent outside agency equipped to perform the function.

(iii) Inspect, test, and calibrate instruments: Equipment and materials must be satisfactory to perform these functions on and off the aircraft, when appropriate, on all instruments listed under Class 4 of subparagraph (1) of this paragraph.

(f) An applicant for all classes of accessory ratings must provide equipment and materials necessary for efficiently performing the following job functions within the class of rating he applied for:

*Class 1, 2, and 3; mechanical, electrical, or electronic accessories.* (1) Diagnose accessory malfunctions;

(2) Maintain, repair, and alter accessories, including installation and the replacement of parts;

(3) Inspect, test, and, where necessary, calibrate accessories.

## 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.

Sec.	
147.19	Material, tool, and shop equipment requirements.
147.21	General curriculum requirements.
147.23	Instructor requirements.

### Subpart C—Operating Rules

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.

AUTHORITY: §§ 147.1 to 147.45 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, and 1427).

### Subpart A—General

#### § 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.

#### § 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.

#### § 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.

#### § 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.

### Subpart B—Certification Requirements

#### § 147.11 Ratings.

The following ratings are issued under this part:

- Airframe.
- Powerplant.
- Airframe and powerplant.

#### § 147.13 Facilities, equipment, and material requirements.

An applicant for a mechanic school certificate and rating, or for an addi-

tional 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.

#### § 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.

#### § 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 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,

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landing lights, 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.

#### § 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 as are appropriate to the approved curriculum of the school 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.

#### § 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 following subjects:

- (1) Parts 145, -----, and ----- of this chapter [Presents Parts 1, 3, 4a, 4b, 5, 6, 8, 9, 18, 24, and 43 of this chapter, as appropriate to the curriculum;

(2) Tools, instruments, equipment, their use and care;

(3) Shop practice and procedures, use of forms;

(4) Woodworking;

(5) Welding steel structures and fittings;

(6) Aluminum alloy structures and fittings;

(7) Sheet metal, steel, stainless steel, terneplate, aluminum and aluminum alloy;

(8) Welding, riveting, and heat-treating of steel, stainless steel, aluminum,

aluminum alloy, structure, stock, and fittings;

(9) Controls and control surfaces;

(10) Splicing cables, bonding, brazing, and soldering;

(11) Hydraulic systems;

(12) Vacuum systems;

(13) Electrical systems;

(14) Fuel systems;

(15) Covering, fabric and stressed skin;

(16) Landing gear assembly;

(17) Assembly and rigging;

(18) Appliances; Instruments, radio, floats, flares, heaters, etc.;

(19) Inspection of certificated aircraft, use of forms, etc.;

(20) Aircraft theory and practice;

(21) Mechanical drawing; and

(22) Aircraft weight and balance.

(d) A powerplant curriculum must cover the following subjects:

(1) Parts 145, -----, -----, -----, -----, -----, and ----- of this chapter [Present Parts 1, 3, 4a, 4b, 5, 6, 8, 9, 18, 24 and 43 of this chapter, as appropriate to the curriculum;

(2) Instruments and equipment, their use and care;

(3) Shop practice and procedures, use of forms;

(4) Fundamental powerplant requirements;

(5) Mechanical drawing;

(6) Powerplant design and construction;

(7) Carburetor and fuel injection systems;

(8) Ignition systems;

(9) Supercharging systems;

(10) Starting, generating, and regulating systems;

(11) Fuels and fuel systems;

(12) Lubrication systems;

(13) Operation and trouble shooting;

(14) Disassembly, overhaul, repair, and assembly;

(15) Inspection, use of inspection tools, theory of magnafix and fluorescent penetrant;

(16) Block testing;

(17) Propeller installation and maintenance;

(18) Powerplant installation;

(19) Powerplant maintenance;

(20) Turbojet, turboprop, and compound engines;

(21) Theory and principles of powerplant operation;

(22) Aircraft powerplant development; and

(23) Aircraft weight and balance.

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

#### § 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.

### 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 test.

(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.

#### § 147.33 Records.

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

(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.

#### § 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.

tion and his average grade, reflecting his standard of performance during the entire course rather than the grades made on his final test.

**§ 147.37 Maintenance of facilities, equipment, and material.**

(a) Each certificated mechanic school shall provide facilities, equipment, and material equal to the standards currently required for the issue of the certificate and rating that it 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.

**§ 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.

**§ 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.

**§ 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.

**§ 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.

**PART 147—DISTRIBUTION TABLE**

Former section	Revised section	Former section	Revised section
53.0	147.1	53.10	147.41
53.1	(*)	53.10-1	147.41
53.5	147.5	53.11	147.43
53.5-1	147.5	53.11-1	147.43
53.6 (last sentence)	147.3	53.11-2	147.43
53.6 (less last sentence)	147.5	53.12	147.5
53.7	147.7	53.13	147.45
53.7-1	147.7	53.14	147.11
53.8	(*)	53.20	147.5
53.8-1	(*)	53.20-1	147.5
53.9	147.39	53.21	147.5
53.9-1	147.39	53.21-1	147.31
		53.22	147.13
		53.23	147.37

\* Transferred to Part 1.  
\* Executed.

**PART 147—DISTRIBUTION TABLE—Continued**

Former section	Revised section	Former section	Revised section
53.24	147.15	53.42	147.23
53.24-1	147.15	53.42-1	147.23
53.25	147.17	53.50	147.31
53.25-1	147.17	53.51	147.31
53.25-2	147.17	53.52	147.31
53.26	147.19	53.52-1	147.31
53.26-1	147.19	53.53	147.31
53.27 (less last 12 words of last sentence)	147.21	53.53-1	147.31
53.27 (last 12 words of last sentence)	147.31	53.53-2 (less last sentence)	147.31
53.27-1	147.21	53.53-2 (last sentence)	147.33
53.28	147.21	53.54	147.35
53.40	147.21	53.55	147.35
53.40-1	147.21	53.55-1	147.35
53.41	147.21	53.56	147.33
53.41-1	147.21	53.56-1	147.33
		53.57	147.37

**PART 149—PARACHUTE LOFTS [NEW]**

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

**AUTHORITY:** §§ 149.1 to 149.27 issued under secs. 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, and 1427).

**§ 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.

**§ 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.

**§ 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 Administra-

tor's request, return it to the Administrator.

**§ 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.

**§ 149.9 Persons authorized to maintain or alter parachutes.**

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

- (1) Any person as authorized by Part 65 of this chapter.
- (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 (except the main parachute of a dual parachute pack used for intentional jumping) must perform that maintenance or make that alteration in accordance with approved manuals and specifications.

**§ 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.

**§ 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 65 of this chapter and who are qualified to perform or supervise the kind of work for which the applicant seeks a rating; and
- (b) Have the facilities, equipment, and material 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.

(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.

**§ 149.15 Reports and records.**

(a) Each holder of a parachute loft certificate shall make an adequate record of all work done by him, including the names of the persons doing the work. 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 unair-

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worthy conditions, that he finds in a parachute or a part thereof.

**§ 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.

**§ 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.

**§ 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.

**§ 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.

**§ 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.

**§ 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.

## PART 149—DISTRIBUTION TABLE

Former section	Revised section	Former section	Revised section
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	( <sup>1</sup> )
54.14	149.3		

<sup>1</sup> Transferred to Part 1.

[F.R. Doc. 62-6791; Filed, July 12, 1962;  
8:45 a.m.]

## Title 14—AERONAUTICS AND SPACE

### Chapter I—Federal Aviation Agency

[Reg. Docket No. 1157; Amdt. 1]

#### PART 50—AIRMAN AGENCY CERTIFICATES

#### PART 51—GROUND INSTRUCTOR RATING

#### PART 52—REPAIR STATION CERTIFICATES

#### PART 53—MECHANIC SCHOOL CERTIFICATES

#### PART 54—PARACHUTE LOFT CERTIFICATES AND RATINGS

#### PART 141—PILOT SCHOOLS [NEW]

#### PART 143—GROUND INSTRUCTORS [NEW]

#### PART 145—REPAIR STATIONS [NEW]

#### PART 147—MECHANIC SCHOOLS [NEW]

#### PART 149—PARACHUTE LOFTS [NEW]

#### Schools and Other Certificated Agencies; Postponement of Effective Date

Subchapter H, "Schools and Other Certificated Agencies" [New], was pub-

lished in the FEDERAL REGISTER on July 13, 1962 (27 F.R. 6655) with an effective date of August 13, 1962.

It has now been determined that the publication and distribution of the new subchapter cannot be accomplished sufficiently in advance of its effective date to permit affected persons to become familiar with it before that date. Accordingly, the effective date of Subchapter H [New] and the rescission of the parts on which it is based must be deferred.

As this amendment imposes no additional burden on any person, compliance with the notice and public procedure provisions of the Administrative Procedure Act is unnecessary, and good cause exists for making this amendment effective in less than 30 days.

In view of the foregoing, the effective date of the amendment of Chapter I of Title 14 of the Code of Federal Regulations adding Subchapter H, "Schools and Other Certificated Agencies" [New], and deleting Parts 50, 51, 52, 53, and 54, published in the FEDERAL REGISTER on July 13, 1962 (27 F.R. 6655) is hereby changed from August 13, 1962 to September 17, 1962.

This amendment is effective August 2, 1962.

(Sec. 313(a), 314, 601, 607 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1355, 1421, 1427))

Issued in Washington, D.C., on July 30, 1962.

N. E. HALABY,  
Administrator.

[F.R. Doc. 62-7645; Filed, Aug. 1, 1962; 8:58 a.m.]

*Recodification*

*December 30, 1964*

[Docket No. 6403; Amdt. Nos. 91-11; 127-1;  
129-1; 133-2; 141-1; 171-1]

[Special Civil Air Regulations 330, 389B,  
395B, 397, 399D, 407, 411B, 426, 430, 431, 433,  
446B, 448A, 450A, 454A, 456]

[Special Federal Aviation Regulations 12,  
13, 14, and 15]

**PART 91—GENERAL OPERATING  
AND FLIGHT RULES**

**PART 127—CERTIFICATION AND OP-  
ERATION OF SCHEDULED AIR CAR-  
RIERS WITH HELICOPTERS**

**PART 129—OPERATIONS OF  
FOREIGN AIR CARRIERS**

**PART 135—AIR TAXI OPERATORS  
AND COMMERCIAL OPERATORS  
OF SMALL AIRCRAFT**

**PART 141—PILOT SCHOOLS**

**PART 171—NON-FEDERAL  
NAVIGATION FACILITIES**

**Miscellaneous Amendments**

The purpose of these amendments is to complete the remainder of the Agency's recodification program. The program was first announced in Draft Release 61-25, published in the FEDERAL REGISTER on November 15, 1961 (26 F.R. 10698).

All Civil Air Regulations in Chapter I of Title 14 of the Code of Federal Regulations will have been replaced with the issue of Part 121 of the Federal Aviation Regulations. That part is being issued separately and will become effective at the same time as these amendments.<sup>1</sup>

The recodification of the regulations in Chapter III (Regulations of the Administrator) of Title 14 and the Special Civil Air Regulations is completed with the issue of the following miscellaneous amendments to Chapter I of Title 14. No regulations of the FAA will remain in Chapter III. Henceforth, all Federal Aviation Regulations and Special Federal Aviation Regulations will be contained in Chapter I of Title 14 of the Code of Federal Regulations.

Section 406.17(a) of the Regulations of the Administrator provided authority for the operation of a "true light" as an aid to air navigation. Under the Federal Aviation Regulations, such a pro-

<sup>1</sup>To be published in the FEDERAL REGISTER of Thursday, December 31, 1964.

*Recodification*

vision belongs in Part 171—"Non-Federal Navigation Facilities". Therefore, a new Subpart D is being added to Part 171, recodifying § 406.17(a) of the Regulations of the Administrator.

This addition to Part 171 completes the recodification of Part 406 and enables the Agency to delete the Regulations of the Administrator in Chapter III of Title 14 of the Code of Federal Regulations. All other parts in this chapter have been previously recodified. Those sections of Part 406 neither heretofore recodified nor being recodified in Part 121 have been determined to be surplusage. Their substance either duplicates other provisions in the Federal Aviation Regulations or is advisory only.

In an attempt to limit the use of "special" regulations to those occasions of temporary or peculiar regulatory need, this amendment deletes certain Special Civil Air Regulations (SRs) of indefinite duration and incorporates them into the Federal Aviation Regulations:

1. SR 330 is being recodified by including its substance in a new § 141.31, "Special Flight Instruction for Military Personnel of a Foreign Government".

2. SR 389B is being recodified by including its substance in a new § 91.47, "Emergency exits for airplanes carrying passengers for hire".

3. SR 411B, as applicable to foreign air carriers, is being recodified by including its substance in a new § 129.23, "Transport category cargo service airplanes: increased zero fuel and landing weights".

4. SR 448A, except for paragraph (2), is being recodified by including its substance in a new § 91.8, "Prohibition Against Interference with Crewmembers".

5. SR 456 is being recodified by including its substance in a new § 91.103, "Operation of Civil Aircraft of Cuban Registry".

Part 121 of the Federal Aviation Regulations will contain the substance of SR 411B as it applies to air carriers other than foreign air carriers.

Because the applicability of neither SR 389B nor SR 448A(1) was restricted to operation within the United States but in effect, extended throughout air commerce, § 91.1 is being amended to except new §§ 91.47 and 91.8 from applicability only within the United States. Also included within this exception are two other sections already in Part 91. These sections, §§ 91.19 and 91.45 as originally recodified, were limited in applicability by § 91.1, to within the United States. The applicability provisions of those Civil Air Regulations from which these sections were recodified were not so limited. The effect of the new exception in § 91.1(c), is to relieve the four specified sections from the geographic limitation of § 91.1(a). It should also be noted that this exception is limited to aircraft of U.S. registry. Clarifying provisions are being added to new § 91.1(c) to assure that, for the purposes of the excepted sections, there can be no regulatory conflict for U.S. registered aircraft operating in foreign countries or over the high seas. In addition, the word order in § 91.1(a) is being revised to show more clearly that the exception

refers only to the limitation of the part's applicability to operations within the United States.

Paragraph (2) of SR 448A dealt with the prohibition against carrying a dangerous weapon while on board air carrier aircraft. Since its applicability extended only to air carrier aircraft, SR 448A(2) is being recodified by adding §§ 121.585 (to be issued separately) and a new 135.64. Section 127.227(c) already reflects SR 448A(2). Since SR 448A(1), which was the basis for paragraphs (a) and (b) of § 127.227, is hereby being recodified as § 91.8, § 127.227 is being amended to delete those paragraphs. In addition, § 127.139 is being clarified by adding to it a definition, taken from CAM 40.241-1, of "directly in charge". This definition reflects the sense in which the term is used in this section and in § 121.378, where it will also be added.

The following Special Civil Air Regulations are being deleted, because each has accomplished its intended purpose and is no longer necessary: 395B 430; 431; and 433. Because the geographic applicability of § 91.19 is being extended by amendment of § 91.1, SR 446B may now be deleted. SR 450A has not been recodified since it will lapse of its own force on February 1, 1965. In addition, SR 397, which in effect was an exemption from the Civil Air Regulations, rather than a regulation, is being deleted. In its place the Agency is issuing separately, a grant of exemption from the Federal Aviation Regulations for aircraft and airmen engaged in operations conducted for the United States Forest Service.

Certain Special Civil Air Regulations are being redesignated as Special Federal Aviation Regulations (SFARs). These are former SRs 399D, 407, 426, and 454A.

Of these, the first deals with the maximum certificated weight for airplanes operated in Alaska by Alaskan air carriers, air taxi operators, and the Department of the Interior. This regulation becomes SFAR 12 and its expiration date remains October 25, 1965.

SR 407 provides for approval of modified Douglas DC-3 and Lockheed L-18 type airplanes, and SR 426 provides for performance credit for transport category airplanes equipped with standby power. The present expiration date of each is indefinite. They are being redesignated as SFAR 13 and 14, respectively. One reason for not recodifying them into the basic FARs is that the need for each regulation has diminished over the years and is now quite limited. In addition, neither SR belonged in any one part of the Federal Aviation Regulations. In light of these peculiarities and since a special regulation does not differ in legal effect from any other regulation, the Agency determined to redesignate SR 407 as SFAR 13 and SR 426 as SFAR 14.

SR 454A provides for operation over certain areas of Florida and adjacent waters. In view of the significant tie of this regulation with National Defense interests and the international political atmosphere, either of which could change on very short notice, the Agency finds that National Defense and safety

in air commerce are best served by redesignating SR 454A as SFAR 15.

In addition, it is no longer necessary to use the word "[New]" when referring to a part of the Federal Aviation Regulations. This is possible because all Civil Air Regulations in Chapter I of Title 14, with the issue of Part 121, have now been replaced by Federal Aviation Regulations.

None of these amendments impose an additional burden on any person. Some are clarifying in nature, while most simply restate the substance of the specified regulations. Because of this I find that notice and public procedure hereon are unnecessary.

In consideration of the foregoing, Title 14 is amended by striking out the Regulations of the Administrator in Chapter III and by amending Chapter I as follows, effective April 1, 1965.

1. By striking out Special Civil Air Regulations 330, 389B, 395B, 397, 411B, 430, 431, 433, 446B, 448A, 450A, and 456.

2. By amending Part 91 "General Operating and Flight Rules" as follows:

A. By amending § 91.1 to read as follows:

**§ 91.1 Applicability.**

(a) This part prescribes rules governing the operation of aircraft (other than moored balloons, kites, unmanned rockets, and unmanned free balloons) within (except as provided in paragraphs (b) and (c) of this section) the United States.

(b) Each person operating an aircraft of U.S. registry in air commerce over the high seas shall comply with Annex 2 (Rules of the Air) to the convention on International Civil Aviation.

(c) Sections 91.8, 91.19, 91.45, and 91.47 also govern the operation of aircraft of U.S. registry outside of the United States so far as these sections are not inconsistent with applicable regulations of any foreign country or Annex 2 to the convention on International Civil Aviation.

B. By adding a new § 91.8 to read as follows:

**§ 91.8 Prohibition against interference with crewmembers.**

(a) No person may assault, threaten, intimidate, or interfere with a crewmember in the performance of his duties aboard an aircraft being operated in air commerce.

(b) No person may attempt to cause or cause the flight crew of an aircraft being operated in air commerce to divert its flight from its intended course or destination.

C. By adding a new § 91.47 to read as follows:

**§ 91.47 Emergency exits for airplanes carrying passengers for hire.**

(a) Notwithstanding any other provision of this chapter, no person may operate a large airplane (type certificated under the Civil Air Regulations before April 9, 1957) in passenger-carrying operations for hire, with more than the number of occupants allowed under Civil Air Regulation § 4b.362 (a), (b), and (c), as in effect on December 20, 1951. However, an airplane type listed in the following table may be operated with up

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to the listed number of occupants (including crewmembers) and the corresponding number of exits (including emergency exits and doors) approved for the emergency exit of passengers:

Airplane type	Maximum number of occupants including crewmembers	Corresponding number of exits authorized for passenger use
B-307.....	61	4
B-377.....	96	9
C-46.....	67	4
CV-240.....	53	6
CV-340 and CV-440.....	53	6
DC-3.....	35	4
DC-3 (Super).....	39	5
DC-4.....	86	5
DC-4.....	87	7
DC-6B.....	112	11
L-18.....	17	3
L-949, L-649, L-749.....	87	7
L-1049 (series).....	96	9
M-202.....	53	6
M-404.....	53	7
Viscount 700 series.....	53	7

<sup>1</sup> The DC-6A, if converted to a passenger transport configuration, is governed by the maximum number applicable to DC-6B.

(b) Additional occupants may be carried if there are additional exits comparable to at least a Type II or Type IV exit as prescribed in § 25.807, but not more than eight additional occupants may be carried for each additional exit. In the case of exits not comparable to at least a Type II or Type IV exit, the Administrator may authorize a lesser number of additional occupants, after considering the type, size, and location of the exit and other pertinent factors.

(c) For airplanes having a ratio (as computed from the table in paragraph (a) of this section) of maximum number of occupants to number of exits greater than 14:1, and for airplanes that do not have at least one full-size door-type exit in the side of the fuselage in the rear part of the cabin, the first additional exit must be a floor-level exit not less than 24 inches wide, by 48 inches high, and located in the side of the fuselage in the rear part of the cabin. However, no person may operate an airplane under this section carrying more than 115 occupants unless there is such an exit on each side of the fuselage.

(d) The Administrator reduces the maximum number of occupants authorized by the table whenever the number of approved exits is less than shown in the table, after taking into account the effectiveness of the remaining exits for emergency evacuation. However, the maximum number of occupants is reduced by at least eight for each eliminated exit, and in no case may the resulting ratio of occupants to exits be greater than 14:1. In addition, there must be at least one exit on each side of the fuselage, regardless of the number of occupants.

D. By adding a new § 91.103 to read as follows:

**§ 91.103 Operation of civil aircraft of Cuban registry.**

No person may operate a civil aircraft of Cuban registry outside of controlled airspace.

E. By adding to the distribution table:

Former section	Revised section
SR 389B.....	91.47
SR 448A (less paragraph (2)).....	91.8
SR 456.....	91.103

3. By amending Part 127 "Certification and Operations of Scheduled Air Carriers with Helicopters" as follows:

A. By amending § 127.139 to read as follows:

**§ 127.139 Certificate requirements.**

(a) Each person who is directly in charge of maintenance, preventive maintenance, or alteration, and each person performing required inspections must hold an appropriate airman certificate.

(b) For the purposes of this section, a person "directly in charge" is each person assigned to a position in which he is responsible for the work of a shop or station that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness. A person who is "directly in charge" need not physically observe and direct each worker constantly but must be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the persons performing the work.

B. By amending § 127.227 to read as follows:

**§ 127.227 Prohibition against carriage of weapons.**

No person may, while on board a helicopter being operated under this Part, carry on or about his person a deadly or dangerous weapon, either concealed or unconcealed. This section does not apply to—

(a) Officials or employees of a municipality or a State, or of the United States, who are authorized to carry arms; or

(b) Crewmembers and other persons authorized by the air carrier to carry arms.

C. By amending the distribution table as applicable to SR 448A to read:

Former section	Revised section
SR 448A, paragraph (2).....	127.227

D. By adding to the distribution table:

Former section	Revised section
40.241-1.....	127.139

4. By amending Part 129 "Operations of Foreign Air Carriers" as follows:

A. By adding a new § 129.23 to read as follows:

**§ 129.23 Transport category cargo service airplanes: increased zero fuel and landing weights.**

(a) Notwithstanding the applicable structural provisions of the transport category airworthiness regulations, but subject to paragraphs (b) through (g) of this section, a foreign air carrier may operate (for cargo service only) any of the following transport category airplanes (certificated under Part 4b of the Civil Air Regulations effective before March 13, 1956) at increased zero fuel and landing weights—

- (1) DC-6A, DC-6B, DC-7B, and DC-7C; and

(2) L-1049 B, C, D, E, F, G, and H, and the L-1649A when modified in accordance with supplemental type certificate SA 4-1402.

(b) The zero fuel weight (maximum weight of the airplane with no disposable fuel and oil) and the structural landing weight may be increased beyond the maximum approved in full compliance with applicable rules only if the Administrator finds that—

(1) The increase is not likely to reduce seriously the structural strength;

(2) The probability of sudden fatigue failure is not noticeably increased;

(3) The flutter, deformation, and vibration characteristics do not fall below those required by applicable regulations; and

(4) All other applicable weight limitations will be met.

(c) No zero fuel weight may be increased by more than five percent, and the increase in the structural landing weight may not exceed the amount, in pounds, of the increase in zero fuel weight.

(d) Each airplane must be inspected in accordance with the approved special inspection procedures, for operations at increased weights, established and issued by the manufacturer of the type of airplane.

(e) A foreign air carrier may not operate an airplane under this section unless the country of registry requires the airplane to be operated in accordance with the passenger-carrying transport category performance operating limitations in Part 121 or the equivalent.

(f) The Airplane Flight Manual for each airplane operated under this section must be appropriately revised to include the operating limitations and information needed for operation at the increased weights.

(g) Each airplane operated at an increased weight under this section must, before it is used in passenger service, be inspected under the special inspection procedures for return to passenger service established and issued by the manufacturer and approved by the Administrator.

B. By adding to the distribution table:

Former section	Revised section
SR 411B.....	129.23

5. By amending Part 135 "Air Taxi Operators and Commercial Operators of Small Aircraft" to add a new § 135.64 to read as follows:

**§ 135.64 Prohibition against carriage of weapons.**

No person may, while aboard an aircraft being operated by an air taxi operator, carry on or about his person a deadly or dangerous weapon, either concealed or unconcealed. This section does not apply to—

(a) Officials or employees of a municipality or a State, or of the United States, who are authorized to carry arms; or

(b) Crewmembers and other persons authorized by the air taxi operator to carry arms.

6. By amending Part 141 "Pilot Schools" as follows:

A. By adding a new § 141.31 to read as follows:

§ 141.31 Special flight instruction for military personnel of a foreign government.

Notwithstanding any other provision of this chapter, a pilot school certificated under this part with a flying school rating may train personnel of any foreign government in maneuvers that are not within the approved airplane operating limitations if—

(a) An official request is made to the Administrator by an accredited representative of the foreign government;

(b) The Administrator finds that the training can be accomplished with a standard of safety equal to that maintained by the United States Air Force or Navy;

(c) The training is accomplished in accordance with appropriate United States Air Force or Navy Technical Orders; and

(d) No airplane is used to show compliance with an acrobatic maneuver required in a flight test for the issue of an airman certificate or rating, against which it has been placarded.

B. By adding to the distribution table:

Former section	Revised section
ER 330.....	141.31

7. By amending Part 171 "Non-Federal Navigation Facilities" as follows:

A. By redesignating Subpart D as Subpart E and § 171.61 as § 171.71.

B. By adding a new Subpart D to read as follows:

**Subpart D—True Lights**

§ 171.61 Authority to operate a true light.

(a) An applicant who certifies that he will, in accordance with applicable requirements of the FAA, establish, maintain, and operate a light as an aid to air navigation, is issued an air navigation certificate, authorizing him to operate that light as a "true light".

(b) An application for authority to operate a true light is made on Form FAA-114 "Certification and Lawful Authority to Operate a True Light".

C. By adding to the distribution table:

Former section	Revised section
406.17 (less (b)).....	171.61

8. By redesignating Special Civil Air Regulation 399D, "Provisional Certificated Maximum Weights for Certain Airplanes Operated by Alaskan Air Carriers, Air Taxi Operators in Alaska, and the Department of the Interior" as Special Federal Aviation Regulation (SFAR) 12, to be effective until October 25, 1965.

9. By redesignating Special Civil Air Regulation 407, "Basis for Approval of Modification of Airplane Types Douglas DC-3 and Lockheed L-18", as Special Federal Aviation Regulation (SFAR) 13, to be effective indefinitely.

10. By redesignating Special Civil Air Regulation 426, "Performance Credit for Transport Category Airplanes Equipped with Standby Power", as Special Federal Aviation Regulation (SFAR) 14, to be effective indefinitely.

11. By redesignating Special Civil Air Regulation 454A, "Special Operating Rule Within Certain Areas of the State of Florida and Over Waters Adjacent Thereto", as Special Federal Aviation Regulation (SFAR) 15, to be effective indefinitely.

(Secs. 307, 313(a), 314, 501, 601-610, 902(c), 1102, 1110, and 1202, Federal Aviation Act of 1958, 49 U.S.C. 1348, 1354(a), 1355, 1401, 1421-1430, 1472(c), 1502, 1510, 1522)

Issued in Washington, D.C., on December 23, 1964.

N. E. HALABY,  
Administrator.

[F.R. Doc. 64-13376; Filed, Dec. 29, 1964; 8:45 a.m.]