

# 14 C.F.R. PART 147—AVIATION MAINTENANCE TECHNICIAN SCHOOLS

## Title 14 - Aeronautics and Space

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### PART 147—AVIATION MAINTENANCE TECHNICIAN SCHOOLS

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**Authority:** 49 U.S.C. 106(g), 40113, 44701–44702, 44707–44709.

**Source:** Docket No. 1157, 27 FR 6669 July 13, 1962, unless otherwise noted.

## **Subpart A—General**

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### **§ 147.1 Applicability.**

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

### **§ 147.3 Certificate required.**

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

[Doc. No. 15196, 41 FR 47230, Oct. 28, 1976]

### **§ 147.5 Application and issue.**

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(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;
- (3) A list of its instructors, including the kind of certificate and ratings held and the certificate numbers; 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 an aviation maintenance technician school certificate and associated ratings prescribing such operations specifications and limitations as are necessary in the interests of safety.

[Docket No. 1157, 27 FR 6669, July 13, 1962, as amended by Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.7 Duration of certificates.**

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(a) An aviation maintenance technician 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.

[Doc. No. 1157, 27 FR 6669, July 19, 1962, as amended by Amdt. 147-3, 41 FR 47230, Oct. 28, 1976]

## **Subpart B—Certification Requirements**

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**§ 147.11 Ratings.**

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The following ratings are issued under this part:

- (a) Airframe.
- (b) Powerplant.
- (c) Airframe and powerplant.

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

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

**§ 147.15 Space requirements.**

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An applicant for an aviation maintenance technician 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) An enclosed classroom suitable for teaching theory classes.
- (b) Suitable facilities, either central or located in training areas, arranged to assure proper separation from the working space, for parts, tools, materials, and similar articles.
- (c) Suitable area for application of finishing materials, including paint spraying.
- (d) Suitable areas equipped with washtank and degreasing equipment with air pressure or other adequate cleaning equipment.

- (e) Suitable facilities for running engines.
- (f) Suitable area with adequate equipment, including benches, tables, and test equipment, to disassemble, 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.
- (g) Suitable space with adequate equipment, including tables, benches, stands, and jacks, for disassembling, inspecting, and rigging aircraft.
- (h) Suitable space with adequate equipment for disassembling, inspecting, assembling, troubleshooting, and timing engines.

[Amdt. 147-2, 35 FR 5533, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.17 Instructional equipment requirements.**

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- (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 airframe structures, airframe systems and components, powerplants, and powerplant systems and components (including propellers), of a quantity and type suitable to complete the practical projects required by its approved curriculums.
  - (2) At least one aircraft of a type currently certificated by FAA for private or commercial operation, with powerplant, propeller, instruments, navigation and communications equipment, landing lights, and other equipment and accessories on which a maintenance technician might be required to work and with which the technician 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.

[Doc. No. 1157, 27 FR 6669, July 19, 1962, as amended by Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.19 Materials, special tools, and shop equipment requirements.**

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An applicant for an aviation maintenance technician school certificate and rating, or for an additional rating, must have an adequate supply of material, special tools, and such of the shop 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 special tools and shop equipment must be in satisfactory working condition for the purpose for which they are to be used.

[Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.21 General curriculum requirements.**

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(a) An applicant for an aviation maintenance technician 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, and the instruction unit hour shall not be less than 50 minutes in length—

(1) Airframe—1,150 hours (400 general plus 750 airframe).

(2) Powerplant—1,150 hours (400 general plus 750 powerplant).

(3) Combined airframe and powerplant—1,900 hours (400 general plus 750 airframe and 750 powerplant).

(c) The curriculum must cover the subjects and items prescribed in appendixes B, C, or D, as applicable. Each item must be taught to at least the indicated level of proficiency, as defined in appendix A.

(d) The curriculum must show—

(1) The required practical projects to be completed;

(2) For each subject, the proportions of theory and other instruction to be given; and

(3) A list of the minimum required school tests to be given.

(e) Notwithstanding the provisions of paragraphs (a) through (d) of this section and §147.11, the holder of a certificate issued under subpart B of this part may apply for and receive approval of special courses in the performance of special inspection and preventive maintenance programs for a primary category aircraft type certificated under §21.24(b) of this chapter. The school may also issue certificates of competency to persons successfully completing such courses provided that all other requirements of this part are met and the certificate of competency specifies the aircraft make and model to which the certificate applies.

[Doc. No. 1157, 27 FR 6669, July 13, 1962 as amended by Amdt. 147-1, 32 FR 5770 Apr. 11, 1967; Amdt. 147-5, 57 FR 28959, June 29, 1992; Amdt. 147-6, 57 FR 41370, Sept. 9, 1992]

### **§ 147.23 Instructor requirements.**

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An applicant for an aviation maintenance technician school certificate and rating, or for an additional rating, must provide the number of instructors holding appropriate mechanic certificates and ratings that the Administrator determines necessary to provide adequate instruction and supervision of the students, including at least one such instructor for each 25 students in each shop class. However, the applicant may provide specialized instructors, who are not certificated mechanics, to teach mathematics, physics, basic electricity, basic hydraulics, drawing, and similar subjects. The applicant is required to maintain a list of the names and qualifications of specialized instructors, and upon request, provide a copy of the list to the FAA.

[Amdt. 147-5, 57 FR 28959, June 29, 1992]

## **Subpart C—Operating Rules**

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### **§ 147.31 Attendance and enrollment, tests, and credit for prior instruction or experience.**

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(a) A certificated aviation maintenance technician school may not require any student to attend classes of instruction more than 8 hours in any day or more than 6 days or 40 hours in any 7-day period.

(b) Each school shall give an appropriate test to each student who completes a unit of instruction as shown in that school's approved curriculum.

(c) A school may not graduate a student unless he has completed all of the appropriate curriculum requirements. However, the school may credit a student with instruction or previous experience as follows:

(1) A school may credit a student with instruction satisfactorily completed at—

- (i) An accredited university, college, junior college;
- (ii) An accredited vocational, technical, trade or high school;
- (iii) A military technical school;
- (iv) A certificated aviation maintenance technician school.

(2) A school may determine the amount of credit to be allowed—

- (i) By an entrance test equal to one given to the students who complete a comparable required curriculum subject at the crediting school;
- (ii) By an evaluation of an authenticated transcript from the student's former school; or
- (iii) In the case of an applicant from a military school, only on the basis of an entrance test.

(3) A school may credit a student with previous aviation maintenance experience comparable to required curriculum subjects. It must determine the amount of credit to be allowed by documents verifying that experience, and by giving the student a test equal to the one given to students who complete the comparable required curriculum subject at the school.

(4) A school may credit a student seeking an additional rating with previous satisfactory completion of the general portion of an AMTS curriculum.

(d) 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.

(e) A school shall use an approved system for determining final course grades and for recording student attendance. The system must show hours of absence allowed and show how the missed material will be made available to the student.

[Amdt. 147-2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147-4, 43 FR 22643, May 25, 1978; Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.33 Records.**

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

(1) His attendance, tests, and grades received on the subjects required by this part;

(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 subject.

[Doc. No. 1157, 27 FR 6669, July 13, 1962]

### **§ 147.35 Transcripts and graduation certificates.**

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(a) Upon request, each certificated aviation maintenance technician school shall provide a transcript of the student's 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 in which the student was enrolled, whether the student satisfactorily completed that curriculum, and the final grades the student received.

(b) Each school shall give a graduation certificate or certificate of completion to each student that it graduates. An official of the school shall authenticate the certificate. The certificate must show the date of graduation and the approved curriculum title.

[Doc. No. 1157, 27 FR 6669, July 13, 1962, as amended by Amdt. 147-5, 57 FR 28959, June 29, 1992]

### **§ 147.36 Maintenance of instructor requirements.**

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Each certificated aviation maintenance technician school shall, after certification or addition of a rating, continue to provide the number of instructors holding appropriate mechanic certificates and ratings that the Administrator determines necessary to provide adequate instruction to the students, including at least one such instructor for each 25 students in each shop class. The school may continue to provide specialized instructors who are not certificated mechanics to teach mathematics, physics, drawing, basic electricity, basic hydraulics, and similar subjects.

[Amdt. 147-5, 57 FR 28959, June 29, 1992]

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

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(a) Each certificated aviation maintenance technician 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.

### **§ 147.38 Maintenance of curriculum requirements.**

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(a) Each certificated aviation maintenance technician school shall adhere to its approved curriculum. With FAA approval, curriculum subjects may be taught at levels exceeding those shown in appendix A of this part.

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

[Amdt. 147-2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28960, June 29, 1992]

#### **§ 147.38a Quality of instruction.**

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Each certificated aviation maintenance technician school shall provide instruction of such quality that, of its graduates of a curriculum for each rating who apply for a mechanic certificate or additional rating within 60 days after they are graduated, the percentage of those passing the applicable FAA written tests on their first attempt during any period of 24 calendar months is at least the percentage figured as follows:

(a) For a school graduating fewer than 51 students during that period—the national passing norm minus the number 20.

(b) For a school graduating at least 51, but fewer than 201, students during that period—the national passing norm minus the number 15.

(c) For a school graduating more than 200 students during that period—the national passing norm minus the number 10.

As used in this section, “national passing norm” is the number representing the percentage of all graduates (of a curriculum for a particular rating) of all certificated aviation maintenance technician schools who apply for a mechanic certificate or additional rating

within 60 days after they are graduated and pass the applicable FAA written tests on their first attempt during the period of 24 calendar months described in this section.

[Amdt. 147-2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147-3, 41 FR 47230, Oct. 28, 1976]

### **§ 147.39 Display of certificate.**

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Each holder of an aviation maintenance technician 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.**

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The holder of an aviation maintenance technician 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.**

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The Administrator may, at any time, inspect an aviation maintenance technician 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.**

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

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

## **Appendix A to Part 147—Curriculum Requirements**

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This appendix defines terms used in appendices B, C, and D of this part, and describes the levels of proficiency at which items under each subject in each curriculum must be taught, as outlined in appendices B, C, and D.

(a) *Definitions.* As used in appendices B, C, and D:

(1) *Inspect* means to examine by sight and touch.

(2) *Check* means to verify proper operation.

(3) *Troubleshoot* means to analyze and identify malfunctions.

(4) *Service* means to perform functions that assure continued operation.

(5) *Repair* means to correct a defective condition. Repair of an airframe or powerplant system includes component replacement and adjustment, but not component repair.

(6) *Overhaul* means to disassemble, inspect, repair as necessary, and check.

(b) *Teaching levels.* (1) Level 1 requires:

(i) Knowledge of general principles, but no practical application.

(ii) No development of manipulative skill.

(iii) Instruction by lecture, demonstration, and discussion.

(2) Level 2 requires:

(i) Knowledge of general principles, and limited practical application.

- (ii) Development of sufficient manipulative skill to perform basic operations.
- (iii) Instruction by lecture, demonstration, discussion, and limited practical application.

(3) Level 3 requires:

(i) Knowledge of general principles, and performance of a high degree of practical application.

(ii) Development of sufficient manipulative skills to simulate return to service.

(iii) Instruction by lecture, demonstration, discussion, and a high degree of practical application.

(c) *Teaching materials and equipment.* The curriculum may be presented utilizing currently accepted educational materials and equipment, including, but not limited to: calculators, computers, and audio-visual equipment.

[Amdt. 147-2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28960, June 29, 1992]

### **Appendix B to Part 147—General Curriculum Subjects**

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This appendix lists the subjects required in at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

Teaching level	a. basic electricity	(2)	1
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[Amdt. 147-2, 35 FR 5534, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28960, June 29, 1992]

### **Appendix C to Part 147—Airframe Curriculum Subjects**

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This appendix lists the subjects required in at least 750 hours of each airframe curriculum, in addition to at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

I. Airframe Structures Teaching level

II. Airframe Systems and Components Teaching level

[Amdt. 147-2, 35 FR 5535, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28960, June 29, 1992]

**Appendix D to Part 147—Powerplant Curriculum Subjects**

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This appendix lists the subjects required in at least 750 hours of each powerplant curriculum, in addition to at least 400 hours in general curriculum subjects.

The number in parentheses before each item listed under each subject heading indicates the level of proficiency at which that item must be taught.

I. Powerplant Theory and Maintenance Teaching level

II. Powerplant Systems and Components Teaching level

(Sec. 6(c), Dept. of Transportation Act; 49 U.S.C. 1655(c))

[Amdt. 147-2, 35 FR 5535, Apr. 3, 1970, as amended by Amdt. 147-5, 57 FR 28961, June 29, 1992]

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