

# NOTICE

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

N 8900.278

National Policy

Effective Date:  
11/21/14

Cancellation Date:  
11/21/15

**SUBJ:** Operations Specifications A001, A002, A003, A004, A005, A006, A007, A012, A013, A025, A026, B002, B003, and B004 for Part 147

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- 1. Purpose of This Notice.** This notice provides an introduction of operations specifications (OpSpecs) to Title 14 of the Code of Federal Regulations (14 CFR) part 147 Aviation Maintenance Technician Schools (AMTS).
- 2. Audience.** The primary audience for this notice is Flight Standards District Offices (FSDO), International Field Offices (IFO), International Field Units (IFU), principal maintenance inspectors (PMI), and principal avionics inspectors (PAI) with AMTS oversight responsibilities. The secondary audience includes Flight Standards branches and divisions in the regions and at Washington, DC headquarters (HQ).
- 3. Where You Can Find This Notice.** You can find this notice on the MyFAA employee Web site at [https://employees.faa.gov/tools\\_resources/orders\\_notices](https://employees.faa.gov/tools_resources/orders_notices). Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.avs.faa.gov>. Operators can find this notice on the Federal Aviation Administration's (FAA) Web site at <http://fsims.faa.gov>. This notice is available to the public at [http://www.faa.gov/regulations\\_policies/orders\\_notices](http://www.faa.gov/regulations_policies/orders_notices). OpSpecs B002, B003, and B004 will be issued as they currently exist in part 147 appendices A, B, C, and D, and therefore will not impact or require a change to existing curriculums.
- 4. Background.** OpSpecs will be the future vehicle for controlling definitions and curriculum element content currently in part 147 appendices A, B, C, and D.
  - a.** This section discusses each standard template available in the Web-based Operations Safety System (WebOPSS) for issuing OpSpecs to part 147 AMTSs.
  - b.** These OpSpecs must be implemented within 8 months of the effective date of this notice.

## Summary of New OpSpec Templates.

- a. OpSpec A001, Issuance And Applicability (Mandatory).** A001 lists:
  - The certificate holder's name;
  - The Air Agency Certificate number;

- A fixed location;
- The mailing address, if different than the fixed location; and
- The name, telephone number, fax number, and email address of the primary points of contact (POC).

**b. OpSpec A002, Definitions and Abbreviations (Mandatory).** A002 includes terms and definitions applicable to an Air Agency certificated in accordance with part 147. The terms and definitions listed in the paragraph should enhance understanding between the FAA and the aviation industry. Refer to FAA Order 8900.1, Flight Standards Information Management System (FSIMS), Volume 3, Chapter 18, Section 2, paragraph 3-712, for details about nonstandard OpSpec processing.

**c. OpSpec A003, Rating(s) (Mandatory).** A003 lists the authorized rating(s)—airframe, powerplant, or Airframe and Powerplant (A&P).

**d. OpSpec A004, Summary of Special Authorizations and Limitations (Mandatory).** A004 identifies all optional/not required OpSpecs and whether or not they are authorized to the AMTS.

**e. OpSpec A005, Exemptions (Optional).** A005 is issued to AMTSs that are granted operations in accordance with an exemption. In A005, any granted exemptions will be identified to include the exemption number, expiration date, and applicable remarks or references. Exemption number(s), date(s) of expiration, and remarks and/or references load into A005 when entered in the “Maintain Operator Data Exemptions” area of WebOPSS. Select an authorized exemption number, assign it to the AMTS, and enter either a brief description of the exemption, or regulations referenced by the exemption, by selecting the “Add Remark” button for each exemption. If another OpSpec paragraph specifies conditions or limitations related to the exemption, that paragraph’s reference number must appear in the “Remarks and/or References” space. For example, if the AMTS has an exemption to allow students to take the general knowledge test after completing the general curriculum, insert any limitations in the “Remarks and/or References” section.

**f. OpSpec A006, Management Personnel (Mandatory).** A006 identifies people in key leadership roles by position title, name, telephone number, fax number, and email address.

**g. OpSpec A007, Designated Persons (Mandatory).** A007 lists people authorized to apply for and receive OpSpecs by their name, title, and the authorized paragraph of the OpSpec.

**Note:** Titles listed in A007 should match the title in the enhanced Vital Information Database (eVID).

**h. OpSpec A012, Affiliated Designated Mechanic Examiners (DME) (Optional).**

(1) OpSpec A012 is issued if AMTSs have affiliated DMEs authorized to conduct tests for the AMTS without FAA endorsement in block V of FAA Form 8610-2, Airman Certificate and/or Rating Application, and who are in the Enhanced Flight Standards Automation System’s (eFSAS) National Vital Information Subsystem’s (NVIS) Designated Airman Table.

**Note:** The aviation safety inspector (ASI) keeps “affiliated DME” information updated within the applicable Air Agency file in the eVID.

(2) In accordance with FAA Order 8900.2, General Aviation Airman Designee Handbook, Chapter 6, Section 2, the AMTS must have an established procedure acceptable to the managing FSDO having jurisdiction over the AMTS. This procedure will require the AMTS to provide a certified list of graduates to the FSDO to each of the AMTS’s affiliated computerized testing centers and DMEs. The list must be available before the computerized testing center or DMEs administering the appropriate test(s). The AMTS will maintain and provide a current list of affiliated computerized testing centers and DMEs to the FSDO. The certified list must contain the following:

- Name and address of graduates,
- Graduation date,
- Curriculum from which the applicant graduated (i.e., airframe, powerplant, or A&P),
- A statement certifying the graduates, and
- Signature and date signed by an authorized AMTS official.

**i. OpSpec A013, Instructors (Mandatory).** A013 identifies the certificated instructors and/or specialized instructors to meet the requirements of part 147, §§ 147.5, 147.23, and 147.36.

**j. OpSpec A025, Recordkeeping System (Mandatory).** A025 identifies AMTS recordkeeping systems by type and location. Paragraph (a) identifies the AMTS recordkeeping system either by a reference to the AMTS’s manual or by a description of the system used. Paragraph (b), Table 1, identifies the location of records by physical address, mailing address (if different from physical address), and the name, telephone number, fax number, and email address of a POC with access to the records. If the AMTS is authorized to use an electronic/digital recordkeeping system, paragraph (c) references that system in the school’s manual or describes the system used. If the AMTS is authorized to use electronic signatures, paragraph (d) references either the system itself in the school’s manual or a description of the system.

**k. OpSpec A026, Authorizations/Limitations (Optional).** A026 is issued to AMTSs if they are authorized to conduct Distance Learning as an instruction delivery method. Table 1 of this OpSpec indicates the subject/topics and applicable teaching levels the AMTS is authorized to provide through distance learning. Certificate holders must provide written descriptions of Distance Learning policies and procedures in their approved curriculum.

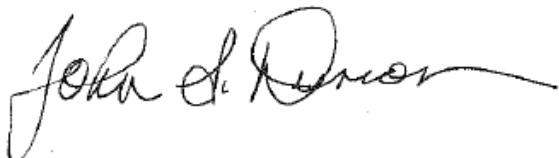
**l. OpSpec B002, Required Minimum Curriculum For General (Part 147 Appendix B) (Mandatory).** This B002 AMTS OpSpec is issued to all certificated AMTSs regardless of ratings issued.

**m. OpSpec B003, Required Minimum Curriculum For Airframe (Part 147 Appendix C) (Optional).** This OpSpec is issued only if the AMTS holds an airframe and/or A&P rating.

**n. OpSpec B004, Required Minimum Curriculum For Powerplant (Part 147 Appendix D) (Optional).** This OpSpec is issued only if the AMTS holds a powerplant and/or A&P rating.

**6. Action.** This notice will serve as the guidance until incorporated in Order 8900.1 as stated in paragraph 7. Principal inspectors (PI) for part 147 AMTSs must review this notice and associated guidance material, and work with assigned AMTSs to activate required and applicable OpSpecs within 8 months of the effective date of this notice. When the appropriate OpSpec paragraphs are issued, the ASI should enter Program Tracking and Reporting Subsystem (PTRS) codes associated with their specialty, such as 3315, 3316, 5315, and 5316. The ASI should enter the appropriate PTRS code in the “activity” field, and enter the part 147 school Designation in the PTRS designator field.

**7. Disposition.** Aircraft Maintenance Division (AFS-300) personnel will incorporate this notice into Order 8900.1 before the notice expires. Direct questions about this notice to the General Aviation Branch (AFS-350) at 202-385-6400.

A handwritten signature in black ink, appearing to read "John S. Duncan", with a long horizontal flourish extending to the right.

John S. Duncan  
Director, Flight Standards Service

**Appendix A. Sample OpSpec A001, Issuance and Applicability: 14 CFR Part 147**

a. These operations specifications are issued to part 147 Maintenance Technician School whose principal Air Agency is located at:

Primary Business Address:

Mailing Address:

**Table 1—Primary Point(s) of Contact**

| Name | Telephone Number | Fax Number | Email Address |
|------|------------------|------------|---------------|
|      |                  |            |               |

b. The holder of these operations specifications holds Air Agency Certificate Number TECTXXXX and is the certificate holder.

c. These operations specifications are issued in accordance with 14 CFR part 147, § 147.5(b). The certificate holder must operate in accordance with part 147 and associated authorizations, limitations, and procedures.

d. These operations specifications are effective as of the “Date Approval is effective” listed in each paragraph and must remain in effect as long as the certificate holder continues to meet the requirements of part 147 as specified for certification or unless otherwise suspended, surrendered, amended, or revoked.

*enter nonstandard text*

### Appendix B. Sample OpSpec A002, Definitions and Abbreviations: 14 CFR Part 147

All words, phrases, definitions, and abbreviations in these operations specifications are also used in 14 CFR and 49 U.S.C., Subtitle VII (as amended), unless otherwise defined. The below definitions apply to operations conducted in accordance with these operations specifications.

**Note:** These definitions can enhance understandings between the FAA and the aviation industry. They are not in 14 CFR.

| Term or Terms  | Definition  |
|--|---|
| <u>Alternative Delivery/Blended Delivery</u>         | Multiple approaches to learning, enhanced by different modes of delivery and training resources.  |
| <u>Aviation Maintenance Technician (AMT)</u>         | A certificated person rated to perform or supervise maintenance, preventative maintenance or alteration of an aircraft, aircraft appliance, or a part of that appliance, and other duties in accordance with 14 CFR part 65, §§ 65.85, 65.87, and 65.95. This excludes major repairs and alterations of propellers, and any repair or alteration of instruments.  |
| <u>Aviation Maintenance Technician School (AMTS)</u> | An Air Agency certificated in accordance with 14 CFR part 147 which trains personnel in AMT knowledge and skills.   |
| <u>Certificate Holder</u>                            | The holder of the AMTS certificate described in these operations specifications in Part A, paragraph A001 and any of its officers, employees, or agents operating under this certificate.   |
| <u>Certificated Instructors</u>                      | AMTS instructors holding mechanic certificates and ratings deemed necessary by the Administrator for adequate instruction and supervision of students.  |
| <u>Check</u>   | <i>Check</i> means to verify proper operation.  |
| <u>Classroom (Traditional Instructor-led)</u>        | A learning environment with basic training facilities, and led by an instructor.  |
| <u>Distance Learning</u>                             | Distance Learning is a term currently not used in 14 CFR. It is a term used in the FAA and the Aviation industry with various meanings depending on context. For the purposes of this order, distance learning refers to a learning delivery method that is accomplished by an instructor and students that are not physically gathered in a traditional classroom. (Distance learning may be known by other terms such as E-Learning, home study, self-guided training, virtual classroom, distributed training, computer-based training, Web-based training, and others.) |
| <u>Inspect</u>                                       | <i>Inspect</i> means to examine by sight and touch.   |

| Term or Terms                       | Definition  |
|-------------------------------------|---|
| <u>Instructional/ Training Aids</u> | Highly specialized tools typically provided by the AMTS, such as tensiometers, micrometers, and torque wrenches. These instructional training aids don't need calibration when used for demonstration or on unairworthy equipment.  |
| <u>Laboratory</u>                   | Facilities enabling student demonstrations or participation for instruction in general principles. Laboratory equipment required should match subject taught and teaching level.  |
| <u>Overhaul</u>                     | <i>Overhaul</i> means to disassemble, inspect, repair as necessary, and check.  |
| <u>Practical Project</u>            | A hands-on assignment requiring skills taught at the 2 to 3 teaching level. Students involved in a practical project can use or research documents such as maintenance publications, FAA directives, or manufacturer data.  |
| <u>Quality Standards</u>            | Measures of a student's manipulative skills needed to simulate a "return to service" condition of instructional or training aids. These aids do not need to meet "return to service" maintenance criteria.  |
| <u>Repair</u>                       | <i>Repair</i> means to correct a defective condition. <i>Repair</i> of an airframe or powerplant system includes component replacement and adjustment, but not component repair.  |
| <u>Service</u>                      | <i>Service</i> means to perform functions that assure continued operation.  |
| <u>Specialized Instructors</u>      | AMTS instructors who are not FAA-certificated mechanics, and who teach mathematics, physics, basic electricity, basic hydraulics, drawing, and similar subjects.  |
| <u>Special Tools</u>                | Tools, such as tensiometers, micrometers, and torque wrenches, typically provided by the AMTS. These tools do not require calibration when used for demonstration or on non-airworthy equipment.  |
| <u>Teaching Level 1</u>             | <ul style="list-style-type: none"> <li>(i) Requires knowledge of general principles, but no practical application.</li> <li>(ii) Requires no development of manipulative skill.</li> <li>(iii) Requires instruction by lecture, demonstration, and discussion.</li> </ul>   |
| <u>Teaching Level 2</u>             | <ul style="list-style-type: none"> <li>(i) Requires knowledge of general principles, and limited practical application.</li> <li>(ii) Requires development of sufficient manipulative skill to perform basic operations.</li> <li>(iii) Requires instruction by lecture, demonstration, discussion, and limited practical application.</li> </ul> |

| <b>Term or Terms</b>      | <b>Definition</b>   |
|---------------------------|---|
| <u>Teaching Level 3</u>   | (i) Requires knowledge of general principles, and performance of a high degree of practical application.<br>(ii) Requires development of sufficient manipulative skills to simulate return to service.<br>(iii) Requires instruction by lecture, demonstration, discussion, and a high degree of practical application.   |
| <u>Training Resources</u> | Resources may include: <ul style="list-style-type: none"> <li>• Personnel – training management and instructors</li> <li>• Facilities – a central training site, off-site learning centers, or other geographic locations</li> <li>• Equipment – stand-alone computers, networks, laptops, local area networks (LANs), or the Web</li> <li>• Software – operating systems, browsers, learning content, or specialized programs</li> <li>• Curriculum – videos, computer-based lessons, workbooks, study guides, CDs, DVDs, part-task trainers</li> <li>• Third Party – vendors, contractors, or consultants</li> <li>• Classroom – as previously defined</li> </ul> Note: Resource descriptions should be comprehensive enough to clearly define the role of each resource. |
| <u>Troubleshoot</u>       | As used in part 147 appendices B, C, and D, <i>Troubleshoot</i> means to analyze and identify malfunctions.   |



**Appendix C. Sample OpSpec A003, Aviation Maintenance Technician School  
Ratings: 14 CFR Part 147**

The certificate holder is authorized the following rating(s):

|                       |
|-----------------------|
| <b>Ratings</b>        |
| Airframe              |
| Powerplant            |
| Airframe & Powerplant |

*enter nonstandard text*

**Appendix D. Sample OpSpec A004, Summary of Special Authorizations and Limitations: 14 CFR Part 147**

a. The certificate holder, in accordance with the referenced paragraphs, is authorized to:

|  | <b>Reference Paragraphs</b> |
|--|-----------------------------|
| Use exemptions.  | A005                        |
| Use Affiliated Designated Mechanic Examiners (DMEs)  | A012                        |
| Conduct distance learning training in accordance with the conditions and limitations of A026 and the AMTS approved curriculum. | A026                        |
| Conduct required curriculum for General (Part 147 appendix B).   | B002                        |
| Conduct required curriculum for Airframe (Part 147 appendix C).  | B003                        |
| Conduct required curriculum for Powerplant (Part 147 appendix D).  | B004                        |

b. The certificate holder is *not authorized* and *must not*:

**Appendix E. Sample OpSpec A005, Exemptions: 14 CFR Part 147**

a. The certificate holder is authorized to operate in accordance with the provisions, conditions, and/or limitations set forth in the exemptions listed in Table 1 below, and in accordance with 14 CFR. The certificate holder is not authorized to operate, and must not operate, using any other exemption issued under 14 CFR, not listed in Table 1 below.

**Table 1—Exemptions**

| <b>Exemption Number</b> | <b>Date of Expiration</b> | <b>Remarks and/or References</b>          |
|-------------------------|---------------------------|---|
| 130 H                   | 09/30/2013                | Remarks added for exemption no. 130 ranga |

*enter nonstandard text*

**Appendix F. Sample OpSpec A006, Management Personnel: 14 CFR Part 147**

- a. The certificate holder is authorized to use persons listed in the following table in its 14 CFR part 147 Aviation Maintenance Technician School as management personnel.

**Table 1—Management Personnel**

| <b>Position Title</b>  | <b>Name</b>    | <b>Company Equivalent Position Title</b> | <b>Telephone Number</b> | <b>Fax Number</b> | <b>Email</b>      | <b>Remarks</b>       |
|------------------------|----------------|--|-------------------------|-------------------|-------------------|----------------------|
| Director of Safety     | Derek, John    | Attorney                                 | 212-202-1019            | 212-202-1020      | djohn@hotmail.com | Enter remarks if any |
| Director of Operations | Dilbert, Irene | Advisor                                  | 410-109-1019            | 410-109-1021      | dIrene@gmail.com  |                      |

*enter nonstandard text*

**Appendix G. Sample OpSpec A007, Designated Persons: 14 CFR Part 147**

a. The personnel listed in the following table are designated to officially apply for and receive operations specifications for the certificate holder.

**Table 1—Designated Persons to Apply for and Receive Authorizations**

| <b>Title</b>       | <b>Name</b>     | <b>Parts Authorized</b> |
|--------------------|-----------------|-------------------------|
| Director of Safety | Bell, DavidA006 | A                       |
| Attorney           | Derek, John     | A                       |
| Agents Service_1   | Dell, Peter     | A,B                     |

*enter nonstandard text*

**Appendix H. Sample OpSpec A012, Affiliated Designated Mechanic Examiners  
(DMEs): 14 CFR Part 147**

a. The certificate holder is authorized to conduct operations under 14 CFR using affiliated Designated Mechanic Examiners (DME). DMEs affiliated with the Aviation Maintenance Technician School (AMTS), and who are identified in the Designated Airman Table of the Flight Standards Automation System's National Vital Information Subsystem are authorized to conduct tests for the AMTS.

*enter nonstandard text*

**Appendix I. Sample OpSpec A013, Instructors: 14 CFR Part 147**

a. The certificate holder must continue to provide the required number of certificated instructors along with optional specialized instructors (non-certificated) to meet the requirements of Title 14 CFR part 147, §§ 147.5, 147.23 and 147.36.

b. In accordance with § 147.5 and § 147.23, the certificate holder must maintain a list of the names and qualifications of certificated and/or specialized instructors, and upon request, provide a copy to the FAA.

*enter nonstandard text*

**Appendix J. Sample OpSpec A025, Recordkeeping System: 14 CFR Part 147**

- a. The certificate holder is authorized to use the recordkeeping system, required by 14 CFR part 147, § 147.33 as described or referenced in this paragraph:

AMT approved records WT01 section 3(a), reference(s)

- b. The certificate holder must maintain trainee records and instructor qualification records, citing regulatory compliance, at:

**Table 1—Location Information for Records**

| Physical Address                               | Point of Contact | Phone Number | Fax Number   | Email Address       |
|--|------------------|--------------|--------------|---------------------|
| 220 East Merlybourne St, New London, CT, 06320 | Peter Dell       | 567-109-1019 | 567-109-1020 | pde1909@hotmail.com |

- c. The certificate holder is authorized to use an approved electronic/digital recordkeeping system, described/referenced in this paragraph (if no recordkeeping system is used, enter “N/A”)

AMT recordkeeping reference A, B & C

- d. The certificate holder is authorized to use the following electronic/digital signature procedures (if none, enter “N/A”)

N/A

*enter nonstandard text*



**Appendix K. Sample OpSpec A026, Authorizations/Limitations: 14 CFR Part 147**

a. The certificate holder is authorized to conduct distance learning training of the eligible curriculum subjects/topic areas listed in Table 1 and in accordance with the provisions, conditions, and limitations of this operations specification.

**Table 1—Curriculum Subject/Topic Areas ELIGIBLE For Distance Learning**

| <b>Teaching Level</b> | <b>Distance Learning Eligible Curriculum Subject/Topic Areas</b>                     | <b>Provisions, Conditions and Limitations</b>       |
|-----------------------|--|---|
| (1)                   | A. Basic Electricity/1. Calculate and measure capacitance and inductance.            | enter provisions, conditions and limitations if any |
| (2)                   | E. Materials and Processes/16. Perform basic heat-treating processes.                |   |
| (3)                   | C. Weight and Balance/12. Perform complete weight and balance check and record data. |   |

b. The certificate holder is not authorized to conduct distance learning method curriculum delivery in any curriculum subject/topic areas not specified in this operations specification.

c. The certificate holder must specify all use of distance education methods in the Aviation Maintenance Technician School approved curriculum.

d. The Administrator must approve the use of distance learning.

*enter nonstandard text*

**Appendix L. Sample OpSpec B002, Required Minimum Curriculum for General  
(Part 147 Appendix B): 14 CFR Part 147**

- a. The certificate holder must develop, for FAA approval, a curriculum covering the following elements for conducting training for mechanic certification and ratings in accordance with 14 CFR parts 65 and 147.
- b. The certificate holder must determine and certify each applicant's eligibility and experience requirements prior to testing for the issuance of a graduation certificate or a certificate of completion.
- c. Part 147 appendix B 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.

**Table 1—General Curriculum Subjects and Topics**

| <b>Teaching Level</b>              | <b>Required Curriculum Topics</b>  |
|------------------------------------|--|
| <b>A. Basic Electricity</b>        |  |
| (2)                                | 1. Calculate and measure capacitance and inductance.   |
| (2)                                | 2. Calculate and measure electrical power.   |
| (3)                                | 3. Measure voltage, current, resistance, and continuity.   |
| (3)                                | 4. Determine the relationship of voltage, current, and resistance in electrical circuits.                      |
| (3)                                | 5. Read and interpret aircraft electrical circuit diagrams, including solid state devices and logic functions. |
| (3)                                | 6. Inspect and service batteries.  |
| <b>B. Aircraft Drawings</b>        |  |
| (2)                                | 7. Use aircraft drawings, symbols, and system schematics.  |
| (3)                                | 8. Draw sketches of repairs and alterations.   |
| (3)                                | 9. Use blueprint information.  |
| (3)                                | 10. Use graphs and charts.   |
| <b>C. Weight and Balance</b>       |  |
| (2)                                | 11. Weigh aircraft.  |
| (3)                                | 12. Perform complete weight-and-balance check and record data.   |
| <b>D. Fluid Lines and Fittings</b> |  |
| (3)                                | 13. Fabricate and install rigid and flexible fluid lines and fittings.   |

| Teaching Level                           | Required Curriculum Topics   |
|--|--|
| <b>E. Materials and Processes</b>        |  |
| (1)                                      | 14. Identify and select appropriate nondestructive testing methods.  |
| (2)                                      | 15. Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections.  |
| (1)                                      | 16. Perform basic heat-treating processes.   |
| (3)                                      | 17. Identify and select aircraft hardware and materials.   |
| (3)                                      | 18. Inspect and check welds.   |
| (3)                                      | 19. Perform precision measurements.  |
| <b>F. Ground Operation and Servicing</b> |  |
| (2)                                      | 20. Start, ground operate, move, service, and secure aircraft. Identify typical ground operation hazards.  |
| (2)                                      | 21. Identify and select fuels.   |
| <b>G. Cleaning and Corrosion Control</b> |  |
| (3)                                      | 22. Identify and select cleaning materials.  |
| (3)                                      | 23. Inspect, identify, remove, and treat aircraft corrosion. Perform aircraft cleaning.  |
| <b>H. Mathematics</b>                    |  |
| (3)                                      | 24. Extract roots and raise numbers to a given power.  |
| (3)                                      | 25. Determine areas and volumes of various geometrical shapes.   |
| (3)                                      | 26. Solve ratio, proportion, and percentage problems.  |
| (3)                                      | 27. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.   |
| <b>I. Maintenance Forms and Records</b>  |  |
| (3)                                      | 28. Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records.   |
| (3)                                      | 29. Complete required maintenance forms, records, and inspection reports.  |
| <b>J. Basic Physics</b>                  |  |
| (2)                                      | 30. Use and understand the principles of simple machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight.  |
| <b>K. Maintenance Publications</b>       |  |
| (3)                                      | 31. Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturer aircraft maintenance specifications, data sheets, manuals, publications, and related federal aviation regulations, airworthiness directives, and advisory material. |
| (3)                                      | 32. Read technical data.   |

|   |  |
|---|--|
| <b>L. Mechanic Privileges and Limitations</b> |  |
| (3)   | 33. Exercise mechanic privileges within the limitations prescribed by part 65. |
|   |  |

*enter optional text for nonstandard paragraph*

### Appendix M. Sample OpSpec B003, Required Minimum Curriculum for Airframe (Part 147 Appendix C): 14 CFR Part 147

- a. The certificate holder must develop, for FAA approval, a curriculum covering the following elements for conducting training for mechanic certification and ratings in accordance with 14 CFR parts 65 and 147.
- b. The certificate holder must determine and certify each applicant's eligibility and experience requirements prior to testing for the issuance of a graduation certificate or a certificate of completion.
- c. Part 147 appendix C 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.

**Table 1—Airframe Curriculum Subjects and Topics**

| <b>I. Airframe Structures</b>                     |   |
|---|---|
| <b>Teaching Level</b>                             | <b>Required Curriculum Topics</b>   |
| <b>A. Wood Structures</b>                         |   |
| (1)   | 1. Service and repair wood structures.  |
| (1)   | 2. Identify wood defects.   |
| (1)   | 3. Inspect wood structures.   |
| <b>B. Aircraft Covering</b>                       |   |
| (1)   | 4. Select and apply fabric and fiberglass covering materials.   |
| (1)   | 5. Inspect, test, and repair fabric and fiberglass.   |
| <b>C. Aircraft Finishes</b>                       |   |
| (1)   | 6. Apply trim, letters, and touchup paint.  |
| (2)   | 7. Identify and select aircraft finishing materials.  |
| (2)   | 8. Apply finishing materials.   |
| (2)   | 9. Inspect finishes and identify defects.   |
| <b>D. Sheet Metal and Non-Metallic Structures</b> |   |
| (2)   | 10. Select, install, and remove special fasteners for metallic, bonded, and composite structures.                         |
| (2)   | 11. Inspect bonded structures.  |
| (2)   | 12. Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures. |
| (2)   | 13. Inspect, check, service, and repair windows, doors, and interior furnishings.   |
| (3)   | 14. Inspect and repair sheet metal structures.  |

|                                |  |
|--------------------------------|--|
| (3)                            | 15. Install conventional rivets.   |
| (3)                            | 16. Form, lay out, and bend sheet metal.   |
| <b>E. Welding</b>              |  |
| (1)                            | 17. Weld magnesium and titanium.   |
| (1)                            | 18. Solder stainless steel.  |
| (1)                            | 19. Fabricate tubular structures.  |
| (2)                            | 20. Solder, braze, gas-weld, and arc-weld steel.                                     |
| (1)                            | 21. Weld aluminum and stainless steel.   |
| <b>F. Assembly and Rigging</b> |  |
| (1)                            | 22. Rig rotary-wing aircraft.  |
| (2)                            | 23. Rig fixed-wing aircraft.   |
| (2)                            | 24. Check alignment of structures.   |
| (3)                            | 25. Assemble aircraft components, including flight control surfaces.                 |
| (3)                            | 26. Balance, rig, and inspect movable primary and secondary flight control surfaces. |
| (3)                            | 27. Jack aircraft.   |
| <b>G. Airframe Inspection</b>  |  |
| (3)                            | 28. Perform airframe conformity and airworthiness inspections.                       |
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| <b>II. Airframe Systems and Components</b>      |  |
| <b>Teaching Level</b>                           | <b>Required Curriculum Topics</b>  |
| <b>A. Aircraft Landing Gear Systems</b>         |  |
| (3)   | 29. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems. |
| <b>B. Hydraulic and Pneumatic Power Systems</b> |  |
| (2)   | 30. Repair hydraulic and pneumatic power systems components.   |
| (3)   | 31. Identify and select hydraulic fluids.  |
| (3)   | 32. Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems.   |

| <b>C. Cabin Atmosphere Control Systems</b>     |   |
|--|---|
| (1)  | 33. Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machines.   |
| (1)  | 34. Inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, and pressurization systems.   |
| (2)  | 35. Inspect, check, troubleshoot, service and repair oxygen systems.  |
| <b>D. Aircraft Instrument Systems</b>          |   |
| (1)  | 36. Inspect, check, service, troubleshoot, and repair electronic flight instrument systems and both mechanical and electrical heading, speed, altitude, temperature, pressure, and position indicating systems to include the use of built-in test equipment.   |
| (2)  | 37. Install instruments and perform a static pressure system leak test.   |
| <b>E. Communication and Navigation Systems</b> |   |
| (1)  | 38. Inspect, check, and troubleshoot autopilot, servos, and approach coupling systems.  |
| (1)  | 39. Inspect, check, and service aircraft electronic communication and navigation systems, including VHF passenger address interphones and static discharge devices, aircraft VOR, ILS, LORAN, radar beacon transponders, flight management computers, and GPWS. |
| (2)  | 40. Inspect and repair antenna and electronic equipment installations.  |
| <b>F. Aircraft Fuel Systems</b>                |   |
| (1)  | 41. Check and service fuel dump systems.  |
| (1)  | 42. Perform fuel management transfer, and defueling.  |
| (1)  | 43. Inspect, check, and repair pressure fueling systems.  |
| (2)  | 44. Repair aircraft fuel system components.   |
| (2)  | 45. Inspect and repair fluid quantity indicating systems.   |
| (2)  | 46. Troubleshoot, service, and repair fluid pressure and temperature warning systems.   |
| (3)  | 47. Inspect, check, service, troubleshoot, and repair aircraft fuel systems.  |
| <b>G. Aircraft Electrical Systems</b>          |   |
| (2)  | 48. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors.   |
| (3)  | 49. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices.   |
| (3)  | 50a. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems.   |
| (1)  | 50b. Inspect, check, and troubleshoot constant speed and integrated speed drive generators.   |
| <b>H. Position and Warning Systems</b>         |   |
| (2)  | 51. Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems.  |

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| (3)                                    | 52. Inspect, check, troubleshoot, and service landing gear position indicating and warning systems.      |
| <b>I. Ice and Rain Control Systems</b> |  |
| (2)                                    | 53. Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems.             |
| <b>J. Fire Protection Systems</b>      |  |
| (1)                                    | 54. Inspect, check, and service smoke and carbon monoxide detection systems.                             |
| (3)                                    | 55. Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems. |
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**Appendix N. Sample OpSpec B004, Required Minimum Curriculum for  
Powerplant (Part 147 Appendix D): 14 CFR Part 147**

- a. The certificate holder must develop, for FAA approval, a curriculum covering the following elements for conducting training for mechanic certification and ratings in accordance with 14 CFR parts 65 and 147.
- b. The certificate holder must determine and certify each applicant's eligibility and experience requirements prior to testing for the issuance of a graduation certificate or a certificate of completion.
- c. Part 147 appendix D 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.

**Table 1—Powerplant Subjects and Topics**

| <b>I. Powerplant Theory and Maintenance</b>  |   |
|--|---|
| <b>Teaching Level</b>                        | <b>Required Curriculum Topics</b>   |
| <b>A. Reciprocating Engines</b>              |   |
| (1)  | 1. Inspect and repair a radial engine.  |
| (2)  | 2. Overhaul reciprocating engine.   |
| (3)  | 3. Inspect, check, service, and repair reciprocating engines and engine installations.                |
| (3)  | 4. Install, troubleshoot, and remove reciprocating engines.   |
| <b>B. Turbine Engines</b>                    |   |
| (2)  | 5. Overhaul turbine engine.   |
| (3)  | 6. Inspect, check, service, and repair turbine engines and turbine engine installations.              |
| (3)  | 7. Install, troubleshoot, and remove turbine engines.   |
| <b>C. Engine Inspection</b>                  |   |
| (3)  | 8. Perform powerplant conformity and airworthiness inspections.                                       |
| <b>II. Powerplant Systems and Components</b> |   |
| <b>Teaching Level</b>                        | <b>Required Curriculum Topics</b>   |
| <b>A. Engine Instrument Systems</b>          |   |
| (2)  | 9. Troubleshoot, service, and repair electrical and mechanical fluid rate-of-flow indicating systems. |

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| (3)  | 10. Inspect, check, service, troubleshoot, and repair electrical and mechanical engine temperature, pressure, and rpm indicating systems.        |
| <b>B. Engine Fire Protection Systems</b>       |  |
| (3)  | 11. Inspect, check, service, troubleshoot, and repair engine fire detection and extinguishing systems.   |
| <b>C. Engine Electrical Systems</b>            |  |
| (2)  | 12. Repair engine electrical system components.  |
| (3)  | 13. Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices.                                |
| <b>D. Lubrication Systems</b>                  |  |
| (2)  | 14. Identify and select lubricants.  |
| (2)  | 15. Repair engine lubrication system components.   |
| (3)  | 16. Inspect, check, service, troubleshoot, and repair engine lubrication systems.  |
| <b>E. Ignition and Starting Systems</b>        |  |
| (2)  | 17. Overhaul magneto and ignition harness.   |
| (2)  | 18. Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components.                                 |
| (3)  | 19a. Inspect, service, troubleshoot, and repair turbine engine electrical starting systems.  |
| (1)  | 19b. Inspect, service, and troubleshoot turbine engine pneumatic starting systems.   |
| <b>F. Fuel Metering Systems</b>                |  |
| (1)  | 20. Troubleshoot and adjust turbine engine fuel metering systems and electronic engine fuel controls.  |
| (2)  | 21. Overhaul carburetor.   |
| (2)  | 22. Repair engine fuel metering system components.   |
| (3)  | 23. Inspect, check, service, troubleshoot, and repair reciprocating and turbine engine fuel metering systems.                                    |
| <b>G. Engine Fuel Systems</b>                  |  |
| (2)  | 24. Repair engine fuel system components.  |
| (3)  | 25. Inspect, check, service, troubleshoot, and repair engine fuel systems.   |
| <b>H. Induction and Engine Airflow Systems</b> |  |
| (2)  | 26. Inspect, check, troubleshoot, service, and repair engine ice and rain control systems.   |
| (1)  | 27. Inspect, check, service, troubleshoot and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems. |
| (3)  | 28. Inspect, check, service, and repair carburetor air intake and induction manifolds.   |

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| <b>I. Engine Cooling Systems</b>              |  |
| (2)   | 29. Repair engine cooling system components.   |
| (3)   | 30. Inspect, check, troubleshoot, service, and repair engine cooling systems.  |
| <b>J. Engine Exhaust and Reverser Systems</b> |  |
| (2)   | 31. Repair engine exhaust system components.   |
| (3)   | 32a. Inspect, check, troubleshoot, service, and repair engine exhaust systems.   |
| (1)   | 32b. Troubleshoot and repair engine thrust reverser systems and related components.  |
| <b>K. Propellers</b>                          |  |
| (1)   | 33. Inspect, check, service, and repair propeller synchronizing and ice control systems.   |
| (2)   | 34. Identify and select propeller lubricants.  |
| (1)   | 35. Balance propellers.  |
| (2)   | 36. Repair propeller control system components.  |
| (3)   | 37. Inspect, check, service, and repair fixed-pitch, constant-speed, and feathering propellers, and propeller governing systems. |
| (3)   | 38. Install, troubleshoot, and remove propellers.  |
| (3)   | 39. Repair aluminum alloy propeller blades.  |
| <b>L. Unducted Fans</b>                       |  |
| (1)   | 40. Inspect and troubleshoot unducted fan systems and components.  |
| <b>M. Auxiliary Power Units</b>               |  |
| (1)   | 41. Inspect, check, service, and troubleshoot turbine-driven auxiliary power units.  |

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