

Aviation Technology- Maintenance
Standard Course Outline

AVTA 1032 - WOOD STRUCTURES/AIRCRAFT COVERING/AIRCRAFT FINISHES

Catalog Description: Inspection and repair of wood structures, fabric coverings and various fiberglass assemblies and subassemblies. Clock hours 20 lecture, 16 shop

Prerequisite: AVTG 1001

Credit hours/ Contact hours/ Load hours: 2/36/ meets 6 six hour days

Target Audience & Transferability:

This course is designed for students seeking a Technical Certificate in Airframe or, when combined with General and Powerplant, an AAS in Aviation Maintenance Technology, or an AS in Aviation Maintenance Management. Individual AVT courses or Certificates may be transferable to other FAA Certified Aviation Maintenance Technician schools under Federal Regulations.

Student Outcomes/ Topics:

AIRCRAFT COVER REFERENCES: AC 65-15A, AC 43-13 1B; AMT-A; JSAT
FAA Standard: *FAA-S-8081-27 2-1*, Change 2 (9/24/03)

Upon completion of the course, the student:

1. Exhibits knowledge of at least two of the following—
 - a. factors used in determining the proper type covering material.
 - b. types of approved aircraft covering material.
 - c. seams commonly used.
 - d. covering textile terms.
 - e. structure surface preparation.
 - f. covering methods commonly used.
 - g. covering means of attachment.
 - h. areas on aircraft covering most susceptible to deterioration.
 - i. aircraft covering preservation/restoration.
 - j. inspection of aircraft covering.
 - k. covering repair techniques and practices.
2. N/A
3. Demonstrates the ability to perform at least one of the following—
 - a. inspect the repair of a damaged covering for airworthiness. (Level 3)
 - b. test a finished covering sample to determine acceptability of strength. (Level 3)
 - c. determine the minimum fabric strength covering requirements for a specific aircraft. (Level 2)
 - d. determine if a covering sample has appropriate identification markings. (Level 2)
 - e. determine acceptable repairs for a specific defect. (Level 2)
 - f. determine the classification (major or minor) of a specific repair to a fabric-covered surface. (Level 2)
 - g. locate the requirements for repair of a specific fabric covering defect. (Level 1)

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AIRCRAFT FINISHES REFERENCES: AC 65-15A; AMT; JSAT; 14 CFR part 45
FAA Standard: *FAA-S-8081-27* 2-3, Change 2 (9/24/03)

Upon completion of the course, the student:

1. Exhibits knowledge of at least two of the following—
 - a. protection of airframe structures.
 - b. primer materials.
 - c. topcoat materials.
 - d. surface preparation for a desired finishing material.
 - e. effects of ambient conditions on finishing materials.
 - f. effects of improper surface preparation on finishing materials.
 - g. regulatory requirements for registration markings.
 - h. inspection of aircraft finishes.
 - i. safety practices/precautions when using finishing materials.
 - j. fungicidal, butyrate, and/or nitrate dopes.
 - k. finishing materials application techniques and practices.
 - l. where necessary, balance considerations after refinishing.

2. N/A

3. Demonstrates the ability to perform at least one of the following—
 - a. select appropriate finishing materials for a specific application. (Level 2)
 - b. determine preparation necessary for application of finishing materials to a particular surface. (Level 2)
 - c. prepare a surface for application of finishing materials. (Level 3)
 - d. apply primer and/or topcoat materials. (Level 3)
 - e. inspect one or more finished surfaces. (Level 3)
 - f. locate appropriate data to use for a specific finishing task. (Level 1)
 - g. determine the allowable location and size of registration numbers for a fixed-wing and/or rotorcraft aircraft. (Level 2)

WOOD STRUCTURES REFERENCES: AC 43.13-1B, AC 65-15A; AMT-A;JSAT.
FAA Standard: *FAA-S-8081-27* 2-1, Change 2 (9/24/03)

Upon completion of the course, the student:

1. Exhibits knowledge of at least two of the following—
 - a. inspection tools for wood structures.
 - b. inspection techniques and practices for wood structures.
 - c. effects of moisture/humidity on wood.
 - d. types and/or general characteristics of wood used in aircraft structures.
 - e. permissible substitutes and/or other materials used in the construction and repair of wood structures.
 - f. acceptable wood defects.
 - g. non-acceptable wood defects.
 - h. wood repair techniques and practices.

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2. N/A
3. Demonstrates the ability to perform at least one of the following—
 - a. inspect aircraft wood structure or wood sample. (Level 3)
 - b. inspect a wood repair for airworthiness. (Level 3)
 - c. identify and select aircraft quality/acceptable wood. (Level 2)
 - d. determine acceptable repairs or limits for one or more specific defects. (Level 2)
 - e. locate data for allowable substitute wood material. (Level 1)
 - f. determine the allowable species of wood that can be used as a substitute for spruce, and what, if any, dimensional changes are necessary. (Level 2)
 - g. locate wood spar and/or rib structure repair procedures. (Level 1)

Required Text(s):

Airframe Structures Textbook (ASA)	ISBN # 1-56027-339-9
Airframe Systems Textbook (ASA)	ISBN # 1-56027-340-2
Airframe Test Study Guide (ASA)	ISBN # 1-56027-571-5
FAR Handbook for AMT (ASA)	ISBN # 1-56027-563-4
AC43.13-1B Acceptable Methods, Practices, & Techniques (ASA)	ISBN # 1-56027-488-3

Optional Text(s):

Technician Airframe Textbook (Jeppesen)	ISBN # 0-89100-395-9
Technician Airframe Workbook (Jeppesen)	ISBN # 0-89100-402-5
AC65-15A Aircraft Mechanics Handbook Airframe (FAA)	ISBN # 1-56027-023-3

Supporting Reference(s)

O&P Study Guide (ASA)	ISBN # 1-56027-406-9
Maintenance Handbook (ASA)	ISBN # 1-56027-518-9
Dictionary of Aeronautical Terms (ASA)	ISBN # 1-56027-587-2

The workbooks and test study guides may be used to aid the instructor and students to reinforce the textbook information. Other Textbooks may be used depending upon availability.

Required Methods of Instruction:

Classes are taught in a full time day or night format, requiring maximum attendance. Attendance is taken every hour. Missed time must be made up outside of regular scheduled class time before moving to the next subject.

Required Forms of Assessment:

Periodic exams will be performed by FAA approved instructors as required to insure progress. Students must pass this course with a 70% or better to qualify for an FAA approved Certificate of Completion in the Airframe Section.