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APPENDIX A TO PART 147-CURRICULUM REQUIREMENTS

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

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.

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Teaching level

(1)

A BASIC ELECTRICITY

- (2) 1. Calculate and measure capacitance and inductance
- (2)2. Calculate and measure electrical power.
- 3. Measure voltage, current, resistance, and con-(3) tinuity.
- (3) 4. Determine the relationship of voltage, current, and resistance in electrical circuits.
- 5. Read and interpret aircraft electrical circuit dia-(3) grams, including solid state devices and logic functions.
- 6. Inspect and service batteries. (3)
- B. AIRCRAFT DRAWINGS
- (2) 7. Use aircraft drawings, symbols, and system schematics.
- 8. Draw sketches of repairs and alterations. (3)
- (3)9. Use blueprint information.
- (3) 10. Use graphs and charts. C. WEIGHT AND BALANCE
- 11. Weigh aircraft. (2)(3)
 - 12. Perform complete weight-and-balance check and record data.
- D. FLUID LINES AND FITTINGS (3) 13. Fabricate and install rigid and flexible fluid lines

and fittings. E. MATERIALS AND PROCESSES

- 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. E GROUND OPERATION AND SERVICING
- 20. Start, ground operate, move, service, and se-(2) cure aircraft and identify typical ground operation hazards.
- (2) 21. Identify and select fuels.
 - G. CLEANING AND CORROSION CONTROL
- 22. Identify and select cleaning materials. (3)
- 23. Inspect, identify, remove, and treat aircraft cor-(3) rosion and perform aircraft cleaning. H. MATHEMATICS
 - 24. Extract roots and raise numbers to a given
- (3) power. 25. Determine areas and volumes of various geo-(3)
- metrical shapes. 26. Solve ratio, proportion, and percentage prob-(3)
- lems. (3)
- 27. Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers.

I. MAINTENANCE FORMS AND RECORDS

- (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.

J. BASIC PHYSICS

30. Use and understand the principles of simple (2) machines; sound, fluid, and heat dynamics; basic aerodynamics; aircraft structures; and theory of fliaht.

Federal Aviation Administration, DOT

Teaching level

K MAINTENANCE PUBLICATIONS

- (3) 31. Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturers' aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material. (3)
- 32. Read technical data. L. MECHANIC PRIVILEGES AND LIMITATIONS
- 33. Exercise mechanic privileges within the limita-(3) tions prescribed by part 65 of this chapter.

[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

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

(1)

A. WOOD STRUCTURES

- 1. Service and repair wood structures.
- 2. Identify wood defects. (1)(1) 3. Inspect wood structures
- - B. AIRCRAFT COVERING
- 4. Select and apply fabric and fiberglass covering (1) materials.
- (1) 5. Inspect, test, and repair fabric and fiberglass. C. AIRCRAFT FINISHES
- 6. Apply trim, letters, and touchup paint. (1)
- 7. Identify and select aircraft finishing materials. (2)
- (2) (2) 8. Apply finishing materials. 9. Inspect finishes and identify defects.
- D. SHEET METAL AND NON-METALLIC STRUCTURES
- (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.
- Inspect and repair sheet-metal structures.
 Install conventional rivets. (3)
- (3) 16. Form, lay out, and bend sheet metal. (3)
 - E. WELDING
- Weld magnesium and titanium.
 Solder stainless steel. (1) (1)
- (1) 19. Fabricate tubular structures.
- 20. Solder, braze, gas-weld, and arc-weld steel. (2)
- (1)21. Weld aluminum and stainless steel.
 - F. ASSEMBLY AND RIGGING
- (1) 22. Rig rotary-wing aircraft.

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I. AIRFRAME STRUCTURES—Continued

Teaching level

- (2)23. Rig fixed-wing aircraft.
- 24. Check alignment of structures. (2)
- 25. Assemble aircraft components, including flight (3) control surfaces.
- 26. Balance, rig, and inspect movable primary and (3) secondary flight control surfaces. 27. Jack aircraft.
- (3) G. AIRFRAME INSPECTION
- 28. Perform airframe conformity and airworthiness (3) inspections.

IL AIBERAME SYSTEMS AND COMPONENTS

Teach-

ing level

A. AIRCRAFT LANDING GEAR SYSTEMS

- 29. Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, (3) tires, and steering systems.
 - B. HYDRAULIC AND PNEUMATIC POWER SYSTEMS
- 30. Repair hydraulic and pneumatic power systems (2) components.
- 31. Identify and select hydraulic fluids. (3)
- (3)32. Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems. C. CABIN ATMOSPHERE CONTROL SYSTEMS
- 33. Inspect, check, troubleshoot, service, and repair (1) 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.
- 35. Inspect, check, troubleshoot, service and repair (2) oxygen systems.

D. AIRCRAFT INSTRUMENT SYSTEMS

- (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.
- 37. Install instruments and perform a static pressure (2) system leak test.
 - E. COMMUNICATION AND NAVIGATION SYSTEMS
- 38. Inspect. check, and troubleshoot autopilot, (1) 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.
 - F. AIRCRAFT FUEL SYSTEMS
 - 41. Check and service fuel dump systems
- (1) 42. Perform fuel management transfer, and defueling.
- (1) 43. Inspect, check, and repair pressure fueling systems
- 44. Repair aircraft fuel system components (2)
 - 45. Inspect and repair fluid quantity indicating sys-
- (2) tems
- (2) 46. Troubleshoot, service, and repair fluid pressure and temperature warning systems.