

APPENDICES

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APPENDIX A TO PART 147

PART 147—CURRICULUM REQUIREMENTS

This appendix defines terms used in appendices B, C, 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:

- a) Knowledge of general principles, and limited practical application.
- b) No development of manipulative skill.
- c) Instruction by lecture, demonstration, and discussion.

(2) Level 2 Requires:

- a) Knowledge of general principles, and limited practical application.
- b) Development of sufficient manipulative skill to perform basic operations.
- c) Instruction by lecture, demonstration, discussion, and limited practical application.

(3) Level 3 Requires:

- a) Knowledge of general principles, and performance of a high degree of practical application.
- b) Development of sufficient manipulative skills to simulate return to service.
- c) Instruction by lecture, demonstration, discussion, and a high degree of practical application.

c) *Teaching Materials & 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

AMT 101	A. Basic Electricity Understand fundamental principles of the electron theory, static electricity, current electricity magnetism and the different types of induction. Calculate and measure capacitance and inductance. Calculate and measure electrical power (Level 2). Measure voltage, current, resistance, and continuity in electrical circuits. Determine the relationship of voltage, current, and resistance in electrical circuits. Read and interpret aircraft electrical circuit diagrams, including solid state devices and logic functions. Inspect and service batteries. (Level 3)
AMT 103	B. Aircraft Drawings Use aircraft drawings, symbols, and system schematics. (Level 2) Draw sketches of repairs and alterations. Use blueprint information, use graphs and charts. (Level 3)
AMT 105	C. Weight and Balance Weigh aircraft. (Level 2) Perform complete weight and balance check and record data. (Level 3)
AMT 107	D. Fluid Lines and Fittings Fabricate and install rigid and flexible fluid lines and fittings. (Level 3)
AMT 109	E. Materials and Processes Identify and select appropriate non-destructive testing methods. (Level 1) Perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections (Level 2) Perform basic heat-treating processes. (Level 1) Identify and select aircraft hardware and materials. (Level 3) Inspect and check welds according to accepted practices. (Level 3) Perform precision measurement. (Level 3)
AMT 111	F. Ground Operations and Servicing Start, ground operate, move, service, secure aircraft, and identify typical ground

	operation hazards. Identify and select fuels. (Level 2)
AMT 113	G. Cleaning and Corrosion Control Identify and select cleaning materials. Inspect, identify, remove, and treat aircraft corrosion and perform aircraft cleaning. (Level 3)
AMT 115	H. Mathematics Perform algebraic operations involving addition, subtraction, multiplication, and division of positive and negative numbers, extract roots and raise numbers to a given power, determine areas and volumes of various geometric shapes, solve ratio, proportion, and percentage problems. (Level 3)
AMT 117	I. Maintenance Forms and Records Demonstrate the 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, Read technical data. Write descriptions of aircraft condition and work performed. Complete required maintenance forms, records, and inspection reports. Exercise mechanic privileges within the limitations prescribed by part 65 of this chapter. (Level 3)
AMT 119	J. Basic Physics Use and understand the fundamental principles of simple machines, sound, fluid, and heat dynamics. Use and understand the principles of basic aerodynamics, aircraft structures, and the theory of flight. (Level 2)
AMT 121	K. Maintenance Publications Demonstrate ability to read, comprehend, and apply information contained in FAA and manufacturer's aircraft maintenance specifications, data sheets, manuals, publications, and related Federal Aviation Regulations, Airworthiness Directives, and Advisory material. Read Technical data. (Level 3)
AMT 123	L. Mechanic Privileges and Limitations Exercise mechanic privileges within the limitations prescribed by part 65 of this chapter. (Level 3)
AMT 125	M. Human Factors in Aviation Understand basic human relations as it applies to dealing with customers, fellow workers, supervisors, and officials of the Federal Aviation Administration. (Level 1)

[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	Airframe Structures
AMT 201	<p>A. Wood Structures Service and repair wood structures, identify wood defects, and inspect wood structures (Level 1)</p>
AMT 203	<p>B. Aircraft Covering Select and apply fabric and fiberglass covering materials, Inspect, test, and repair fabric and fiberglass (Level 1)</p>
AMT 205	<p>C. Aircraft Finishes Apply trim, letters, and touchup paint (Level 1) Identify and select aircraft finishing materials (Level 2) Applying finishing materials (Level 2) Inspect finishes and identify defects (Level 2)</p>
AMT 207	<p>D. Sheet Metal and Non-Metallic Structures Select, install, and remove special fasteners for metallic, bonded, and composite structures (Level 2) Inspect bonded structures (Level 2) Inspect, test, and repair fiberglass, plastics, honeycomb, composite, and laminated primary and secondary structures (Level 2) Inspect, check, service, and repair windows, doors, and interior furnishings (Level 2) Inspect and repair sheet-metal structures (Level 3) Install conventional rivets (Level 3) Form, lay out, and bend sheet metal (Level 3)</p>
AMT 209	<p>E. Welding Weld magnesium and titanium (Level 1) Solder stainless steel (Level 1) Fabricate tubular structures (Level 1) Solder, braze, gas-weld, and arc-weld steel (Level 2) Weld aluminum and stainless steel (Level 1)</p>
AMT 211	<p>F. Assembly and Rigging Rig rotary-wing aircraft (Level 1) Rig fixed-wing aircraft (Level 2) Check alignment of structures (Level 2) Assemble aircraft components, including flight control surfaces (Level 3) Balance, rig, and inspect movable primary and</p>

	secondary flight control surfaces (Level 3) Jack aircraft (Level 3)
AMT 213	G. Airframe Inspection Perform airframe conformity and airworthiness inspections (Level 3)

Airframe Systems & Components

AMT 215	A. Aircraft Landing Gear Systems Inspect, check, service, and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering systems (Level 3)
AMT 217	B. Hydraulic and Pneumatic Power Systems Repair hydraulic and pneumatic systems components (Level 2) Identify and select hydraulic fluids (Level 3) Inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems (Level 3)
AMT 219	C. Cabin Atmosphere Control Systems Inspect, check, troubleshoot, service, and repair heating, cooling, air conditioning, pressurization systems, and air cycle machines (Level 1) Inspect, check, troubleshoot, service, and repair heating, cooling, air-conditioning, and pressurization systems (Level 1) Inspect, check, troubleshoot, service, and repair oxygen systems (Level 2)
AMT 221	D. Aircraft Instrument Systems 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 (Level 1) Install instrument and perform a static pressure system leak test (Level 2)
AMT 223	E. Communication and Navigation Systems Inspect, check, and troubleshoot autopilot, servos and approach coupling systems (Level 1) Inspect, check, and service aircraft electronic communication and navigation systems,

	<p>including VHF passenger address interphones and static discharge devices, aircraft VOR, ILS, LORAN, Radar beacon transponders, flight management computers, and GPWS (Level 1)</p> <p>Inspect and repair antenna and electronic equipment installations (Level 2)</p>
AMT 225	<p>F. Aircraft Fuel Systems</p> <p>Check and service fuel dump systems (Level 1)</p> <p>Perform fuel management transfer, and defueling (Level 1)</p> <p>Inspect, check, and repair pressure fueling systems (Level 1)</p> <p>Repair aircraft fuel system components (Level 2)</p> <p>Inspect and repair fluid quantity indicating systems (Level 2)</p> <p>Troubleshoot, service, and repair fluid pressure and temperature warning systems (Level 2)</p> <p>Inspect, check, service, troubleshoot, and repair aircraft fuel systems (Level 3)</p>
AMT 229	<p>H. Position and Warning Systems</p> <p>Inspect, check, and service speed and configuration warning systems, electrical brake controls, and anti-skid systems (Level 2)</p> <p>Inspect, check, troubleshoot, and service landing gear position indicating and warning systems (Level 3)</p>
AMT 231	<p>I. Ice and Rain Control Systems</p> <p>Inspect, check, troubleshoot, service, and repair airframe ice and rain control systems (Level 2)</p>

AMT 233	J. Fire Protection Systems Inspect, check, and service smoke and carbon monoxide detection systems (Level 2) Inspect, check, service, troubleshoot, and repair aircraft fire detection and extinguishing systems (Level 3)
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[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

	I. Powerplant Theory and Maintenance
AMT 251	A. Reciprocating Engines Inspect and repair a radial engine (Level 1) Overhaul reciprocating engine (Level 2) Inspect, check, service, and repair reciprocating engines and engine installations (Level 3) Install, troubleshoot, and remove reciprocating engines (Level 3)
AMT 253	B. Turbine Engines Overhaul turbine engine (Level 2) Inspect, check, service, and repair turbine engines and turbine engine installations (Level 3) Install, troubleshoot, and remove turbine engines (Level 3)
AMT 255	C. Engine Inspection Perform powerplant conformity and air worthiness inspections (Level 3)
	II. POWERPLANT SYSTEMS and COMPONENTS
AMT 257	A. Engine Instrument Systems Troubleshoot, service and repair electrical and mechanical fluid rate-of-flow indicating systems (Level 2) Inspect, check, service, troubleshoot, and repair electrical and mechanical engine temperature, pressure, and r.p.m. indicating systems (Level 3)

AMT 259	<p>B. Engine Fire Protection</p> <p>Inspect, check, service, troubleshoot, and repair engine fire detection and extinguishing systems (Level 3)</p>
AMT 261	<p>C. Engine Electrical Systems</p> <p>Repair engine electrical system components (Level 2)</p> <p>Install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices (Level 3)</p>
AMT 263	<p>D. Lubrication Systems</p> <p>Identify and select lubricants (Level 2)</p> <p>Repair engine lubrication system components (Level 2)</p> <p>Inspect, check, service, troubleshoot, and repair engine lubrication systems (Level 3)</p>
AMT 265	<p>E. Ignition and Starting Systems</p> <p>Overhaul magneto and ignition harness (Level 2)</p> <p>Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components (Level 2)</p> <p>Inspect, service, troubleshoot, and repair turbine engine electrical starting systems (Level 3)</p> <p>Inspect, service, and troubleshoot turbine engine pneumatic starting systems (Level 1)</p>
AMT 267	<p>F. Fuel Metering Systems</p> <p>Troubleshoot and adjust turbine engine fuel metering systems and electronic engine fuel controls (Level 1)</p> <p>Overhaul carburetor (Level 2)</p> <p>Repair engine fuel metering system components (Level 2)</p> <p>Inspect, check, service, troubleshoot, and repair reciprocating and turbine engine fuel metering systems (Level 3)</p>

AMT 269	G. Engine Fuel Systems Repair engine fuel system components (Level 2) Inspect, check, service, troubleshoot, and repair engine fuel systems (Level 3)
AMT 271	H. Induction and Engine Airflow Systems Inspect, check, troubleshoot, service, and repair engine ice and rain control systems (Level 2) Inspect, check, service, troubleshoot and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems (Level 1) Inspect, check, service, and repair carburetor air intake and induction manifolds (Level 3)
AMT 273	I. Engine Cooling Systems Repair engine cooling system components (Level 2) Inspect, check, troubleshoot, service, and repair engine cooling systems (Level 3)
AMT 275	J. Engine Exhaust and Reverser Systems Repair engine exhaust system components (Level 2) Inspect, check, troubleshoot, service, and repair engine exhaust systems (Level 3) Troubleshoot and repair engine thrust reverser systems and related components (Level 1)
AMT 277	K. Propellers Inspect, check, service, and repair propeller synchronizing and ice control systems (Level 1) Identify and select propeller lubricants (Level 2) Balance propellers (Level 1) Repair propeller control system components (Level 2) Inspect, check, service, and repair fixed-pitch, constant-speed, and feathering propellers, and propeller governing systems (Level 3) Install, troubleshoot, and remove propellers (Level 3) Repair aluminum alloy propeller blades (Level 3)

AMT 279	L. Unducted Fans Inspect and troubleshoot unducted fan systems and components (Level 1)
AMT 281	M. Auxiliary Power Units Inspect, check, service, and troubleshoot turbine-driven auxiliary power units (Level 1)
AMT 283	N. Diesel Engines Basics of aircraft diesel engine operations and maintenance (Level 1)

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