AMT A150: GENERAL MAINTENANCE RECORDS - FAA

Item	Value
Curriculum Committee Approval Date	12/08/2021
Top Code	095000 - Aeronautical and Aviation Technology
Units	4 Total Units
Hours	126 Total Hours (Lecture Hours 36; Lab Hours 90)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	Yes
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

Mechanic's privileges and limitations, maintenance forms and records, non-destructive testing, precision measurement, record keeping, and ground operation. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Apply information contained in FAA and Manufacturer's aircraft maintenance specification, data sheets, manuals, publications, and related federal aviation regulations, airworthiness directives, and advisory materials.
2. Start, operate, move, service and secure aircraft, and identify typical ground operation hazards.
3. Locate defects using standard non-destructive testing equipment.
4. Measure worn aircraft components using standard precision measuring instruments.

Course Objectives

- 1. Inspect used and worn aircraft components parts with precision measuring equipment (micrometers, calipers, hole and snap gauges, dial indicators, ?V? blocks) and complete typical report forms or status tags indication acceptance or rejection of the inspected components.
- 2. Demonstrate the use ultrasonic equipment to locate and identify a surface or subsurface flaw or fracture.
- 3. Demonstrate the use Eddy Current equipment to locate and identify a surface or subsurface flaw or fracture.
- 4. Demonstrate the use on dye penetrant inspection equipment by preparing the part, apply and remove penetrant, apply developer, inspect for crafts and clean the part after inspection.
- 5. Demonstrate the use of Magnetic particle inspection to locate and identify a sub-surface flaw or fracture and demagnetize the part after inspection.
- 6. Appraise which method of testing is best suited for detection and evaluation of a described defect or flaw.
- 7. Identify and recall each fuel sample as to its type and rating according to the proper color code.
- 8. Demonstrate the fueling of an airplane using all necessary precautions according to industry standards.
- 9. Operate an aircraft engine from starting procedures, through its normal operating range and perform a complete shut down procedure.
- 10. Operate a fire extinguisher in putting out a simulated fire in an open area and answer 10 questions on extinguishing open fires and fires in and around the powerplant section.
- 11. Demonstrate the connection of external hydraulic power sources to the aircraft or mock-up operates the external source to obtain specified hydraulic pressure in the aircraft or mock-up system.
- 12. Demonstrate accepted hand signals in providing directions to the movement of aircraft during towing, taxiing, and parking.
- 13. Prepare an aircraft for outside storage.
- 14. Inspect the aircraft operation area and list typical ground operation hazards.
- 15. Locate aircraft specification sheets promptly and without error when given the manufacture?s name, model and serial number.
- 16. Locate and interpret information pertaining to weighing, useful load, center of gravity range and approved items of equipment for two specifically identified makes and models of aircraft.
- 17. Measure the travel of the flight controls and compare the surface travel the specifications for each aircraft.
- 18. Explain the purpose of an airworthiness certificate, the duration and requirements for keeping the certificate in effect.
- 19. Select the applicable TSO and interpret the information to determine whether the sample components comply.
- 20. Compose a correct and complete list of all airworthiness directives (AD?s) applicable to a specified make and model aircraft.
- 21. Choose the correct answer to 10 questions related to an aircraft advisor circular (AC).
- 22. Interpret the regulations governing issuance, duration, experience and limitations of mechanic certificates and an inspection authorization.
- 23. Interpret Federal Air Regulations Part 43 as a means of classifying major minor repairs, major minor alterations and routine (preventive) maintenance, and make simulated maintenance record entries.
- 24. Describe the procedure to be followed and then the necessary forms and substantiating data to permit approval of a major repair and a major alteration of an airplane or powerplant or propeller.
- 25. Interpret the regulations pertaining to the economics
- 26. Demonstrate and perform an inspection of the airplane and list all discrepancies and work performed.
- 27. Define ?time in service? and explain the application of this term to entries in the maintenance tasks.

Lecture Content

GROUND OPERATION AND SERVICING Identify and select fuels Identify and selection of fuels Start, ground operate, move, service and secure aircraft, and identify typical ground operation hazards Procedures of fueling and servicing aircraft Start and operate aircraft engines Extinguishing fires in induction system Connect and operate an external hydraulic power source Direct the movement of aircraft Prepare an

aircraft for outside storage MAINTENANCE PUBLICATIONS Demonstrate ability to read, comprehend, and apply information contained in FAA and Manufacturer s aircraft maintenance specification, data sheets, manuals, publications, and related federal aviation regulations, airworthiness directives, and advisory materials. Locate reference data Use information from the aircraft specifications Use information from the manufacturer's manuals to verify control surface travel Identify and relate regulations governing airworthiness certificates Select and use Technical Standard Orders Use Manufacturer's manuals and other publications Select and use supplementary type certificates and airworthiness directives Read technical data Read, understand and relate technical information Perform precision measurement Inspect aircraft components for wear Perform dye penetrant, eddy current, ultrasonic and magnetic particle inspections Perform dye penetrant inspections Perform magnetic particle inspection Perform inspections of welded assemblies Identify and select appropriate non-destructive testing methods Complete computer-based training for non-destructive testing MECHANICS' PRIVILEGES AND LIMITATIO NS Exercise mechanics privileges within the limitations prescribed by FAR 65 Interpret FAR 65 Classify aircraft repairs Interpret regulations governing repairs and alterations Interpret repair station regulations Recognize legal and ethical responsibilities MAINTENANCE FORMS AND RECORDS Write descriptions of work performed including aircraft discrepancies and corrective actions using typical aircraft maintenance records Inspect an aircraft and prepare a condition report Write a description of major/minor repair and routine maintenance Complete required maintenance forms, records and inspection reports Make maintenance record entries Use inspection guides Evaluate aircraft records for compliance with Federal Air Regulations

Lab Content

Faculty input required.

Method(s) of Instruction

- Lecture (02)
- Lab (04)

Instructional Techniques

Instruction methodologies will include, but not necessarily be restricted to the following: 1. Detailed multimedia/lectures of each topic covered. 2. Student feedback during each lecture. 3. Detailed illustrative discussion of textbook examples. 4. Concentration on schematic reading and system operation fault diagnosis. 5 Practical troubleshooting. 6. Laboratory exercises pertaining to subjects discussed during which students work individually or in small groups.

Reading Assignments

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Writing Assignments

Student must show proficiency in writing logbook entries using correct punctuation, sentence structure and readability.

Out-of-class Assignments

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Demonstration of Critical Thinking

Interview, list, multiple choice exams, and short answer.

Required Writing, Problem Solving, Skills Demonstration

Student must show proficiency in writing logbook entries using correct punctuation, sentence structure and readability.

Textbooks Resources

1. Required interAct. Eddy Current Inspections, 1st ed. Irvine, CA: Integrated Logistical International, 0 Rationale: - 2. Required interAct. Ultrasonic Inspections, 1st ed. Irvine, CA: Integrated Logistical International, 0 Rationale: - 3. Required Jeppesen. AC43.13-1B2A, Acceptable Methods, Techniques, and Practices-Aircraft Inspection and Repair, ed. Superintendent of Documents; U.S. Government Printing Office, 2001 Rationale: latest 4. Required Jeppesen. AP Technician ? GENERAL? Textbook, ed. Englewood: Jeppesen Sanderson, 2000 Rationale: latest 5. Required Jeppesen. AP Technician ?GENERAL? Study Guide, ed. Englewood: Jeppesen Sanderson, 2007 6. Required Jeppesen. AP Technician ?AIRFRAME? Study Guide, ed. Englewood: Jeppesen Sanderson, 2007 7. Required Jeppesen. AP Technician ?POWERPLANT? Study Guide, ed. Englewood: Jeppesen Sanderson, 2007 8. Required Kroes, Michael J., and James R. Rardon. Aircraft Basic Science, 8th ed. New York: Glencoe/McGraw-Hill, 1993 Rationale: latest