

Cape Cod Community College AMTS

Curriculum Subject Guide for AMT 265 Powerplant Curriculum, Subject Items 17 – 19b

Part 147, Appendix D, Part 2, Subject E – Ignition & Starting Systems

Subject: Ignition & Starting Systems

Item 17. Overhaul magneto and ignition harness. (Level 2)

T – 17.0 Hrs / L – 27.5 Hrs

Item 18. Inspect, service, troubleshoot, and repair reciprocating and turbine engine ignition systems and components. (Level 2)

T – 10.0 Hrs / L – 12 Hrs

Item 19.a. Inspect, service, troubleshoot, and repair turbine engine electrical starting systems. (Level 3)

T – 3.0 Hrs / L – 4.0 Hrs 19.b. Inspect, service, and troubleshoot turbine engine pneumatic starting systems. (Level 1)

T – 4.0 Hrs / L – 0.0 Hrs

Classroom time: 34.0 hours

Lab or shop time: 43.5 hours

Test time: 2.5 hours

Total Time: 80 hours

Teaching Level 1, 2, 3

Project 1

Item 17 – 12.0 Hrs

Project 4

Item 18 – 6.0 Hrs

Theory Test 1

0.3 Hrs

Project 2

Item 17 – 9.5 Hrs

Project 5

Item 18 – 6.0 Hrs

Theory Test 2

0.3 Hrs

Project 3

Item 17 – 6.0 Hrs

Project 6

Item 19.a – 4.0

Practical Test

1.9 Hrs

Prerequisite(s)

(1) All General curriculum subjects (Part 147 Appendix B)

(2) Powerplant Theory and Maintenance (Part 147 Appendix D, I)

Course Interruptions: All interruptions or changes in course sequence will be in accordance with the Order of Instruction policy, located in Cape Cod Community College's Operations Manual, page 51.

Item 17:

Student Performance Goal(s)

Given: Cessna 402C and Maintenance and Parts Manuals; Piper Comanche 250 and Service and Parts Manuals; Piper Colt and Service and Parts Manuals; AeroTrain AE-30-320 Engine Training Aid; necessary tools & test equipment

Performance: The student will overhaul Teledyne Continental (Slick) and Champion Aerospace (Bendix) Magnetos and an Ignition Harness. The Magnetos will also be installed on a Magneto Test Stand and an aircraft or operating engine Training Aid to check their performance.

Standard: The overhaul, testing, and operations of the Magnetos and Harness will be 100% to manufacturer's specifications and the student must also pass the Theory and Practical Tests with at least a 70% grade.

Item 18:

Student Performance Goal(s)

Given: Cessna 402C and Maintenance and Parts Manuals; Piper Comanche 250 and Service and Parts Manuals; Piper Colt and Service and Parts Manuals; Pratt & Whitney PT6A-20 and Maintenance and Parts manuals; International Aero Engines V-2500-A1 and Installation and Operations Manual

Performance: The student will remove, clean, test, and reinstall 2 spark plugs in an assigned engine and answer troubleshooting questions relating to reciprocating engine ignition systems and components. The student will also inspect and repair turbine engine ignition systems and components and answer troubleshooting questions in that area.

Standard: The spark plugs will be processed with 100% adherence to manufacturer's and FAA standards, the turbine ignition systems will be inspected and repaired as per the manufacturer's and FAA standards, and the all troubleshooting questions will be answered as per the manufacturer's manuals. In addition, the student must also pass the Theory and Practical Tests with at least a 70% grade.

Item 19a:

Student Performance Goal(s)

Given: Pratt & Whitney PT6A-20 and Maintenance and Parts manuals

Performance: The student will be required to inspect, service, and repair the given turbine engine's starting system and answer troubleshooting questions in that area.

Standard: The inspection, servicing, and repair will be as per the manufacturer's information. The troubleshooting questions will also be answered as per the manufacturer's information. In addition, the student must also pass the Theory and Practical Tests with at least a 70% grade.

Item 19b:

Student Performance Goal(s)

Given: Computer with internet access and class textbook

Performance: The student will research and write a 1 page explanation of how to inspect, service, and troubleshoot turbine engine pneumatic starting systems.

Standard: The student must complete the paper and also pass the Theory and Practical Tests with at least a 70% grade.

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