Cape Cod Community College AMTS

Curriculum Subject Guide for AMT 227 Airframe Curriculum, Subject Items 48 – 50.b

Part 147, Appendix C, Part 2, Subject G – Aircraft Electrical Systems

Subject: Aircraft Electrical Systems

Item 48. Repair and inspect aircraft electrical system components; crimp and splice wiring to manufacturers' specifications; and repair pins and sockets of aircraft connectors (Level 2)
T – 12.5 Hrs / L – 12 Hrs
Item 49. Install, check, and service airframe electrical wiring, controls, switches, indicators, and protective devices (Level 3)
T – 17.5 Hrs / 25.5 Hrs
Item 50.a. Inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems (Level 3)
T – 9.25 Hrs / L – 19.5 Hrs
Item 50.b. Inspect, check, and troubleshoot constant speed and integrated speed drive generators (Level 1)
T – 9.25 Hrs / L – 0.0 Hrs

Classroom time: 48.5 hours

Lab or shop time: 57 hours

Test time: 4.5 hours

Total Time: 110 hours

Teaching Level 1, 2, and 3

Project 1 Item 48 – 4 Hrs	**Project 2** Item 48 – 8 Hrs	**Project 3A, 3B, & 3C** Item 49 – 25.5 Hrs
Project 4 Item 50.a – 10 Hrs	**Project 5** Item 50.a – 9.5 Hrs	**Theory Test 1** 0.25 Hrs
Theory Test 2 0.25 Hrs	**Practical Test 1** 4.0 Hrs	

(1) Satisfactory completion of General Curriculum Module

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 17.

Item 48:

Student Performance Goal(s)

Given: 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31), Chapter 9. AC 43.13-1B. NIDA Corporation Model 130E Trainer User's Guide. http://nida/nidaile/portal.aspx

Performance: The student will repair and inspect aircraft electrical system components; crimp and splice wiring to manufactures' specifications; and repair pins and sockets of aircraft connectors by reviewing the DC Generation slides 4020-4130 and experiments 4140-4300 of the NIDA trainer. The students will also install and remove pins from an electrical connector (MS3116F8-4S0 and fabricate new wiring and pins to insert into electrical connector. The students will fabricate a butt-splice.

Standard: All work will be done in accordance with 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 9 and the NIDA Training System.

Item 49:

Student Performance Goal(s)

Given: 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31), Chapter 9. Aero Train Model AS-12 Fuel Injection System Operation and Training Manual. Aero Train Model AS-11 Aircraft Fuel System Training Manual. Aero Train Model AS-03 Hydraulic Landing Gear System Training Manual.

Performance: The student will install, check, and service airframe electrical wiring, controls, switches, and protective devices on the AeroTrain AS-12 Fuel Injection System, Aircraft Fuel System Trainer, and the Hydraulic Landing Gear System Trainer.

Standard: All work will be done in accordance with 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 9 and the AeroTrain AS-03, AS-11, and AS-12 System Trainer Manuals.

Item 50.a:

Student Performance Goal(s)

Given: 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31), Chapter 9. NIDA Corporation Model 130E Trainer User's Guide. http://nida/nidaile/portal.aspx

Performance: The student will inspect, check, troubleshoot, service, and repair alternating and direct current electrical systems using the NIDA Training System and NIDA Experiment Card PC130-84B. The student will review Relay Operation slides 10-440 and Aircraft AC Generation Systems slides 3020-3291 and conduct experiments 13001-14050 of the NIDA Trainer.

Standard: All work will be done in accordance with 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31) Chapter 9 and the NIDA Training System.

Item 50.b:

Student Performance Goal(s)

Given: 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – Airframe, Volume 1 (FAA-H-8083-31), Chapter 9.

Performance: The student will read and interpret the Aircraft Electrical Systems chapter in the AMT Handbook and complete classroom course with instructor guidance. The student will answer questions in regard to the inspection, checking, and troubleshooting of constant speed and integrated speed drive generators.

Standard: The student will identify and understand the Aircraft Electrical Systems lesson and score a passing grade on course quiz.

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