

Cape Cod Community College AMTS

Practical Project Guide for AMT 111 General Curriculum, Subject Item 20

Part 147, Appendix B, Subject B. Ground Operation and Servicing

Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

Project 1A & 1B

Purpose: The student with the proper procedures will operate an aircraft engine and identify the hazards of aircraft operations.

References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Cessna 402C
- (3) Pilots Operating Handbook Piper PA-24-250

Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Piper PA-24-250

Supplies and Materials Needed:

- (1) Personal Protection Equipment (PPE)

Procedure:

Complete following procedure on project 1A or 1B

- (1) Properly complete ground operations, including moving of the aircraft, with the following steps on the reciprocating engine:
 - a. Start
 - b. Run-up
 - c. Monitor engine parameters
 - d. Shut down
 - e. Check aircraft fuel levels and service appropriately, properly selecting correct grade of fuel
 - f. Secure aircraft in hangar
- (2) Identify typical aircraft ground operations hazards.

- a. Hearing protection
 - b. Foreign Object damage (FOD)
 - c. Safety Areas
 - d. Safety equipment used
- (3) Demonstrate to the instructor the following hand signals to use when directing the operator of an aircraft:
- a. Start engine number one.
 - b. Move the aircraft ahead.
 - c. Stop the aircraft.
 - d. Emergency stop the aircraft.
 - e. Shut the engine down.

Project 1A Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Cessna 402C
 - a. Section 4, Normal Procedures

Project 1B Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Piper PA-24-250
 - a. Starting Checklist

Cape Cod Community College AMTS

Practical Project Guide for AMT 111 General Curriculum, Subject Item 21

Part 147, Appendix B, Subject B. Ground Operation and Servicing

Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

Item 21. Identify and select fuels (Level 2)

Project 2A & 2B

Purpose: The student with the proper procedures will drain a sample of fuel from an aircraft fuel system. Check the fuel for the presence of water and identify the grade of the fuel.

References:

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Cessna 402C
- (3) Pilots Operating Handbook Piper PA-24-250

Equipment and Tools Needed:

- (1) Cessna 402C
- (2) Piper PA-24-250
- (3) Fuel sample jar
- (4) Plastic funnel with tool end

Supplies and Materials Needed:

- (1) Personal Protection Equipment (PPE)

Procedure:

Complete following procedure on project 2A or 2B

- (1) Properly complete ground operations, including moving of the aircraft, with the following steps on the reciprocating engine:
 - a. Start
 - b. Run-up
 - c. Monitor engine parameters
 - d. Shut down

- (2) Identify typical aircraft ground operations hazards.
 - a. Hearing protection
 - b. Foreign Object damage (FOD)
 - c. Safety Areas
 - d. Safety equipment use
- (3) Demonstrate to the instructor the correct procedures to use when draining fuel from an aircraft fuel tank.
 - a. Secure aircraft in hangar
 - b. Aircraft fuel draining equipment
 - c. Check the fuel for the presence of water and identify the grade of the fuel
 - d. Check aircraft fuel levels and service appropriately, properly selecting correct grade of fuel
 - e. Safety precautions and equipment exercised
 - f. Storage of excess aircraft fuel

Project 2A Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

Item 21. Identify and select fuels (Level 2)

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Cessna 402C
 - a. Section 4, Normal Procedures

Project 2B Item 20: Start, ground operate, move, service, and secure aircraft and identify typical ground operation hazards (Level 2)

Item 21. Identify and select fuels (Level 2)

- (1) 14 CFR Federal Aviation Regulations for Aviation Maintenance Technicians, Aviation Maintenance Technician Handbook – General, Volume 1 (FAA-H-8083-30), Chapter 11
- (2) Pilots Operating Handbook Piper PA-24-250
 - a. Starting Checklist

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

This work is licensed under a Creative Commons Attribution 4.0 International License.

