Cape Cod Community College AMTS

Practical Project Guide for AMT 269 Powerplant Curriculum, Subject Item 24-25 Part 147, Appendix D, Part 2, Subject G – Engine Fuel Systems

Item 24. **Repair engine fuel system components.** (Level 2)

Item 25. **Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3)

**Project 1A & 1B & 1C & 1D & 1E**

Purpose: To acquaint the student with the proper procedures of inspecting, checking, servicing, and repairing engine fuel systems and their components.

References:

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition),

Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter 2

1. Piper Colt Flight and Parts Manuals
2. Lycoming Direct Drive Overhaul Manual
3. Piper Comanche 250 (PA-24) Service Manual
4. Piper Comanche 250 (PA-24) Parts Catalog
5. Lycoming O-540 Engine Service Manual
6. Cessna 402C Service Manual and Parts Manual
7. Continental TSIO-520 Engine Service Manual
8. AeroTrain AE-30-320 Operation Manual
9. AeroTrain AE-30-520 Operation Manual
10. O-320 Illustrated Parts Manual Equipment and Tools Needed:
11. Piper Colt (PA 22)
12. Piper Comanche 250 (PA 24)
13. Cessna 402C
14. AeroTrain AE-30-320 O-320 Operational Training Aid
15. AeroTrain AE-30-520 TSIO-520 Operational Training Aid
16. AMT Roll-Around Toolbox
17. Computer workstation with internet access.

Supplies and Materials Needed:

1. None

Procedure:

**Complete following procedure on the assigned project 1A or 1B or 1C or 1D or 1E**

* 1. Remove the cowling and inspect the assigned engine fuel system and list all discrepancies noted.
  2. Repair the discrepancies as authorized by the Instructor.
  3. Turn off the fuel flow and remove, inspect, clean, and reinstall the engine fuel metering device’s inlet strainer/filter.
  4. Turn on the fuel flow, operate the engine fuel boost pump (if installed), and verify that there are no fuel leaks in the system.
  5. Reinstall all cowling removed.
  6. Complete maintenance record entries.

**Project 1A** Item 24. **Repair engine fuel system components.** (Level 2) and Item 25.

**Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3)

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter2Piper Colt (PA 22)
2. Piper Colt Flight and Parts Manuals
3. Lycoming Direct Drive Overhaul Manual

**Project 1B** Item 24. **Repair engine fuel system components.** (Level 2) and Item 25.

**Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3)

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)

Chapter2 Piper Comanche 250 (PA-24) Service Manual

1. Piper Comanche 250 (PA-24) Parts Catalog
2. Lycoming O-540 Engine Service Manual

**Project 1C** Item 24. **Repair engine fuel system components.** (Level 2) and Item 25.

**Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3)

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)

Chapter2 Cessna 402C Service Manual and Parts Manual

1. Continental TSIO-520 Engine Service Manual

**Project 1D** Item 24. **Repair engine fuel system components.** (Level 2) and Item 25.

**Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3)

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32)

Chapter2

1. AeroTrain AE-30-320 O-320 Operational Training Aid
2. AeroTrain AE-30-320 Operation Manual
3. O-320 Illustrated Parts Manual

**Project 1E** Item 24. **Repair engine fuel system components.** (Level 2) and Item 25.

**Inspect, check, service**, troubleshoot, **and repair engine fuel systems.** (Level 3).

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition),

Aviation Maintenance Technician Handbook – Powerplant, Volume 1 (FAA-H-8083-32) Chapter

1. TSIO-520 Test Stand (AeroTrain AE-30-520 Training Aid)
2. AeroTrain AE-30-520 Operations Manual
3. Continental TSIO-520 Engine Service Manual

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Item 25. Inspect, check, service, **troubleshoot,** and repair engine fuel systems. (Level 3)

**Project 2**

Purpose: To acquaint the student with the proper procedures of troubleshooting engine fuel systems. References:

1. 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant,

Volume 1 (FAA-H-8083-32) Chapter 2

1. AeroTrain AS-11 Fuel System Trainer Operation/Training Manual Equipment and Tools Needed:
2. AeroTrain AS-11 Fuel System Trainer
3. AMT Roll-Around Toolbox
4. Computer workstation with internet access.
5. Multimeter

Supplies and Materials Needed:

1. None Procedure:

**Complete following procedure on the assigned project 2**

* 1. Operate the Trainer as per the manufacturer’s Operation/Training Manual.
  2. Troubleshoot the Instructor-induced problem.
  3. Discuss with the Instructor how you found the problem and what the proper repair would be.
  4. Complete maintenance record entries.

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