

Cape Cod Community College AMTS

Practical Project Guide for AMT 273 Powerplant Curriculum, Subject Item 29-30

Part 147, Appendix D, Part 2 - Subject 1 – Engine Cooling Systems

Item 29. Repair engine cooling system components. (Level 2)

Item 30. Inspect, check, troubleshoot, service, and repair engine cooling systems. (Level 3)

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

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

References:

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 2 (FAA-H-8083-32) Chapter 6
- (2) Piper Colt (PA-22) Flight and Parts Manuals
- (3) Piper Comanche 250 (PA-24) Service Manual
- (4) Piper Comanche 250 (PA-24) Parts Catalog
- (5) Cessna 402C Service Manual and Parts Manual
- (6) AeroTrain AE-30-320 Operation Manual
- (7) AeroTrain AE-30-520 Operation Manual
- (8) Lycoming O-540 Engine Service Manual
- (9) Continental TSIO-520 Engine Service Manual
- (10) Lycoming Direct Drive Overhaul Manual

Equipment and Tools Needed:

- (1) Piper Colt (PA-22)
- (2) Piper Comanche 250 (PA 24)
- (3) Cessna 402C
- (4) AeroTrain AE-30-320 O-320 Operational Engine Trainer
- (5) AeroTrain AE-30-520 TSIO-520 Operational Engine Trainer
- (6) AeroTrain AE-25-520 Engine Removal Trainer
- (7) AMT Roll-Around Toolbox
- (8) 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 1F**

- (1) Remove engine cowling to gain access to the engine cooling system.
- (2) Inspect the system for visual defects (including the cowling) and list all discrepancies.
- (3) Carefully inspect the cylinder cooling fins and list any discrepancies found.
- (4) Show the Instructor all discrepancies found and explain any necessary repairs.
- (5) Replace or repair any missing or damaged components or parts as authorized by the Instructor.
- (6) Check the operation and rigging of the cowl flaps (if installed on your assigned aircraft) and repair as necessary.
- (7) Reinstall the removed cowling.
- (8) Complete maintenance record entries.

**Project 1A** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling systems. (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 2 (FAA-H-8083-32) Chapter 6
- (2) Piper Colt (PA-22) Flight and Parts Manuals
- (3) Lycoming Direct Drive Overhaul Manual

**Project 1B** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling systems. (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 2 (FAA-H-8083-32) Chapter 6
- (2) Piper Comanche 250 (PA-24) Service Manual
- (3) Piper Comanche 250 (PA-24) Parts Catalog
- (4) Lycoming O-540 Engine Service Manual

**Project 1C** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling systems. (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 2 (FAA-H-8083-32) Chapter 6
- (2) Cessna 402C Service Manual and Parts Manual
- (3) Continental TSIO-520 Engine Service Manual

**Project 1D** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling systems. (Level 3)

- (1) 14 CFR, Federal Aviation Regulations for Aviation Maintenance Technicians (Current Edition), Aviation Maintenance Technician Handbook – Powerplant, Volume 2 (FAA-H-8083-32) Chapter 6
- (2) AeroTrain AE-30-320 O-320 Operational Engine Trainer
- (3) AeroTrain AE-30-320 Operation Manual
- (4) Lycoming Direct Drive Overhaul Manual

**Project 1E** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling 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 2 & Volume 2 Chapters 6 & 10
- (2) TSIO-520 Test Stand (AeroTrain AE-30-520 Training Aid)
- (3) AeroTrain AE-30-520 Operations Manual
- (4) Continental TSIO-520 Engine Service Manual

**Project 1F** Item 29. Repair engine cooling system components. (Level 2) and Item 30. Inspect, check, troubleshoot, service, and repair engine cooling 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 2 & Volume 2 Chapters 6 & 10
- (2) AeroTrain AE-25-520 Engine Removal Training Aid
- (3) Continental TSIO-520 Engine Service Manual

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