

Aviation Technology- Maintenance  
Standard Course Outline

AVTP 1021 - ENGINE LUBRICATION SYSTEMS/COOLING SYSTEMS

Catalog Description: Lubrication and cooling systems. Students learn to identify and select aircraft lubricants. Projects include adjustment of oil pressure and inspection of oil pumps.

Clock hours: 18 lecture, 18 shop

Prerequisite: AVTG 1001

Credit hours/ Contact hours/ Load hours: 1/36/6 hours per day for 6 days

Target Audience & Transferability:

This course is designed for students seeking a Technical Certificate in Powerplant or, when combined with General and Airframe, an AAS in Aviation Maintenance Technology, or an AS in Aviation Maintenance Management. Individual AVT courses or Certificates may be transferable to other FAA Certified Aviation Maintenance Technician schools under Federal Regulations.

Student Outcomes/ Course Topics:

REFERENCES: AC 65-12A; AP.

FAA Standard: *FAA-S-8081-28* 5-9, Change 2 (9/24/2003)

**By the end of the course, students will:**

1. Exhibit knowledge of at least two of the following—
  - a. required inspection on an engine cooling system.
  - b. operation of cowl flaps, and how cooling is accomplished.
  - c. how turbine engine cooling is accomplished.
  - d. cooling of engine bearings and other parts on turbine engines.
  - e. the importance of proper engine baffle and seal installation.
  - f. the operation of a heat exchanger.
  - g. the function and operation of an augmentor cooling system.
  - h. rotorcraft engine cooling systems.
2. N/A
3. Demonstrate the ability to perform at least one of the following—
  - a. inspect an engine cooling system. (Level 3)
  - b. check cowl flap operation and inspect rigging. (Level 3)
  - c. repair one or more cylinder cooling fins. (Level 3)
  - d. repair an engine pressure baffle plate. (Level 3)
  - e. inspect a heat exchanger. (Level 3)
  - f. troubleshoot an engine cooling system. (Level 3)
  - g. locate and identify rotorcraft cooling system components. (Level 2)

Required Text(s):

Powerplant Textbook (ASA)	ISBN # 1-56027-547-2
Powerplant Test Study Guide (ASA)	ISBN # 1-56027-572-3
FAR Handbook for AMT (ASA)	ISBN # 1-56027-563-4
AC43.13-1B Acceptable Methods, Practices, & Techniques (ASA)	ISBN # 1-56027-488-3

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Optional Text(s):

Technician Powerplant Textbook (Jeppesen)	ISBN # 0-88487-207-6
Technician Powerplant Workbook (Jeppesen)	ISBN # 0-88487-243-2
AC65-12A Aircraft Mechanics Handbook Powerplant (FAA)	ISBN # 1-56027-024-1

Supporting Reference(s)

O&P Study Guide (ASA)	ISBN # 1-56027-406-9
Maintenance Handbook (ASA)	ISBN # 1-56027-518-9
Dictionary of Aeronautical Terms (ASA)	ISBN # 1-56027-587-2

The workbooks and test study guides may be used to aid the instructor and students to reinforce the textbook information. Other Textbooks may be issued depending upon availability.

Required Methods of Instruction:

Classes are taught off-campus in a full time day or night format, requiring maximum attendance. Attendance is taken every hour. Missed time must be made up outside of regular scheduled class time before moving to the next subject.

Required Forms of Assessment:

Periodic exams will be performed by FAA approved instructors as required to insure progress. Students must pass this course with a 70% or better to qualify for an FAA approved Certificate of Completion in the Power-plant Section.