

Aviation Technology- Maintenance  
Standard Course Outline

AVTP 1041 - ENGINE INSTRUMENT SYSTEMS

Catalog Description: Removal, installation and inspection of reciprocating and turbine engine instruments. Clock hours: 12 lecture, 12 shop

Prerequisite: AVTG 1001

Credit hours/ Contact hours/ Load hours:1/24/6 hours per day for 4 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.

Course Topics/ Student Outcomes:

REFERENCES: AGTP; AC 65-15A.

FAA Standard: *FAA-S-8081-28* 5-1, Change 2 (9/24/2003)

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

1. Exhibit knowledge of at least two of the following—
  - a. troubleshoot a fuel flow and/or low fuel pressure indicating system.
  - b. the operation of a fuel flow indicating system and where it is connected to the engine.
  - c. the operation of a temperature indicating system.
  - d. the operation of a pressure indicating system.
  - e. the operation of an RPM indicating system.
  - f. required checks to verify proper operation of a temperature indicating system.
  - g. required checks to verify proper operation of a pressure indicating system.
  - h. required checks to verify proper operation of an RPM indicating system.
  - i. the operation of a manifold pressure gage and where it actually connects to an engine.
2. \*Demonstrate the ability to: perform inspection of engine electrical and/or mechanical instrument systems to include at least one of the following (Level 3)—
  - a. temperature.
  - b. pressure.
  - c. RPM.
  - d. rate of flow.

\*Core competency element
3. Demonstrate the ability to perform at least one of the following—
  - a. verify proper operation and marking of an indicating system. (Level 2)
  - b. replace a temperature sending unit. (Level 3)
  - c. remove, inspect, and install fuel flow transmitter. (Level 3)
  - d. troubleshoot an oil pressure indicating system. (Level 3)
  - e. locate and inspect fuel flow components on an engine. (Level 2)
  - f. replace an exhaust gas temperature (EGT) indication probe. (Level 3)
  - g. troubleshoot a manifold pressure gage that is slow to indicate the correct reading. (Level 2)

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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

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.