



Australian Government

**Assessment Requirements for
MEAAVI0049 Inspect, test and
troubleshoot full authority digital engine
control systems**

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Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA279 Inspect, test and troubleshoot full authority digital engine control systems.

Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- perform inspection, testing and troubleshooting on full authority digital engine control systems during scheduled or unscheduled maintenance on the following full authority digital engine control (FADEC) systems and system components:
 - computers
 - sensors
 - interfaces
 - cockpit controls
 - data cables
 - wiring looms that comprise the electronic control system
- use test sets to download maintenance data from the FADEC system and interpret the data for the systems and components being maintained
- identify or locate airframe and engine, including propeller- or rotor-mounted FADEC system components for the systems and components being maintained
- recognise system and component defects, external damage, correct/incorrect installation, connection of plugs, terminations, attachment hardware (including cabling/harnesses) and security in airframe and engine-mounted FADEC system components for the systems and components being maintained
- perform function testing by applying logic processes, using test equipment and appropriate wiring diagrams and manuals to isolate FADEC system malfunctions and used built-in test features to confirm post-maintenance serviceability
- apply testing procedures, cleanliness requirements and safety precautions at all times, and as relevant to the system/s being maintained, including safe handling of electrostatic sensitive devices.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- component attachment methods
- connection of hardware and plugs

- digital electronic theory
- open and closed loop control
- the basic layout (block diagram level), function and operation of FADEC systems
- architecture of FADEC system computers, software and software management
- operation of sensors that input data to FADEC system computers
- built-in test system operation and downloading and interpretation of system data
- work health and safety (WHS) requirements for FADEC systems
- relevant regulatory requirements and standard procedures, including software management control
- maintenance requirements and troubleshooting procedures
- maintenance manuals for FADEC systems.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in inspecting, testing and troubleshooting FADEC systems and components:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to inspecting, testing and troubleshooting FADEC systems and components
 - tools and equipment specified in maintenance documentation
 - general-purpose tools and test equipment found in most routine.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>