



Australian Government

MEAAVI0050 Inspect, test and troubleshoot flight management systems and components

Release: 1

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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 MEA280 Inspect, test and troubleshoot flight management systems and components.

Application

This unit describes the skills and knowledge required to apply hand skills and use system and component knowledge, maintenance publications and test equipment to inspect, test and troubleshoot flight management systems and components. Work may be performed individually or as part of a team.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MEA246 Fabricate and/or repair aircraft electrical hardware or parts

MEA293 Remove and install aircraft electronic system components

Competency Field

Aviation maintenance

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Inspect flight management systems and components	1.1 Identify specific inspection requirements using maintenance documentation and modification status, including relevant system defect reports 1.2 Check isolation tags and configure aircraft for safe system inspection and operation in accordance with maintenance manual while observing all relevant work health and safety (WHS) requirements 1.3 Visually or physically check flight management system components

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	for external signs of defects in accordance with maintenance manual 1.4 Identify and report defects in accordance with standard enterprise procedures
2. Test flight management systems and components	2.1 Prepare aircraft and system for the application of power or system operation in accordance with maintenance manual 2.2 Perform functional testing on flight management system for evidence of serviceability or malfunction in accordance with maintenance manual
3. Troubleshoot flight management systems	3.1 Use available information from maintenance documentation, inspection and test results to assist in fault determination of identified fault 3.2 Troubleshoot flight management systems to line replacement level using maintenance manual fault diagnosis guides and logic processes, test sets, downloaded maintenance data and fault-finding charts or similar 3.3 Obtain required specialist or supervisory advice to assist with the troubleshooting process 3.4 Locate flight management system faults and identify and record causes of faults in required maintenance documentation in accordance with standard enterprise procedures 3.5 Determine requirements for rectification of faults.

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret maintenance manuals, inspection procedures and specifications (allowable limits).
- Writing skills to record and report on defects and faults and their causes.
- Numeracy skills to interpret and communicate technical information, take and interpret system and instrument measurements and readings, and interpret data from test sets.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA280 Inspect, test and troubleshoot flight management systems and components.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEAAVI0050 Inspect, test and troubleshoot flight management systems and components

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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 of flight management systems and components during scheduled or unscheduled maintenance on a system and on at least one major system component of each of the following:
 - flight management computer
 - control display unit
 - database unit
 - GPS sensor (may be omitted if not applicable to enterprise)
 - GPS antenna (may be omitted if not applicable to enterprise).
- recognise system and component defects, external damage, correct/incorrect installation, connection of plugs, terminations, and attachment hardware (including cabling or harnesses) for the system components being maintained
- perform functional testing by applying logic processes and using appropriate wiring diagrams and manuals to isolate flight management system malfunctions and assess post-maintenance serviceability
- apply testing procedures, cleanliness requirements and safety precautions at all times, and as relevant to the system/s being maintained.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- standard trade practices relating to tool and test equipment usage and installation or securing of system components
- electrical principles and digital electronic theory
- the basic layout (block diagram level) of flight management systems
- the operating principles of flight management computers, control display units and database units, including the interface with flight control, engine control and navigation systems
- the interface with Aircraft Communication Addressing and Reporting System and relevant Aeronautical Radio Incorporated (ARINC) specifications (avionics data bus)

- the operation of integral GPS sensors
- work health and safety (WHS) procedures for flight management systems and components
- maintenance manuals for flight management systems and components
- relevant regulatory requirements and standard procedures, including software management control
- maintenance requirements and troubleshooting procedures.

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 flight management systems and components. The following conditions must be met for this unit:

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

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.

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