Australian Government

Assessment Requirements for MEA280 Inspect, test and troubleshoot flight management systems and components

Release: 2

Assessment Requirements for MEA280 Inspect, test and troubleshoot flight management systems and components

Modification History

Release 2. Equivalent to MEA280 Inspect, test and troubleshoot flight management systems and components with amended prerequisite codes.

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- using hand skills, tools and test equipment in the testing and troubleshooting of flight management systems
- recognising system and component defects/external damage, correct installation, connection of plugs, terminations, attaching hardware (including cabling/harnesses) for the system components listed in the Range of Conditions
- interpreting the information presented on control display units
- applying logic processes and using appropriate wiring diagrams and manuals to isolate flight management system malfunctions
- performing system functional tests and checks to isolate system faults and assess post-maintenance serviceability
- effectively using maintenance documentation and relevant fault diagnosis guides in the troubleshooting process
- applying standard procedures
- observing all relevant WHS procedures.

It is essential that system testing procedures, cleanliness requirements and safety precautions applicable to the flight management system being maintained are fully observed, understood and complied with. Ability to interpret inspection procedures and specifications (allowable limits) and apply them in practice across a range of inspection, testing and troubleshooting applications (including the timely involvement of supervisors or other trades) is critical.

This may be demonstrated through application across the components of a flight management system as listed in the Assessment Conditions.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- standard trade practices relating to tool and test equipment usage and installation/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 (avionic data bus)
- the operation of integral GPS sensors
- WHS procedures relating to flight management systems and components
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures, including software management control
- maintenance requirements and troubleshooting procedures.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in maintenance documentation. It is also expected that general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- The application of testing procedures should clearly indicate knowledge of system operation, the relationship of individual components and the links with other systems within the limits of the aircraft/system fault-finding guide before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards, including software management control.
- Where the flight management system includes integral GPS, consideration may be given to concurrent assessment of MEA234 Inspect, test and troubleshoot aircraft global navigation systems and components.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of this unit of competency are being achieved under routine supervision on a system and on at least one (1) major system component of each of:
  - 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).
- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371