



Australian Government

Assessment Requirements for MEA289 Maintain basic light aircraft avionic systems and components

Release: 1

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Modification History

Release 1 - New unit of competency

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:

- applying relevant WHS practices
- using approved maintenance documentation and aircraft publications relating to the avionic system being maintained
- locating and identifying avionic system components comprising:
 - VHF communications systems
 - VOR and ADF navigation systems
 - basic audio systems
 - stand-alone GNS systems
 - ATC transponders
 - ADS-B
 - ELT systems
- locating and identifying applicable antennas
- recognising system and component defects/external damage, correct installation, attaching hardware (including cabling/harnesses/transmission lines) and security in the systems listed above
- applying logic processes, taking and interpreting system measurements to accurately and effectively isolate malfunctions within the above systems
- testing listed systems to isolate system faults and assess post-maintenance serviceability.

It is essential that system testing procedures, cleanliness requirements and safety precautions applicable to the avionic 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. Evidence of transferability of skills and knowledge related to inspection, testing and troubleshooting and component removal and installation is essential. This is to be demonstrated through application across a range of avionic systems and components as specified 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:

- component attachment methods
- connection of hardware, and plugs
- handling precautions for electrostatic sensitive devices
- the basic layout (block diagram level), function and operation of:
 - VHF communications systems
 - VOR and ADF navigation systems
 - basic audio systems
 - stand-alone GPS systems

- ATC transponders
- ADS-B
- ELT systems
- basic principles/functions, relating to the above systems and associated with:
 - electromagnetic radiation and propagation
 - basic AC and DC circuit theory
 - printed circuit boards
 - digital fundamentals
 - analogue fundamentals
 - transmitter and receiver principles
 - pulse
 - antenna characteristics
 - transmission line characteristics
 - fibre optic communications
- maintenance requirements and troubleshooting procedures
- applicable maintenance data and manuals
- relevant WHS practices
- relevant regulatory requirements and standard 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 applicable 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 (if applicable) 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.
- 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 the unit of competency are being achieved under routine supervision on each of the following systems and on at least one (1) major component/line replaceable unit (LRU) in each case:
 - VHF communication
 - basic audio systems, such as intercom and audio selection
 - ADF
 - VOR
 - stand-alone GPS
 - ATC transponder
 - ADS-B
 - ELT.
- Component removal and installation competencies are to be demonstrated on at least one (1) component from each of:
 - transmitters and receivers
 - antennas and antenna cables
 - control boxes and frequency selectors
 - speakers
 - switches.
- 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>