



Australian Government

**Assessment Requirements for MEA297
Maintain basic avionic systems and
components**

Release: 1

Assessment Requirements for MEA297 Maintain basic avionic systems and components

Modification History

Release 1. Equivalent to MEA289 Maintain basic light aircraft avionic systems and components. Code changes due to changed titles.

Performance Evidence

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

- locate and identify avionic system components comprising:
 - very high frequency (VHF) communications system
 - very high frequency omni-range (VOR) radio navigation system
 - basic audio system, such as intercom and audio selection
 - stand-alone global navigation system (GNS)
 - air traffic control (ATC) transponder
 - automatic dependent surveillance-broadcast (ADS-B)
 - emergency locator transmitter (ELT) system
 - automatic direction finding (ADF) navigation system, which may be omitted if not relevant to the organisation
- remove and install at least one from each of the following basic avionic system components:
 - transmitters and receivers
 - antennas and antenna cables
 - control boxes and frequency selectors
 - speakers
 - switches.

In the course of the above work, the candidate must:

- use approved maintenance documentation and aircraft publications relating to the avionic system being maintained
- interpret inspection procedures and specifications (allowable limits) and apply them in practice across a range of inspection, testing and troubleshooting applications
- apply required work health and safety (WHS) practices
- locate and identify applicable antennas
- identify system and component defects and external damage, correct installation, attaching hardware (including cabling, harnesses and transmission lines), and security in the systems listed above

- apply logic processes, taking and interpreting system measurements to accurately and effectively isolate malfunctions within the above systems
- test listed systems to isolate system faults and assess post-maintenance serviceability
- comply with system testing procedures, cleanliness requirements, and safety precautions applicable to avionic system being maintained
- complete and process maintenance documentation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- industry, regulatory and organisational requirements, procedures, practices and methods required for the tasks described in the performance evidence relating to maintaining basic avionic systems and components, including:
 - WHS requirements relating to:
 - checking avionic systems for defects
 - attaching components
 - connecting hardware and plugs
 - handling precautions for electrostatic sensitive devices
 - procedures for:
 - identifying maintenance requirements
 - applying troubleshooting procedures
 - tagging and packaging removed components
 - applying maintenance data
 - completing and processing maintenance documentation
- maintenance manual requirements relating to:
 - rendering systems safe for removal
 - checking isolation tags and configuring aircraft
 - visually and physically checking avionic systems for defects
 - preparing aircraft and systems for power and system operation
 - conducting functionally tests of avionic systems
 - calibrating and adjusting avionic systems
 - fault diagnosis guides
 - removing avionic system components
 - performing physical installation of avionic system components
- 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 and functions relating to 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
- sources of specialist advice to assist with troubleshooting processes of the tasks described in the performance evidence.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (Australian Defence Force [ADF] and Civil Aviation Safety Authority [CASA]) and maintenance stakeholders, and must be rigorously observed.

Competency must be assessed in the work environment, or simulated work environment, using tools and equipment specified in maintenance documentation.

The candidate must have access to general-purpose tools and test equipment required to demonstrate the performance evidence above.

Candidate capability must 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 of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Where the unit is to be used for CASA licensing purposes the assessor must also meet the criteria specified in the Civil Aviation Safety Regulation (CASR) Part 147 Manual of Standards.

Links

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