



**Australian Government**

**Assessment Requirements for MEA214  
Inspect, test and troubleshoot aircraft basic  
communication and radio navigation  
systems and compone**

**Release: 2**

# Assessment Requirements for MEA214 Inspect, test and troubleshoot aircraft basic communication and radio navigation systems and components

## Modification History

Release 2. Equivalent to MEA214 Inspect, test and troubleshoot aircraft basic communication and radio navigation 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:

- applying relevant WHS practices
- using approved maintenance documentation and aircraft publications relating to the radio frequency and communications system being maintained
- recognising system and component defects/external damage, correct installation, attaching hardware (including cabling/harnesses/transmission lines) and security in:
  - HF and VHF communications systems
  - VOR and ADF navigation systems
  - ELT systems
- 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 communication or radio navigation 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 is essential. This is to be demonstrated through application across a range of basic aircraft communication and radio navigation systems and components 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:

- component attachment methods
- the basic layout (block diagram level), function and operation of:
  - HF and VHF communications systems

- VOR and ADF navigation systems
- ELT systems
- communication and radio frequency navigation system maintenance requirements and troubleshooting procedures
- relevant WHS practices
- 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
  - antenna characteristics
  - transmission line characteristics
  - fibre optic communications
- relevant maintenance manuals
- relevant regulatory requirements and standard procedures.

## Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace using tools and equipment specified in the maintenance manuals. It is also expected that general and special purpose tools, and test and ground support equipment 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 a system and at least one (1) major system component/line replaceable unit (LRU) from each of:
  - HF and VHF communications systems
  - ADF and VOR navigation systems
  - ELT systems.
- 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.
- Individuals being assessed who have attained MEA276 Maintain basic aircraft communication and radio navigation systems and components or MEA297 Maintain basic avionic systems and components will have partially met the skill and knowledge requirements and elements/performance criteria for this unit. The Log of Industrial Experience and Achievement records relating to MEA276 Maintain basic aircraft communication and radio navigation systems and components and MEA297 Maintain basic avionic systems and components may be accepted as also meeting the evidence requirements for this unit in the applicable areas.

## Links

Companion Volume implementation guides are found in VETNet -

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