



**Australian Government**

**Assessment Requirements for MEA285  
Repair or overhaul aircraft radio frequency  
communication and navigation system  
components**

**Release: 2**

# **Assessment Requirements for MEA285 Repair or overhaul aircraft radio frequency communication and navigation system components**

## **Modification History**

Release 2. Equivalent to MEA285 Repair or overhaul aircraft radio frequency communication and navigation system 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 repair/overhaul manuals, procedures and processes relating to analogue circuitry
- recognising the serviceability state and repair or overhaul requirements for aircraft RF communication and navigation system components
- applying logic processes, and using test equipment and appropriate wiring diagrams and manuals to isolate component faults
- performing component testing to isolate/confirm component fault and assess post-repair/overhaul serviceability
- correctly aligning components listed above to operate within prescribed specifications.

It is essential that component testing procedures, cleanliness requirements and safety precautions applicable to the system components 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, alignment and troubleshooting applications (including the timely involvement of supervisors or other trades) is critical.

Evidence of transferability of skills and knowledge related to testing, aligning and troubleshooting is essential. This may be demonstrated through application across a representative range of the components from systems 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 and system operation
- the basic function and operation of components of radio frequency communication and navigation systems to enable testing for fault isolation/confirmation, to determine repair or overhaul requirements, and serviceability status post-repair or overhaul

- basic principles/functions relating to radio frequency communication and navigation system components and associated with:
  - advanced analogue fundamentals
  - digital fundamentals
  - AC and DC electrical systems
  - electromagnetic radiation
  - antenna and transmission line (including waveguide) characteristics
  - radio transmission/signal propagation and frequency modulation
  - GPS
- satellite communications (industry specific).

## 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 and special-purpose tools and test equipment would be used where appropriate.
- The application of testing procedures should clearly indicate knowledge of system operation before undertaking any action. Knowledge of system operation and the relationship of individual components will be necessary to supplement evidence of ability to troubleshoot component faults. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards. Use of high precision, high reliability soldering techniques and handling of components, including application of anti-static equipment, must be demonstrated.
- Assessment should be made across a sufficient number of components to establish the ability to apply attained skills and knowledge across the full range of RF components with the aid of applicable maintenance manuals and data.
- 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 representative range of components, applicable to the enterprise, from the following systems:
  - VHF communications
  - HF communications
  - UHF communications
  - satellite communications
  - ELT
  - ARINC Communication Addressing and Reporting System
  - intercommunication and public address
  - ADF navigation
  - VOR navigation
  - ILS

- GPS.
- 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).

## **Links**

Companion Volume implementation guides are found in VETNet -

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