



Australian Government

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

Release: 2

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.

Application

This unit of competency requires application of hand skills, test equipment and knowledge of analogue and digital theory to repair or overhaul radio frequency (RF) components from aircraft communication and navigation systems.

Applications include RF communications and navigation system components from fixed and rotary wing aircraft that are repaired or overhauled in aviation maintenance workshops during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate IV (Component Workshop Maintenance Stream) training pathway.

Repair of circuit boards is covered by MEA262 Modify/repair aircraft component single layer printed circuit boards and MEA263 Modify/repair aircraft component multi-layer printed circuit boards.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation safety Authority (CASA).

Pre-requisite Unit

MEA261 Use electronic test equipment

MEA296 Use electrical test equipment in aviation maintenance activities

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1. Determine requirements
 - 1.1 Communication and navigation system component defect reports (removal tags) or customer order are correctly interpreted and matched by part and serial numbers
 - 1.2 Circuitry is correctly prepared and connected to the applicable test equipment and is functionally tested or cycled through the prescribed test procedures in accordance with the maintenance documentation for evidence of serviceability or malfunction
 - 1.3 Modification status is clearly established to assist in determining the overhaul requirements for the components
 - 1.4 Extent of overhaul or repair is correctly identified and documented
2. Troubleshoot RF communication and navigation system components
 - 2.1 Available information from maintenance records and inspection and test results is used, where necessary, to assist in fault determination
 - 2.2 Maintenance manual fault diagnosis guides and logic processes are used to ensure efficient and accurate troubleshooting
 - 2.3 Faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required
 - 2.4 Fault rectification requirements are determined
3. Dismantle and inspect RF communication and navigation system components
 - 3.1 Component parts are dismantled in accordance with maintenance manuals while observing all relevant work health and safety (WHS) requirements
 - 3.2 Component parts are assessed for serviceability in accordance with the relevant maintenance documentation
 - 3.3 Parts requiring specialist repair are tagged and repair instructions are accurately specified
 - 3.4 Parts lists are compiled and processed in accordance with standard enterprise procedures
4. Repair and/or modify
 - 4.1 Component parts are repaired or replaced in

RF communication and navigation system components		accordance with the relevant maintenance documentation
	4.2	Modification of components or parts is undertaken, where required, by relevant manufacturers' bulletins or procedures
5. Assemble, test and adjust RF communication and navigation system components	5.1	Assembly of component parts is carried out in accordance with specified tolerances and the applicable maintenance documents
	5.2	Assembled components are tested and adjusted/aligned in accordance with the applicable maintenance documentation using the appropriate test equipment
	5.3	Required maintenance documentation and modification records are completed and processed in accordance with standard enterprise procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Communication and navigation system components are from any or all of the following aircraft systems:

- Very high frequency (VHF) communications
- High frequency (HF) communications
- Ultra-high frequency (UHF) communications
- Satellite communications
- Emergency location transmitter (ELT)
- Aeronautical Radio Incorporated (ARINC) Communication Addressing and Reporting System
- Intercommunication and public address
- Automatic direction finding (ADF) navigation
- Very high frequency omni-directional range (VOR) navigation

Procedures and requirements include:

- Instrument landing system (ILS)
- Ground positioning system (GPS)
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA285 Repair or overhaul aircraft radio frequency communication and navigation system components

Links

Companion Volume implementation guides are found in VETNet -

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