



Australian Government

MEA229 Test and troubleshoot aircraft radio frequency navigation and communications systems and components

Release: 2

MEA229 Test and troubleshoot aircraft radio frequency navigation and communications systems and components

Modification History

Release 2. Equivalent to MEA229 Test and troubleshoot aircraft radio frequency navigation and communications systems and components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of system/component knowledge and applicable maintenance publications and test equipment to test and troubleshoot communication and radio frequency (RF) navigation systems and components of fixed and rotary wing aircraft 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 (Aircraft Maintenance Stream) training pathways.

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).

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

Pre-requisite Unit

MEA226 Inspect aircraft electronic systems and components

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.

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| 1. Prepare for troubleshooting | 1.1 Relevant maintenance documentation and modification status, including system defect reports where relevant, |
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- are used to identify an unserviceability
2. Test/adjust RF navigation and communications systems
 - 2.1 Aircraft and system are prepared in accordance with applicable maintenance manual for the application of power/system operation
 - 2.2 RF navigation or communication system is functionally tested in accordance with maintenance manual for evidence of serviceability or malfunction while observing all relevant work health and safety (WHS) requirements
 - 2.3 System calibration or adjustments are performed in accordance with maintenance manual, as appropriate
 3. Troubleshoot RF navigation and communications systems
 - 3.1 Available information from maintenance documentation and inspection and test results is used, where necessary, to assist in fault determination
 - 3.2 Maintenance manual fault diagnosis guides and logic processes are used to ensure efficient and accurate troubleshooting to line replacement level
 - 3.3 Specialist advice is obtained, where required, to assist with the troubleshooting process
 - 3.4 RF navigation or communication system faults are located and the causes are clearly identified and correctly recorded in maintenance documentation, where required
 - 3.5 Rectification requirements are determined

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.

RF navigation or communication systems include:

- Control and sensing associated with cockpit radio, ground and flight crew communications including frequency modulation (FM) and amplitude modulation (AM) modes of operation in the high frequency (HF), ultra-high frequency (UHF), and very high frequency (VHF) bands, microwave systems and satellite communications (SATCOM)
- Passenger communications, cockpit voice recorder (CVR), audio integration system, cabin intercommunication data systems and cabin network services (where applicable to the enterprise)
- Information systems, such as air traffic and information management systems, and network server systems (where applicable to the enterprise)
- Instrument landing system (ILS), very high frequency omni-range (VOR), automatic direction finding (ADF), global navigation system (GNS), emergency beacons and aircraft communications addressing and reporting system (ACARS)
- Antennae, impedance audio matching devices, microphones and headphones, transmission lines, computer controls, line replaceable units, transmitters/receivers and indicators

Procedures and requirements include:

- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA229 Test and troubleshoot aircraft radio frequency navigation and communications systems and components

Links

Companion Volume implementation guides are found in VETNet -

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