



Australian Government

MEA289 Maintain basic light aircraft avionic systems and components

Release: 1

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Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills and the use of maintenance documentation/publications in the maintenance of basic aircraft avionic systems and components involving inspection, testing and troubleshooting and component removal and installation.

Applications include basic fixed wing and rotary wing aircraft where the avionic systems are limited to very high frequency (VHF) communications, basic audio system, automatic direction finding (ADF) and very high frequency omni-range (VOR) radio navigation systems, stand-alone global navigation systems (GNS), air traffic control (ATC) transponder and automatic dependent surveillance-broadcast (ADS-B) during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the small aircraft maintenance Certificate IV Mechatronics training pathway.

Where a Civil Aviation Safety Authority (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

MEA246 Fabricate and/or repair aircraft electrical components or parts

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. Inspect basic aircraft avionic systems and components	1.1 Relevant maintenance documentation and modification status, including system defect reports, where relevant, are used to identify specific inspection requirements 1.2 Isolation tags are checked and aircraft configured for safe system inspection and operation in accordance with the applicable maintenance manual 1.3 Avionic systems are visually or physically checked for external signs of defects in accordance with applicable maintenance manual while observing all relevant work health and safety (WHS) requirements 1.4 Defects are correctly identified and reported
2. Test/adjust basic aircraft avionic systems	2.1 Aircraft and systems are prepared in accordance with applicable maintenance manual for the application of power/system operation 2.2 Avionic systems are functionally tested in accordance with maintenance manual for evidence of serviceability or malfunction 2.3 System calibration or adjustments are performed in accordance with maintenance manual, as appropriate
3. Troubleshoot basic aircraft avionic 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 using test sets, maintenance data and fault-finding charts or similar, to line replacement level 3.3 Specialist advice is obtained, where required, to assist with the troubleshooting process 3.4 System faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required and in accordance with standard enterprise procedures

- 3.5 Rectification requirements are determined
- 4. Remove and install basic aircraft avionic system components
 - 4.1 System is rendered safe and prepared in accordance with the applicable maintenance manual and isolation tags are fitted where necessary to ensure personnel safety
 - 4.2 Avionic component removal is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements
 - 4.3 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
 - 4.4 Removed components are tagged and packaged in accordance with specified procedures
 - 4.5 Avionic components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
 - 4.6 Physical installation of avionic components is performed in accordance with the applicable maintenance manual
 - 4.7 System is reinstated to correct operational condition in preparation for testing and calibration or adjustment, as necessary
 - 4.8 Required maintenance documentation is 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.

Avionic systems include:

- VHF communication
- Basic audio systems, such as intercom and audio selection
- ADF
- VOR
- Stand-alone GNS
- ATC transponder
- ADS-B
- ELT

Avionic components include:

- Transmitters and receivers
- Antennas and antenna cables
- Control boxes and frequency selectors
- Speakers
- Switches

Procedures and requirements include:

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

Unit Mapping Information

Release 1 – equivalent to MEA289A Maintain basic light aircraft avionic systems and components

Links

Companion Volume implementation guides are found in VETNet -

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