



Australian Government

MEA207 Remove and install aircraft electronic system components

Release: 1

MEA207 Remove and install aircraft electronic system components

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 removal and installation of electronic system components and line replaceable units (LRUs) of fixed and rotary wing aircraft that are fitted with electronic systems, 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 pathway.

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

MEA201 Remove and install miscellaneous aircraft electrical hardware/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.

1. Remove aircraft electronic system components

- 1.1 System is rendered safe and prepared in accordance with the applicable maintenance manual and isolation tags are fitted, where necessary, to ensure personnel safety

- 1.2 Electronic system component removal is carried out in accordance with the applicable maintenance manual while observing all relevant work health and safety (WHS) requirements
 - 1.3 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
 - 1.4 Removed components are tagged and packaged in accordance with specified procedures
2. Install aircraft electronic system components
 - 2.1 Electronic system components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
 - 2.2 Physical installation of electronic components is performed in accordance with the applicable maintenance manual and regulatory requirements, ensuring appropriate adjustment/alignment is carried out
 - 2.3 System is reinstated to correct operational condition in preparation for testing, as necessary
 - 2.4 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.

Electronic system components include:

- Panel and rack mounted electronic system components and LRUs of:
 - instrument navigation systems
 - communication systems
 - radio navigation systems

- pulse operated systems
 - antennas
 - electronic instrument displays (where applicable to the enterprise)
 - automatic flight control systems (where applicable to the enterprise)
 - cabin entertainment equipment (where applicable to the enterprise)
 - on-board maintenance systems (where applicable to the enterprise)
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 1 – equivalent to MEA207C Remove and install aircraft electronic system components

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEA207 Remove and install aircraft electronic system components

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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:

- locating and identifying electronic navigational system components, including altitude reporting systems (transponder, encoder and control unit), remote attitude displays and Inertial Navigation and Reference Systems
- locating and identifying multi-function electronic displays, including electronic flight instrument system (EFIS), engine indicating and crew alerting system (EICAS), electronic central aircraft monitor system (ECAM), flight management computer system (FMCS) and head-up display (HUD)
- locating and identifying radio communication and navigation system components comprising ultra-high frequency (UHF); satellite communications (SATCOM); distance measuring equipment (DME); instrument landing system (ILS); global navigation system (GNS); radio navigation; traffic collision avoidance system (TCAS); radio altimeter (RADALT); and radio system antennas, including half dipole, slotted, loop and marconi
- locating and identifying primary and secondary radar system components, including transmission lines, waveguide and antennas
- locating and identifying cockpit voice recorder system components, internal communications and passenger/cockpit audio/visual components
- applying relevant WHS practices.

It is essential that cleanliness requirements and safety precautions applicable to the system being maintained are fully observed, understood and complied with, as well as work practices associated with electrostatic sensitive devices.

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
- connection of components and plugs
- printed circuit boards
- panel and rack mounting systems for electronic system components and LRUs
- relevant WHS practices
- the use of approved maintenance documentation and aircraft publications relating to the avionics systems and components being maintained

- handling and maintenance precautions relating to gyroscopes, gimbals, electronic displays, airborne radar systems (including pressurised waveguides), electrostatic sensitive devices and radio installations
- electromagnetic environment
- relevant regulatory requirements and standard procedures.

Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace using tools and equipment specified in maintenance manuals. It is also expected that general-purpose tools, test and ground support equipment found in most routine situations would be used where appropriate.
- An understanding of the attachment methods, connection of hardware, and the need for adjustment or calibration and system operation as they relate to the work must be demonstrated before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- Evidence of transferability of skills and knowledge related to removal and installation is essential. This is to be demonstrated by application across a range of electronic system components as listed in the range of conditions.
- 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 sufficient components/LRUs of systems (at least five (5) including their antennas) to establish competency, as follows:
 - instrument navigation systems
 - communication systems
 - radio navigation systems
 - pulse operated systems
 - antennas
 - electronic instrument displays (may be omitted where not applicable to the enterprise)
 - automatic flight control systems (may be omitted where not applicable to the enterprise)
 - cabin entertainment equipment (may be omitted where not applicable to the enterprise)
 - on-board maintenance systems (may be omitted where not applicable to the enterprise).
- 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 already attained MEA206 Remove and install aircraft basic radio communication and navigation system components will have covered a significant amount of the skill and knowledge requirements for this unit plus part of the performance criteria for Elements 1 and 2 and associated range of conditions items. The Log of Industrial Experience and Achievement records relating to MEA206 Remove and install aircraft basic radio communication and navigation system components may be accepted as also meeting the evidence requirements for this unit in the applicable areas.

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