



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEA207C Remove and install aircraft electronic system components**

**Revision Number: 2**

## **MEA207C Remove and install aircraft electronic system components**

### **Modification History**

Minor formatting and editorial changes made. Additional assessment advice provided in the Evidence Guide.

### **Unit Descriptor**

This unit of competency is part of the Avionic Certificate IV AME training pathway. It covers the competencies required for the removal and installation of electronic system components of both fixed and rotary wing aircraft. The unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen Aircraft Maintenance Engineer Licence under CASR Part 66, in accordance with the licensing provisions in Section 3, Assessment Guidelines.

### **Application of the Unit**

This unit 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.

Applications include fixed and rotary wing aircraft that are fitted with electronic systems.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

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| MEA201B | Remove and install miscellaneous aircraft electrical hardware/components |
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## Employability Skills Information

This unit contains employability skills.

### Elements and Performance Criteria Pre-Content

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| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide. |
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### Elements and Performance Criteria

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| 1. Remove aircraft electronic system components  | <ul style="list-style-type: none"><li>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</li><li>1.2. <b>Electronic system component</b> removal is carried out in accordance with the applicable maintenance manual</li><li>1.3. Required maintenance documentation is completed and processed in accordance with standard enterprise procedures</li><li>1.4. Removed components are tagged and packaged in accordance with specified procedures</li></ul>                                                                               |
| 2. Install aircraft electronic system components | <ul style="list-style-type: none"><li>2.1. Electronic system components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life</li><li>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</li><li>2.3. System is reinstated to correct operational condition in preparation for testing, as necessary</li><li>2.4. Required maintenance documentation is completed and processed in accordance with standard enterprise procedures</li></ul> |

## Required Skills and Knowledge

### Required skills

Look for evidence that confirms skills in:

- 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 displays, including EFIS, EICAS, ECAM, FMCS and HUD
- locating and identifying radio communication and navigation system components comprising UHF, SATCOM communications, DME, ILS, GNS radio navigation, TCAS, RADALT, 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, passenger/cockpit audio/visual components
- applying relevant OHS practices

### Required knowledge

Look for evidence that confirms 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 OHS 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, radio installations
- electromagnetic environment
- relevant regulatory requirements and standard procedures

## Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

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| <b>Overview of assessment</b>                                                                       | A person who demonstrates competency in this unit must be able to remove and install aircraft electronic system components/LRUs while observing all relevant safety and component handling precautions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b> | <p>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.</p> <p>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 Statement. 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.</p> <p>A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of the unit of competency are being achieved under routine supervision on sufficient components/LRUs of systems in Groups 1 to 9 to establish competency (Groups 6 to 9 may be omitted where they are 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.</p> |
| <b>Context of and specific resources for assessment</b>                                             | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Method of assessment</b>                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Guidance information for</b>                                                                     | Individuals being assessed who have already attained                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| <b>assessment</b> | MEA206C 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 Statement items. Log of Industrial Experience and Achievement records relating to MEA206C 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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## Range Statement

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| <p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Note</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Range statements listed below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide                                                                                                                                                                                                                                                                                                                                                             |
| <b>Electronic system components</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>Electronic system components include panel and rack mounted electronic system components and LRUs of:</p> <ol style="list-style-type: none"><li>1. Instrument navigation systems</li><li>2. Communication systems</li><li>3. Radio navigation systems</li><li>4. Pulse operated systems</li><li>5. Antennas</li><li>6. Electronic instrument displays</li><li>7. Automatic flight control systems.</li><li>8. Cabin entertainment equipment</li><li>9. On-board maintenance systems</li></ol> |
| <b>Application</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <p>Application of this unit may relate to:</p> <ul style="list-style-type: none"><li>• scheduled or unscheduled maintenance activities</li><li>• individual or team-related activities</li></ul>                                                                                                                                                                                                                                                                                                 |
| <b>Procedures and requirements</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise                                                                                                                                                                                                                                                                                                                                                                                       |

## Unit Sector(s)

Aviation maintenance

## **Competency field**

## **Co-requisite units**

Not applicable