



Australian Government

Department of Education, Employment and Workplace Relations

MEA260B Use electrical test equipment

Revision Number: 2

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Modification History

Minor formatting and editorial changes made. Prerequisite unit version code updated.

Unit Descriptor

This unit of competency is part of all Avionic Certificate IV training pathways. It is also part of the Mechanical Aircraft Maintenance Engineer licensing pathway. It covers the competencies required to correctly use electrical test equipment. 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 skills in the use of electrical test equipment to measure voltage, current, frequency and phase angle, and to test continuity, resistance, insulation and bonding.

Applications include aircraft and components both in the hangar and workshop.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MEA101B	Interpret occupational health and safety practices in aviation maintenance
MEA103B	Plan and organise aviation maintenance work activity
MEA105C	Apply quality standards applicable to aviation maintenance processes
MEA107B	Interpret and use aviation maintenance industry manuals and specifications
MEA108B	Complete aviation maintenance industry documentation
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

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. Select required test equipment | 1.1. <i>System/component test requirements</i> are identified
1.2. Appropriate test equipment is selected |
| 2. Prepare test equipment for use | 2.1. Test equipment is checked for serviceability and applicable leads are fitted, where required
2.2. Applicable function and range of measurement is selected, as required |
| 3. Test system or component | 3.1. Test points and polarity are determined
3.2. Required parameters are measured with the test equipment |

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying relevant OHS practices
- use of selectors and scale adjustment of each item of test equipment to ensure accurate measurement of applicable parameter
- connection of test equipment to components or circuits
- determination of polarity and applicable connection points for measurement or testing

Required knowledge

Look for evidence that confirms knowledge of:

- the range of electrical test equipment used to measure or test:
 - volts, amps and power
 - frequency
 - phase angle
 - continuity, resistance and insulation
 - bonding
- test equipment construction and calibration, and testing for serviceability

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to use electrical test equipment to perform a range of electrical measurements and tests while observing all relevant safety precautions.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The underlying skills inherent in this unit should be transferable into all areas which require the use of electrical test equipment. It is essential that the general aspects of electrical test equipment selection, preparation for use and safe application to a representative range of measurement and testing tasks are clearly understood.</p> <p>Evidence of knowledge about the selection and use of the range of test equipment used for the measurement and testing tasks listed in the Range Statement, and of the methods used to identify applicable polarity and connection to components and circuits for required measurement or testing.</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 in the selection of appropriate items of test equipment and their use to perform the measurements and test in Groups 1 to 5, as listed in the Range Statement. This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.</p>
<p>Context of and specific resources for assessment</p>	<p>Competency should be assessed in the work environment, or simulated work environment, using electrical test equipment specified in maintenance documentation. It is also expected that applicable test equipment can be selected on the basis of general trade knowledge where specific test equipment is not specified.</p>
<p>Method of assessment</p>	
<p>Guidance information for assessment</p>	

Range Statement

<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>	
<p>Note</p>	<p>Range statements listed below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide</p>
<p>System/component test requirements</p>	<p>System/component test requirements may include measurement of or testing:</p> <ol style="list-style-type: none"> 1. Volts, amps and power 2. Frequency 3. Phase angle 4. Continuity, resistance and insulation 5. Bonding
<p>Application</p>	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> • scheduled or unscheduled maintenance activities • individual or team-related activities
<p>Procedures and requirements</p>	<p>Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise</p>

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable