



**Australian Government**

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

# **MEA240B Use electrical test equipment to perform basic electrical tests**

**Revision Number: 2**

## **MEA240B Use electrical test equipment to perform basic electrical tests**

### **Modification History**

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

### **Unit Descriptor**

This unit of competency is part of the Avionic Certificate II training pathway. It covers the competencies required, under qualified person guidance, to select, set up and use a range of test equipment to measure voltage and current, and to test continuity, insulation and bonding. The unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

### **Application of the Unit**

This unit requires application of skills in the use of electrical test equipment under qualified person guidance to measure voltage and current, and to test continuity, 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. Prepare test equipment to perform basic electrical tests                                | 1.1. Appropriate electrical test equipment is selected and confirmed with a qualified person<br>1.2. Test equipment is checked for serviceability and applicable leads are fitted, and confirmed with a qualified person<br>1.3. Applicable function and range of measurement is set and confirmed with a qualified person |
| 2. Test component in accordance with enterprise procedures using electrical test equipment | 2.1. Test points and polarity are determined<br>2.2. <b>Required parameters</b> are measured with the test equipment<br>2.3. Results are recorded in accordance with enterprise procedures, under qualified person guidance  |

## Required Skills and Knowledge

### Required skills

Look for evidence that confirms skills in:

- applying relevant OHS practices
- setting up applicable test equipment
- determining test points and polarity
- measuring required parameters
- recording results under qualified person guidance

### Required knowledge

Look for evidence that confirms knowledge of:

- the range of relevant electrical test equipment used to measure or test:
  - volts and amps
  - continuity, resistance and insulation
  - bonding.
- identification methods used to confirm test equipment is serviceable and current regarding calibration
- use of selectors and scale adjustment of each item of test equipment to ensure accurate measurement of applicable parameter
- methods of connection of test equipment to components being tested
- methods used to determine polarity and applicable connection points for measurement or testing

## 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.

<p><b>Overview of assessment</b></p>	<p>A person who demonstrates competency in this unit must be able to use electrical test equipment to perform a range of basic measurements and tests while observing all relevant safety precautions.</p>
<p><b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b></p>	<p>The underlying skills inherent in this unit should be transferable into all areas that require the use of basic electrical test equipment. It is essential that the general aspects of electrical test equipment identification, preparation for use and safe application to a representative range of measurement and testing tasks are clearly demonstrated.</p> <p>Evidence of knowledge about the preparation and use, in accordance with enterprise procedures, of the range of test equipment used for the measurement and testing tasks listed in the Range of Variables, 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 qualified person guidance on a representative range of electrical measurement and testing tasks as provided for 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><b>Context of and specific resources for assessment</b></p>	<p>Competency should be assessed in the work environment, using relevant electrical test equipment as specified in maintenance documentation for a given task, and in accordance with enterprise procedures under expert guidance.</p>
<p><b>Method of assessment</b></p>	
<p><b>Guidance information for assessment</b></p>	

## Range Statement

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>Application</b></p>	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> <li>• routine scheduled or unscheduled maintenance activities performed under qualified person guidance in accordance with enterprise procedures and applicable maintenance documentation</li> <li>• work undertaken either autonomously or as part of a team and under the guidance of a qualified person or direction as required. Routine work is carried out using basic operational knowledge and a defined range of skills ('routine' work is that which follows a customary or regular course of procedure). All work outcomes are achieved by applying known solutions chosen from a limited range of pre-determined options consistent with enterprise procedures. This includes accepting responsibility for own work in terms of quality of outcomes using pre-determined specifications of quality</li> </ul>
<p><b>Required parameters</b></p>	<p>Required parameters may include measurement/testing of:</p> <ul style="list-style-type: none"> <li>• volts and amps</li> <li>• continuity, resistance and insulation</li> <li>• bonding</li> </ul>

## Unit Sector(s)

Aviation maintenance

## Competency field

## Co-requisite units

Not applicable