



Australian Government

Department of Education, Employment and Workplace Relations

MEA261C Use electronic 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 Avionic Certificate IV training pathways. It covers the competencies required to correctly use electronic test equipment. 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 electronic test equipment to measure electronic circuit parameters and test performance.

Applications include aircraft 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. System/component test requirements 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
- methods of connection of test equipment to components or circuits
- methods used to determine polarity and applicable connection points for measurement or testing

Required knowledge

Look for evidence that confirms knowledge of:

- the construction, calibration for use and testing for serviceability of:
 - electronic multimeters
 - phase-angle voltmeters
 - oscilloscopes (dual differential, differential, delayed time base and storage)
 - current probes
 - logic and discrete component testers
 - electronic component substitution boxes and miscellaneous test adapters
- use of selectors and scale adjustment of each item of test equipment to ensure accurate measurement of applicable parameters
- high speed oscilloscope techniques, probe calibration and CRO safety precautions

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.

Overview of assessment	A person who demonstrates competency in this unit must be able to use electronic test equipment to measure electronic circuit parameters while observing all relevant safety precautions.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The underlying skills inherent in this unit should be transferable into all areas that require the use of electronic test equipment as listed in the Range Statement. It is essential that the general aspects of electronic test equipment selection, preparation for use and safe application to a representative range of measurement and testing tasks are clearly understood. Evidence of knowledge about the selection and use of the range of test equipment 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. 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, with each item of test equipment in Groups 1 to 6 in the Range Statement having been used to measure electronic circuit parameters and test performance (Group 2 may be omitted if not applicable to enterprise). This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.
Context of and specific resources for assessment	Competency should be assessed in the work environment, or simulated work environment, using electronic 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.
Method of assessment	
Guidance information for	

assessment	
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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.

Note	Range statements listed below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide
Electronic test equipment	Test equipment includes: 1. Electronic multimeters 2. Phase-angle voltmeters (where applicable to enterprise) 3. Oscilloscopes (dual differential, differential, delayed time base, storage) 4. Current probes 5. Logic and discrete component testers 6. Electronic component substitution boxes and miscellaneous test adapters
Application	Application of this unit may relate to: • scheduled or unscheduled maintenance activities • individual or team-related activities
Procedures and requirements	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