



Australian Government

MEA261 Use electronic test equipment

Release: 2

MEA261 Use electronic test equipment

Modification History

Release 2. Equivalent to MEA261 Use electronic test equipment with amended prerequisite codes.

Application

This unit of competency 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 undergoing scheduled or unscheduled maintenance involving individual and team activities.

The unit is part of Avionic Certificate IV training pathways.

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).

Pre-requisite Unit

MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA154	Apply work health and safety practices in aviation maintenance
MEA155	Plan and organise aviation maintenance work activities
MEA156	Apply quality standards during aviation maintenance activities
MEA157	Complete aviation maintenance industry documentation
MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

essential outcomes.	demonstrate achievement of the element.
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 while observing all relevant work health and safety (WHS) requirements

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 test equipment includes:

- Electronic multimeters
- Phase-angle voltmeters (where applicable to the enterprise)
- Oscilloscopes (dual differential, differential, delayed time base, storage)
- Current probes
- Logic and discrete component testers
- Electronic component substitution boxes and miscellaneous test adapters

Procedures and requirements include:

- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

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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 MEA261 Use electronic test equipment

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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:

- applying relevant WHS practices
- connecting test equipment to components or circuits
- determining polarity and applicable connection points for measurement or testing.

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 of Conditions. 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 is required of knowledge about the selection and use of the range of test equipment listed in the Range of Conditions, and of the methods used to identify applicable polarity and connection to components and circuits for required measurement or testing.

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:

- 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 safety precautions.

Assessment Conditions

- 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.
- 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, with each item of test equipment having been used to measure electronic circuit parameters and test performance:
 - electronic multimeters
 - phase-angle voltmeters (may be omitted where not applicable to the enterprise)
 - oscilloscopes (dual differential, differential, delayed time base, storage)
 - current probes
 - logic and discrete component testers
 - electronic component substitution boxes and miscellaneous test adapters.
- 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).

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