



Australian Government

MEA240 Use electrical test equipment to perform basic electrical tests

Release: 1

MEA240 Use electrical test equipment to perform basic electrical tests

Modification History

Release 1 - New unit of competency

Application

This unit of competency 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 on aircraft and components both in the hangar and workshop during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate II training pathway.

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

MEA101	Interpret work health and safety practices in aviation maintenance
MEA103	Plan and organise aviation maintenance work activity
MEA105	Apply quality standards applicable to aviation maintenance processes
MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA108	Complete aviation maintenance industry documentation
MEA109	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 essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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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 |
| | 1.2 Test equipment is checked for serviceability and applicable leads are fitted, where required |
| | 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 |
| | 2.2 Required parameters are measured with the test equipment while observing all relevant work health and safety (WHS) requirements |
| | 2.3 Results are recorded in accordance with enterprise procedures, under qualified person guidance |

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.

Required parameters include

measurement/testing of:

- Volts and amps
- Continuity, resistance and insulation
- Bonding

Unit Mapping Information

Release 1 – equivalent to MEA240B Use electrical test equipment to perform basic electrical tests

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 MEA240 Use electrical test equipment to perform basic electrical tests

Modification History

Release 1 - New unit of competency

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
- setting up applicable test equipment
- determining test points and polarity
- measuring required parameters
- recording results under qualified person guidance.

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.

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 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 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.

Assessment Conditions

- Competency should be assessed in the work environment or simulated 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.
- 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 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 (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).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.
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