



Australian Government

MEA296 Use electrical test equipment in aviation maintenance activities

Release: 1

MEA296 Use electrical test equipment in aviation maintenance activities

Modification History

Release 2. Equivalent to MEA260 Use electrical test equipment. Code changes due to changed titles.

Application

This unit of competency describes the skills and knowledge required to select electrical test equipment, prepare the equipment for use, and safely apply the equipment in a range of measurement and testing tasks. It involves using electrical test equipment on aircraft and their components to measure voltage, current, frequency and phase angle; and to test continuity, resistance, insulation and bonding. Work may be performed individually or as part of a team.

The unit applies to work undertaken in both the hangar and the workshop that requires the use of electrical test equipment during scheduled and unscheduled maintenance in all areas of aviation maintenance. 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).

This unit forms part of the CASA requirement for maintenance certification licences under Civil Aviation Safety Regulation (CASR) Part 66. Where a CASA licensing outcome is sought, users must refer to the licensing provisions in the MEA Aeroskills Companion Volume Implementation Guide.

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

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Select required test equipment

2. Prepare test equipment for use

3. Test system or component

PERFORMANCE CRITERIA

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

- 1.1 Review job specifications to identify system and component test requirements

- 1.2 Select test equipment required for aviation maintenance activity

- 2.1 Check test equipment for serviceability and fit applicable leads where required according to organisational procedures and maintenance manuals

- 2.2 Select applicable function and range of measurement according to organisational procedures

- 3.1 Determine test points and polarity of system or component

- 3.2 Use prepared test equipment to measure required parameters in line with work health and safety (WHS) requirements and industry standard procedures specified by manufacturers, regulatory authorities, and organisation

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 2. Equivalent to MEA260 Use electrical test equipment.

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 MEA296 Use electrical test equipment in aviation maintenance activities

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, which must include the ability to:

- under routine supervision, select required items of test equipment and use them to perform the measurements and test each of the following:
 - volts, amps and power
 - frequency
 - phase angle, which may be omitted if not relevant to the organisation
 - continuity, resistance and insulation
 - bonding.

In the course of the above work, the candidate must:

- apply required work health and safety (WHS) practices
- use selectors and scale adjustment of each item of test equipment to ensure accurate measurement of applicable parameter
- connect test equipment to components or circuits
- determine polarity and applicable connection points for measurement or testing.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- industry, regulatory and organisational requirements, procedures and methods relating to the use of electrical test equipment in the aviation maintenance activities described in the performance evidence, including:
 - job specifications
 - procedures for checking serviceability of test equipment
 - procedures for fitting leads
 - procedures for selecting function and range of measurement
 - WHS requirements and practices
 - industry standard procedures specified by manufacturers, regulatory authorities, and the organisation for using prepared test equipment to measure required parameters
- 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
- methods used to identify applicable polarity and connection to components and circuits.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (Australian Defence Force [ADF] and Civil Aviation Safety Authority [CASA]) and maintenance stakeholders, and must be rigorously observed.

Competency must be assessed in the work environment, or simulated work environment, using electrical test equipment specified in maintenance documentation.

The candidate must have access to electrical test equipment required to demonstrate the performance evidence above and selected on the basis of general trade knowledge, where specific test equipment is not specified.

Candidate capability must 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 of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Where the unit is to be used for CASA licensing purposes the assessor must also meet the criteria specified in the Civil Aviation Safety Regulation (CASR) Part 147 Manual of Standards.

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>