



Australian Government

MEA295 Use electrical test equipment to perform basic electrical tests on aircraft and components

Release: 1

MEA295 Use electrical test equipment to perform basic electrical tests on aircraft and components

Modification History

Release 1. Equivalent to MEA240 Use electrical test equipment to perform basic electrical tests. Code changes due to changed titles.

Application

This unit of competency describes the skills and knowledge required to use electrical test equipment to perform basic electrical tests on aircraft and components. It involves the application of skills in the use of electrical test equipment under qualified person guidance to measure voltage and current, and to test aircraft and component continuity, insulation and bonding during maintenance work. Work may be performed individually or as part of a team.

The unit applies to work undertaken in both the hangar and workshop during scheduled and unscheduled maintenance. It 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 Civil Aviation Safety Authority (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. Prepare test equipment to perform basic electrical tests

2. Test component in accordance with enterprise procedures using electrical test equipment

3. Finalise electrical test documentation

PERFORMANCE CRITERIA

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

1.1 Select appropriate electrical test equipment and confirm with qualified person

1.2 Check test equipment for serviceability and fit applicable leads where required

1.3 Set applicable function and range of measurement and confirm with a qualified person

2.1 Determine test points and polarity

2.2 Measure required parameters using test equipment and observing work health and safety (WHS) requirements

3.1 Record test results according to organisational procedures, under qualified person guidance

3.2 Complete test documentation

Foundation Skills

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

Unit Mapping Information

Release 1. Equivalent to MEA240 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 MEA295 Use electrical test equipment to perform basic electrical tests on aircraft and components

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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:

- perform basic electrical tests under expert guidance on an aircraft and three different aircraft components.
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- In the course of the above work and under qualified person guidance, the candidate must:
- select and prepare test equipment based on maintenance documentation applicable to task and according to organisational procedures
- use required electrical test equipment in line with organisational procedures
- apply required WHS practices
- set up applicable test equipment
- determine test points and polarity
- measure required parameters, including:
 - measuring voltage and current
 - testing aircraft and component continuity, resistance insulation and bonding
- record results.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- industry, regulatory and organisational requirements, procedures and methods relating to the work described in the performance evidence, including:
 - using electrical test equipment according to WHS requirements, practices and procedures
 - recording test results and completing required test documentation
- 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

- techniques and procedures for using 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 to components and circuits for measurement or testing.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.

Competency must be assessed in the work environment, or simulated work environment, under qualified person guidance and using electrical measurement and test equipment as specified in maintenance documentation and organisational procedures.

The candidate must have access to a representative range of measurement and testing tools, equipment and tasks required to demonstrate the performance evidence above.

Candidate capability of providing the required performance and knowledge evidence 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 CASR Part 147 Manual of Standards.

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