



Australian Government

MEAAVI0056 Repair and overhaul aircraft electrical and electro-mechanical components

Release: 1

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Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA286 Repair or overhaul aircraft electrical/electro-mechanical components.

Application

This unit describes the skills and knowledge required to apply hand skills and use knowledge of component repair and overhaul procedures relating to electrical and electro-mechanical components of fixed and rotary wing aircraft that are repaired or overhauled in aviation maintenance workshops during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

MEA201 Remove and install miscellaneous aircraft electrical hardware/components

MEA296 Use electrical test equipment in aviation maintenance activities

Competency Field

Aviation maintenance

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine requirements	1.1 Interpret component defect reports (removal tags) or customer orders and match by part and serial numbers to identify requirements 1.2 Inspect components or operate through prescribed test procedures to establish serviceability or confirm defects 1.3 Establish modification status to assist in determining the overhaul requirements for the components

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.4 Identify and document extent of overhaul or repair in accordance with standard enterprise procedures
2. Troubleshoot electrical and electro-mechanical components	2.1 Use available information from maintenance records and test results to assist in fault determination 2.2 Troubleshoot electrical-mechanical components using logical processes in accordance with the maintenance documentation 2.3 Obtain required specialist or supervisory advice to assist with or confirm fault and rectification requirements 2.4 Locate electrical or electro-mechanical component faults and identify causes in accordance with standard enterprise procedures 2.5 Determine fault rectification requirements to assist in planning repair
3. Dismantle and inspect electrical and electro-mechanical components	3.1 Dismantle component parts in accordance with maintenance manuals while observing all relevant work health and safety (WHS) requirements 3.2 Assess component parts for serviceability in accordance with maintenance documentation 3.3 Tag parts requiring specialist repair and specify repair instructions 3.4 Compile and process parts lists in accordance with standard enterprise procedure
4. Repair and/or modify electrical and electro-mechanical components	4.1 Repair or replace component parts in accordance with maintenance documentation 4.2 Make required modifications to components or parts in accordance with relevant manufacturer's bulletins or procedures
5. Assemble, test and adjust electrical and electro-mechanical components	5.1 Assemble component parts in accordance with specified tolerances and maintenance documents 5.2 Test assembled components and adjust or calibrate components to operate within prescribed specifications 5.3 Tag, seal and package finished components in accordance with specified procedures 5.4 Complete and process required maintenance documentation and modification records in accordance with standard enterprise procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret maintenance manuals, inspection procedures and specifications (allowable limits).
- Writing skills to record and report on defects and faults and their causes.
- Numeracy skills to interpret and communicate technical information and perform and interpret technical testing.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA286 Repair or overhaul aircraft electrical/electro-mechanical components.

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 MEAAVI0056 Repair and overhaul aircraft electrical and electro-mechanical components

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Performance Evidence

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

- repair and overhaul aircraft electrical and electro-mechanical components during scheduled or unscheduled maintenance, under routine supervision, on at least one component from each of the following groups:
 - motors, generators and alternators
 - static inverters, transformer rectifier units (TRU) and regulators
 - actuators, solenoids and shutoff valves
 - bus bars, circuit breakers, connectors, electrical looms and fans.
- recognise the serviceability state and repair or overhaul requirements for:
 - alternating current (AC) and direct current (DC) motors, generators and alternators
 - static inverters
 - TRU
 - regulators/control units
 - actuators
 - solenoids and shutoff valves
 - engine ignition/starting components
- perform functional testing by applying logic processes, and using test equipment and appropriate wiring diagrams and manuals to isolate component faults and assess post-repair or overhaul serviceability
- correctly disassemble, inspect and repairing/replacing/modifying component parts and assembling components listed above
- apply testing procedures, cleanliness requirements and safety precautions at all times and as relevant to the systems or components being maintained.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- component and system operation

- the basic function and operation of components listed below to enable testing for fault isolation or confirmation, to determine repair or overhaul requirements, and serviceability status post repair or overhaul:
 - AC and DC motors, generators and alternators
 - static inverters
 - TRU
 - regulators/control units
 - actuators
 - solenoids and shutoff valves
 - engine ignition/starting components
- basic principles and functions relating to components listed above and associated with:
 - AC and DC power generation
 - circuit theory
 - analogue fundamentals
- electro-mechanical interface
- work health and safety (WHS) requirements for repairing or overhauling aircraft electrical or electro-mechanical components
- maintenance publications for repairing and overhauling aircraft electrical or electro-mechanical components.

Assessment Conditions

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

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in repairing or overhauling aircraft electrical or electro-mechanical components. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - required workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to repairing or overhauling aircraft electrical or electro-mechanical components
 - tools and equipment specified in maintenance documentation
 - general and special-purpose tools and test equipment required for repairing and overhauling aircraft electrical or electro-mechanical components.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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