



Australian Government

MEA265 Remove and install general aircraft electrical hardware

Release: 2

MEA265 Remove and install general aircraft electrical hardware

Modification History

Release 2. Equivalent to MEA265 Remove and install general aircraft electrical hardware with amended prerequisite codes.

Application

This unit of competency requires application of hand skills in the removal and installation from fixed or rotary wing aircraft of electrical hardware, including items of general electrical hardware, that are within the privileges of the Aircraft Maintenance Engineer A Licence during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit forms part of the Civil Aviation Safety Authority (CASA) requirement for the granting of the chosen Aircraft Maintenance Engineer A Licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the 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

Unit Sector

Elements and Performance Criteria

Elements describe the Performance criteria describe the performance needed to

essential outcomes.

demonstrate achievement of the element.

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| 1. Remove general aircraft electrical hardware | 1.1 System is rendered safe and prepared in accordance with the applicable maintenance manual and isolation tags are fitted, where necessary, to ensure personnel safety |
| | 1.2 Removal of electrical hardware is carried out in accordance with the applicable maintenance manual while observing all relevant work health and safety (WHS) requirements |
| | 1.3 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures |
| | 1.4 Removed components are tagged, packaged or discarded in accordance with specified procedures |
| 2. Install general aircraft electrical hardware | 2.1 Electrical hardware components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life |
| | 2.2 Physical installation of electrical hardware is carried out in accordance with the applicable maintenance manual |
| | 2.3 System is reinstated to correct physical condition in preparation for testing, as necessary |
| | 2.4 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures |

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.

Removal and installation of electrical hardware includes one or more of the

- Bolted
- Plug connectors

following connection methods:**Electrical hardware includes:**

- Switches
- Relays
- Lamps
- Terminal blocks
- Current limiters
- Circuit breakers
- Fuses
- Sockets
- Potentiometers
- Capacitors
- Inductors
- Magnetic amplifiers
- Transformers
- Rheostats
- Miscellaneous sensors and minor components hard mounted throughout the aircraft
- Busbars
- Lugs
- Ferrules
- Splices
- Connectors and electrical, electronic cables and looms
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Procedures and requirements include:

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 MEA265 Remove and install general aircraft electrical hardware

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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 procedures
- using approved maintenance documentation and aircraft publications relating to miscellaneous aircraft electrical hardware and components
- recognising defects in and deterioration of electrical cables to aircraft industry standards, including crimped and soldered joints
- correctly interpreting aircraft wire markings, terminal block identification and plug/socket pin numbering systems
- inspecting electrical looms and harness pre and post-removal and installation to ensure minimum bends are maintained, cable is not in tension, plugs are correctly aligned, security of route ensures no chaffing of insulation, adequate clipping and cable ties have been utilised and construction complies with aircraft industry standards
- positive identification of miscellaneous electrical hardware and/or components in all aircraft systems
- plug connector pin removal and insertion.

It is essential that applicable cleanliness requirements and WHS precautions are fully observed, including awareness of electrostatic discharge procedures.

Evidence of transferability of skills and knowledge related to removal and installation is essential.

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:

- component attachment methods
- connection of hardware and plugs
- relevant WHS procedures
- electrical wiring used in aircraft and wire marking
- plug/socket pin numbering and terminal block identification
- cable and loom installation requirements
- crimping tools and crimp terminals

- procedures for removal and insertion of plug connector pins
- electrical fundamentals and related mathematical and physics principles.

Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace using tools and equipment specified in maintenance manuals. It is also expected that applicable general-purpose tools, and test and ground support equipment found in most routine situations would be used where appropriate.
- An understanding of the attachment methods, connection of hardware and system operation as they relate to the work must be demonstrated before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of CASA 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 supervision but without intervention on each of the following connection methods:
 - bolted
 - plug connectors
- and on a range of the hardware/components listed in the Range of Conditions:
 - switches, relays, lamps, terminal blocks, current limiters, circuit breakers, fuses, sockets, potentiometers, capacitors, inductors, magnetic amplifiers, transformers, rheostats, miscellaneous sensors and minor components hard mounted throughout the aircraft, busbars, lugs, ferrules, splices, connectors and electrical, electronic cables and looms.
- 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).
- The Assessor must meet the criteria specified in the CASR Part 147 Manual of Standards.
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