Australian Government

MEA203 Remove and install advanced aircraft electrical system components

Release: 1

MEA203 Remove and install advanced aircraft electrical system components

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills and the use of maintenance documentation/publications in the removal and installation of advanced aircraft electrical alternating current (AC) and direct current (DC) system components of fixed and rotary wing aircraft that have both AC and DC electrical systems during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate IV (Aircraft Maintenance Stream) training pathway, and of the Mechanical Aircraft Maintenance Engineer licensing 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).

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

Pre-requisite Unit

MEA201 Remove and install miscellaneous aircraft electrical hardware/components

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.
1.	Remove AC and DC aircraft electrical system components	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	Electrical component removal 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 and packaged in accordance with specified procedures
2.	Install AC and DC aircraft electrical system components.	2.1	Electrical components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
		2.2	Physical installation of electrical components is performed in accordance with the applicable maintenance manual, ensuring appropriate adjustment/alignment with mechanical interface is carried out
		2.3	System is reinstated to correct operational 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.

Electrical system components include:	• DC and AC power generation and distribution system components, including generators and related multi-sourced DC power generation, starter generators alternators and regulation, and control and distribution

	system components • Transformer rectifier units and/or inverters • Batteries and related bus tie or interlock system components and battery temperature monitoring systems • Motors and actuators • Components of gas turbine and/or piston engine ignition and starting systems (where applicable to the enterprise) • External/internal lights • Electrical components of specific electrical systems, such as air cycle air conditioning, combustion heaters, equipment cooling, anti-icing and de-icing, landing gear, anti-skid, flight control, master and central warning, fuel storage and distribution, fire warning and extinguishing, and engine/propeller control (where applicable to the enterprise)
Procedures and requirements include:	• Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 1 – equivalent to MEA203C Remove and install advanced aircraft electrical system components

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371