



Australian Government

MEA510 Maintain seat and pod electrical and electronic systems

Release: 2

MEA510 Maintain seat and pod electrical and electronic systems

Modification History

Release 2. Equivalent to MEA510 Maintain seat and pod electrical and electronic systems with amended prerequisite codes.

Application

This unit of competency requires application of hand skills in the scheduled or unscheduled removal and installation of electrical and electronic system components during the overhaul of aircraft seats and pods, and the use of basic electrical test equipment and in-flight entertainment system test sets to perform functional tests and confirm system serviceability.

This unit is part of the Aeroskills Life Support and Furnishing Certificate III and IV training pathways. 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).

Pre-requisite Unit

MEA295	Use electrical test equipment to perform basic electrical tests on aircraft and 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 and inspect seat and pod electrical system components	1.1	System is rendered safe and prepared in accordance with the applicable maintenance manual to ensure personnel safety
		1.2	Removal of electrical system components is carried out in accordance with the applicable maintenance manual while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of

- personal protective equipment (PPE)
- 1.3 Removed components are inspected for visible signs of damage or deterioration in accordance with maintenance manuals and standard enterprise procedures
 - 1.4 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
 - 1.5 Removed components are tagged, packaged or discarded in accordance with specified procedures
 2. Remove and inspect seat and pod electronic system components
 - 2.1 System is rendered safe and prepared in accordance with the applicable maintenance manual to ensure personnel safety
 - 2.2 Removal of electronic system components is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements, including the use of MSDS and items of PPE
 - 2.3 Removed components are inspected for visible signs of damage or deterioration in accordance with maintenance manuals and standard enterprise procedures
 - 2.4 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
 - 2.5 Removed components are tagged, packaged or discarded in accordance with specified procedures
 3. Install seat and pod electrical system components
 - 3.1 Electrical system components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
 - 3.2 Physical installation of electrical components is carried out in accordance with the applicable maintenance manual
 - 3.3 System is reinstated to correct physical condition in preparation for testing
 - 3.4 Required maintenance documentation is completed and processed in accordance with standard enterprise

			procedures
4.	Install seat and pod electronic system components	4.1	Electronic system components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
		4.2	Physical installation of electronic components is carried out in accordance with the applicable maintenance manual
		4.3	System is reinstated to correct physical condition in preparation for testing
		4.4	Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
5.	Functionally test seat and pod electrical and electronic systems	5.1	Applicable system test set is connected to seat or pod in accordance with the applicable maintenance manual or approved vendor procedures
		5.2	Power is applied to the seat or pod in accordance with applicable maintenance manual
		5.3	Seat or pod electrical system is functionally tested for correct operation in accordance with the applicable maintenance manual
		5.4	Seat or pod electronic system is functionally tested using the applicable test set in accordance with the applicable maintenance manual
		5.5	Test equipment is removed and 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 components involves one or more of the following connection methods:

- Bolted
- Plug connectors

Electrical system components include:

- Electrical cables and looms
- Selectors and switches
- Motors and actuators
- Relays, control units and modules

Electronic system components include:

- Display units
- Tuners/selectors
- Volume controls
- Audio headset receptacles
- Data cables

Visible signs of damage or deterioration include:

- Broken or chafed wires
- Corrosion of plugs and connectors
- Physical damage to components
- Wear
- Evidence of electrical or electronic component overheating

Unit Mapping Information

Release 2. Equivalent to MEA510 Maintain seat and pod electrical and electronic systems

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 MEA510 Maintain seat and pod electrical and electronic systems

Modification History

Release 2. Equivalent to MEA510 Maintain seat and pod electrical and electronic systems with amended prerequisite codes.

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 practices, including the use of PPE and MSDS
- using approved maintenance documentation and aircraft publications relating to aircraft seat and pod electrical and electronic systems 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
- positively identifying seat and pod electrical and electronic system components
- plug connector pin removal and insertion where soldering is not required
- recognising damage and visual defects in electrical components, such as actuators, motors and switches
- recognising damage and visual defects in electronic system components, such as display screens, tuners, volume controls, audio headset receptacles and data cables.

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:

- relevant WHS procedures
- how to obtain relevant MSDS
- the use of applicable items of PPE
- component attachment methods

- connection of hardware and plugs
- electrical wiring used in aircraft and wire marking
- plug/socket pin numbering and terminal block identification
- cable and loom installation requirements, including bonding and screening
- crimping tools and crimp terminals
- procedures for removal and insertion of plug connector pins where soldering is not required
- handling and maintenance precautions relating to electronic displays and electrostatic sensitive devices
- electromagnetic environment
- data cable installation requirements.

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 general-purpose tools, 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 the Regulators (ADF and CASA) and maintenance stakeholders 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 on the range of components and tasks listed in the Range of Conditions.
- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).

Links

Companion Volume implementation guides are found in VETNet -

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