



Australian Government

MEA419 Inspect and repair/modify aircraft cabin/cockpit non-primary structure components

Release: 1

MEA419 Inspect and repair/modify aircraft cabin/cockpit non-primary structure components

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills and the use of maintenance publications to inspect for damage and repair aircraft non-primary structure metallic and non-metallic components of fixed and rotary wing aircraft cabins and cockpits during the performance of scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

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

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).

Pre-requisite Unit

MEA101	Interpret work health and safety practices in aviation maintenance
MEA103	Plan and organise aviation maintenance work activity
MEA105	Apply quality standards applicable to aviation maintenance processes
MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA108	Complete aviation maintenance industry documentation
MEA109	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 essential outcomes.

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

1.	Inspect for damage to aircraft cabin/cockpit non-primary structure metallic and non-metallic components	1.1	Metallic and/or non-metallic components are visually inspected for damage
		1.2	Extent of damage is determined and confirmed to be within repair limits
2.	Prepare to perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure metallic and non-metallic components	2.1	Applicable metallic or non-metallic repair scheme is determined in accordance with applicable maintenance documentation and standard enterprise procedures
		2.2	Modification instructions are obtained in accordance with standard enterprise procedures
		2.3	All required materials and equipment are selected and organised in accordance with enterprise procedures and maintenance documentation
3.	Perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure metallic components	3.1	Metallic component repairs and minor modifications are performed in accordance with approved repair scheme or modification instructions, ensuring that aircraft standard practices are used and standard process requirements are carried out 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)
		3.2	Work area is cleaned of all waste material
		3.3	Minor adjustments are made, where necessary, for components to operate within prescribed specifications
4.	Perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure	4.1	Non-metallic component repairs and minor modifications are performed in accordance with approved repair scheme or modification instructions, ensuring that aircraft standard practices are used and standard process requirements are carried out while

non-metallic components		observing all relevant while observing all relevant WHS requirements, including the use of MSDS and items of PPE
	4.2	Work area is cleaned of all waste material
	4.3	Minor adjustments are made, where necessary, for components to operate within prescribed specifications
5. Complete routine repair and minor modification activities	5.1	Required documentation is accurately completed and correctly processed in accordance with standard enterprise procedures
	5.2	Repaired components or assemblies are tagged, sealed and packaged or cradled in accordance with specified procedures, where required

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.

Metallic and non-metallic components include:

- Aircraft crew and passenger seats
- Interior trim panels, including sidewalls, galleys, furnishings and partitions, passenger modules/pods, toilets, roof panels, overhead luggage stowage bins, non-structural floor panels and cargo compartment lining

Types of damage include:

- Corrosion, cracking and impact damage to metallic components
- Delamination, cracking and impact damage to non-metallic components

Metallic component repairs include:

- Removing corrosion by chemical and mechanical methods
- Restoring protective coatings
- Freehand precision hole generation
- Removing and installing fastening devices

- Fitting patches to cabin/cockpit non-primary structure sheet metal components
 - Composite patch, scarf and stepped repairs using fibreglass, sandwich honeycomb, nylon, Perspex, nomex core materials and matrix resins
- Non-metallic component repairs include:**
- Primary structure includes:**
- All components of an aircraft, the failure of which would seriously endanger safety. In the fuselage this includes frames, longerons and stringers, structural floor panels and all additional parts of the pressure hull, such as skin, windows, doors and bulkheads
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 1 – equivalent to MEA419A Inspect and repair/modify aircraft cabin/cockpit non-primary structure 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 MEA419 Inspect and repair/modify aircraft cabin/cockpit non-primary structure components

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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 practices, including the use of MSDS and the selection and use of applicable items of PPE
- using enterprise procedures, approved maintenance documentation and aircraft publications relating to cabin/cockpit non-primary structure metallic and non-metallic components
- identifying aircraft cabin/cockpit non-primary structure components and their basic properties by interpretation of markings, numbering systems or visual, chemical or mechanical means
- handling and storing aircraft metallic and non-metallic components, including sealing agents, to industry standards
- identifying aircraft assembly fasteners by interpretation of markings, numbering systems, size, shape and colour
- visually inspecting metallic and non-metallic components for damage
- correctly interpreting, in accordance with enterprise procedures, applicable repair scheme/modification drawings and hand sketches
- using appropriate hand tools and machines to remove and assemble aircraft cabin/cockpit non-primary structure metallic and non-metallic components
- performing, in accordance with enterprise procedures, a range of routine non-primary structure sheet metal repair techniques, including metal scab patch repairs
- performing, in accordance with enterprise procedures, a range of routine non-primary structure non-metallic repair techniques
- applying corrosion removal/treatment techniques
- restoring sealing and surface finishes.

The underlying skills inherent in this unit should be transferable into other areas that require similar techniques. It is essential that procedures take into account all safety precautions and quality requirements, standards and practices, and processes associated with assembly.

Evidence of knowledge about enterprise procedures relating to routine basic repair techniques and the use of the standard repair manual/practices in a range of situations will be necessary to supplement evidence of ability to plan and undertake component repair.

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:

- applicable WHS procedures, including how to obtain MSDS
- selection and use of applicable items of PPE
- construction methods used and assessment of common defects in aircraft crew and passenger seats, and in interior trim panels including sidewalls, galleys, furnishings and partitions, passenger modules/pods, toilets, roof panels, overhead luggage stowage bins, non-structural floor panels and cargo compartment lining
- types of deterioration and damage
- inspection methods
- identification and interpretation of metallic and non-metallic repair schemes applicable to cabin/cockpit non-primary structural components
- the various forms of corrosion
- the terms associated with composite materials
- requirements for handling and storing aircraft metals and composite materials including sealing agents, to industry standards
- means of identifying aircraft structural assembly fasteners (metal and composite) by interpretation of markings, numbering systems, size, shape and colour.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment, using tools and equipment specified by aircraft 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.
- 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 a representative range of components, inspecting for damage and performing repair tasks, as follows:
 - metallic component repairs involving:
 - removing corrosion by chemical and mechanical methods
 - restoring protective coatings
 - freehand precision hole generation
 - removing and installing fastening devices
 - fitting patches to cabin/cockpit non-primary structure sheet metal components
 - non-metallic component repairs involving:
 - composite patch, scarf and stepped repairs using fibreglass, sandwich honeycomb, nylon, Perspex, nomex core materials and matrix resins.

- 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).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).

Links

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