



Australian Government

MEA436 Inspect, repair and modify non-primary structure components in aircraft cabins and cockpits

Release: 1

MEA436 Inspect, repair and modify non-primary structure components in aircraft cabins and cockpits

Modification History

Release 1. Equivalent to MEA419 Inspect and repair/modify aircraft cabin/cockpit non-primary structure components. Revised as a result of changed prerequisites. Unit codes updated.

Application

This unit of competency describes the skills and knowledge required to inspect non-primary metallic and non-metallic structure components in aircraft cabins and cockpits for damage, and to repair the components. It requires the application of hand skills and the use of maintenance publications. Work may be performed individually or as part of a team.

The unit applies to fixed and rotary wing aircraft cabins and cockpits during scheduled and unscheduled maintenance. 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).

This unit forms part of the Civil Aviation Safety Authority (CASA) requirement for maintenance certification licences under Civil Aviation Safety Regulation (CASR) Part 66. Where a CASA licensing outcome is sought, users must refer to the licensing provisions in the MEA Aeroskills Companion Volume Implementation Guide.

Pre-requisite Unit

MEA154 Apply work health and safety practices in aviation maintenance

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. Inspect for damage to aircraft cabin/cockpit non-primary structure metallic and non-metallic

- 1.1 Visually inspect metallic and/or non-metallic components for damage
- 1.2 Determine extent of damage and confirm it is within repair

ELEMENTS	PERFORMANCE CRITERIA
components	limits
2. Prepare to perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure metallic and non-metallic components	2.1 Determine applicable metallic or non-metallic repair scheme according to maintenance documentation and standard organisational procedures 2.2 Obtain modification instructions according to standard organisational procedures 2.3 Select required materials and equipment and organise them according to organisational procedures and requirements for maintenance documentation
3. Perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure metallic components	3.1 Perform component repairs and minor modifications using aircraft standard practices and according to work health and safety (WHS) requirements and approved repair scheme or modification instructions 3.2 Clean work area of waste material 3.3 Make minor adjustments where necessary for components to operate within prescribed specifications
4. Perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure non-metallic components	4.1 Perform non-metallic component repairs and minor modifications using aircraft standard practices and process requirements, and according to WHS requirements and approved repair scheme or modification instructions 4.2 Clean work area of all waste material 4.3 Make minor adjustments where necessary for components to operate within prescribed specifications
5. Complete routine repair and minor modification activities	5.1 Complete and process required documentation according to standard organisational procedures 5.2 Tag, seal and package repaired components or assemblies according to specified procedures, where required

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Release 1. Equivalent to MEA419 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 MEA436 Inspect, repair and modify non-primary structure components in aircraft cabins and cockpits

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Performance Evidence

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

- inspect the metallic components of one aircraft cabin or cockpit for damage and perform the following repair or minor modification tasks:
 - remove corrosion by chemical and mechanical methods
 - restore protective coatings
 - freehand precision hole generation
 - remove and install fastening devices
 - fit patches to cabin or cockpit non-primary structure sheet metal components
- inspect the non-metallic components of one aircraft cabin or cockpit for damage and perform the following repair or minor modification tasks:
 - composite patch, scarf and stepped repairs using fibreglass, sandwich honeycomb, nylon, Perspex, nomex core materials and matrix resins.

In the course of the above work, the candidate must:

- apply relevant WHS requirements and practices relating to:
 - use of safety data sheets (SDS)
 - selection and use of required items of personal protective equipment (PPE)
- use organisational procedures, approved maintenance documentation, and aircraft publications relating to non-primary structure metallic and non-metallic components of cabins and cockpits
- identify aircraft cabin/cockpit non-primary structure components and their basic properties by interpreting markings, numbering systems or visual, chemical or mechanical means
- handle and store aircraft metallic and non-metallic components, including sealing agents, to industry standards
- identify aircraft assembly fasteners by interpreting markings, numbering systems, size, shape and colour
- visually inspect metallic and non-metallic components for damage
- correctly interpret, in line with organisational procedures, applicable repair scheme/modification drawings and hand sketches

- use required hand tools and machines to remove and assemble non-primary structure metallic and non-metallic components of aircraft cabins and cockpits
- perform, in line with organisational procedures, a range of routine non-primary structure sheet metal repair techniques, including metal scab patch repairs
- perform, in line with organisational procedures, a range of routine non-primary structure non-metallic repair techniques
- apply corrosion removal and treatment techniques
- restore sealing and surface finishes
- comply with system testing procedures, cleanliness and quality requirements, and safety precautions applicable to repair or modification being performed
- complete and process maintenance documentation.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- 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
- industry, regulatory, manufacturer and organisational requirements, procedures, practices and methods required for the tasks described in the performance evidence, including:
 - inspecting cabin and cockpit components
 - WHS requirements and procedures, including procedures for:
 - obtaining and using SDS
 - selecting and using required items of PPE
 - organisational procedures for:
 - routine basic repair techniques and the use of standard repair manual/practices
 - obtaining modification instructions
 - selecting required materials and equipment
 - repairing corrosion, cracking and impact damage to metallic components
 - repairing delamination, cracking and impact damage to non-metallic components
 - completing and processing required documentation
- maintenance documentation requirements relating to materials and equipment required for repair or modification
- types of deterioration and damage
- identification and interpretation of metallic and non-metallic repair schemes applicable to cabin/cockpit non-primary structural components
- key characteristics of different forms of corrosion
- 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

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

Competency must be assessed in the work environment, or simulated work environment, using tools and equipment specified by aircraft maintenance manuals.

The candidate must have access to general-purpose tools, test and ground support equipment required to demonstrate the performance evidence above.

Candidate capability must 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 of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

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