



Australian Government

Department of Education, Employment and Workplace Relations

MEA419A Inspect and repair/modify aircraft cabin/cockpit non-primary structure components

Release: 2

MEA419A Inspect and repair_modify aircraft cabin_cockpit non-primary structure components

Modification History

Minor formatting and editorial changes made. Prerequisite unit version code updated.

Unit Descriptor

This unit of competency is part of the Aeroskills Life Support and Furnishing Certificate III and IV training pathways. It covers the competencies required to inspect for damage and perform routine basic repairs and modifications on a range of aircraft non-primary structural metallic and non-metallic components located in aircraft cabins and cockpits. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

Application of the Unit

This unit 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 aircraft cabins and cockpits. Applications include fixed and rotary wing aircraft.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MEA101B	Interpret occupational health and safety practices in aviation maintenance
MEA103B	Plan and organise aviation maintenance work activity
MEA105C	Apply quality standards applicable to aviation maintenance processes
MEA107B	Interpret and use aviation maintenance industry manuals and specifications
MEA108B	Complete aviation maintenance industry documentation
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

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 standard 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 approved practices are used and standard process requirements are carried out
 - 3.2. Work area is cleaned of all waste material
 - 3.3. Minor adjustments are made, where necessary, for components to operate in accordance with prescribed specifications
4. Perform routine repairs and minor modifications to aircraft cabin/cockpit non-primary structure non-metallic components
 - 4.1. ***Non-metallic component repairs*** and minor modifications are performed in accordance with approved repair scheme or modification instructions, ensuring that approved practices are used and standard process requirements are carried out
 - 4.2. Work area is cleaned of all waste material
 - 4.3. Minor adjustments are made, where necessary, for components to operate in accordance with 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 stored in accordance with specified procedures, where required

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying relevant OHS 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 sheetmetal 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

Required knowledge

Look for evidence that confirms knowledge of:

- applicable OHS 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

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to apply hand skills and use maintenance publications to inspect and repair aircraft cabin/cockpit non-primary structure metallic and non-metallic components while applying all relevant safety precautions.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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.</p> <p>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.</p> <p>A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of the unit of competency are being achieved on a representative range of components, inspecting for damage and performing repair tasks listed in Groups 1 to 6 in the Range Statement. This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.</p>
<p>Context of and specific resources for assessment</p>	<p>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.</p>
<p>Method of assessment</p>	
<p>Guidance information for assessment</p>	

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Note</p>	<p>Range statements listed below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide</p>
<p>Metallic and/or non-metallic component repair</p>	<p>Metallic and/or non-metallic components may include:</p> <ul style="list-style-type: none"> • 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 <p>Types of damage may include:</p> <ul style="list-style-type: none"> • corrosion, cracking and impact damage to metallic components • delamination, cracking and impact damage to non-metallic components <p>Metallic component repairs may include:</p> <ol style="list-style-type: none"> 1. Removing corrosion by chemical and mechanical methods 2. Restoring protective coatings 3. Freehand precision hole generation 4. Removing and installing fastening devices 5. Fitting patches to cabin/cockpit non-primary structure sheetmetal components <p>Non-metallic component repairs may include:</p> <ol style="list-style-type: none"> 6. Composite patch, scarf and stepped repairs using fibreglass, sandwich honeycomb, nylon, perspex, nomex core materials and matrix resins
<p>Primary structure</p>	<p>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</p>
<p>Application</p>	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> • scheduled or unscheduled maintenance activities • individual or team-related activities

Procedures and requirements	Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise
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Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable