



**Australian Government**

# **MEA406B Repair/modify aircraft non-primary structural sheetmetal components**

**Revision Number: 2**

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## **Modification History**

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

## **Unit Descriptor**

This unit of competency is part of the Aeroskills Structures Maintenance Certificate II training pathway. It covers the competencies required to perform routine basic repairs and modifications, under qualified person guidance, on a range of aircraft non-primary structural sheetmetal components. 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 repair aircraft non-primary structure sheetmetal components under the guidance of a qualified person.

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

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>1. Prepare to perform routine repairs and minor modifications to aircraft non-primary structural sheetmetal components</li><br/><li>2. Perform routine repairs and minor modifications to aircraft non-primary structural sheetmetal components</li><br/><li>3. Complete routine repair and minor modification activities</li></ul> | <ul style="list-style-type: none"><li>1.1.Applicable sheetmetal repair scheme is determined in accordance with applicable maintenance documentation, enterprise procedures and qualified person guidance</li><li>1.2.All required materials and equipment are selected and organised in accordance with enterprise procedures and maintenance documentation</li><br/><li>2.1.<b>Sheetmetal repairs</b> are performed in accordance with approved repair scheme, ensuring that aircraft standard practices are used and standard process requirements are carried out</li><li>2.2.Work area is cleaned of all waste material or adjustments</li><li>2.3.Under guidance of a qualified person, minor adjustments are made, where necessary, for components to operate within prescribed specifications</li><br/><li>3.1.Required documentation is accurately completed and correctly processed in accordance with enterprise procedures</li><li>3.2.Repaired components or assemblies are tagged, sealed and packaged or cradled in accordance with specified procedures, where required</li></ul> |
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## **Required Skills and Knowledge**

### **Required skills**

Look for evidence that confirms skills in:

- applying relevant OHS procedures, including the use of MSDS and PPE
- using enterprise procedures, approved maintenance documentation and aircraft publications relating to aircraft sheetmetal components
- identifying various aircraft metals used for sheetmetal components and their basic metallurgy properties by interpretation of markings, numbering systems or visual, chemical or mechanical means
- handling and storing aircraft metals used for sheetmetal components, including sealing agents, to industry standards
- identifying aircraft sheetmetal assembly fasteners (metal and non-metallic) by interpretation of markings, numbering systems, size, shape and colour
- correctly interpreting, with expert qualified person guidance and in accordance with enterprise procedures, sheetmetal repair scheme/modification drawings and hand sketches
- using appropriate hand tools and machines under supervision to remove and assemble aircraft sheetmetal components
- performing under guidance and in accordance with enterprise procedures a range of routine sheetmetal repair techniques, including metal scab patch repairs
- applying corrosion removal/treatment techniques
- restoring sealing and surface finishes

### **Required knowledge**

Look for evidence that confirms a basic knowledge of:

- aircraft sheetmetal component construction principles and repair techniques
- how to obtain relevant MSDS
- the use of applicable items of PPE
- OHS procedures

## 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.

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Overview of assessment</b>                                                                       | A person who demonstrates competency in this unit must be able to apply hand skills and use maintenance publications under qualified person guidance to repair aircraft non-primary structure sheetmetal components while applying all relevant safety precautions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b> | <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 basic repair techniques and the use of the standard repair manual/practices in a range of different routine repair 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 under qualified person guidance on at least one item from each of Groups 1 to 5 listed 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> |
| <b>Context of and specific resources for assessment</b>                                             | Competency should be assessed in the 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Method of assessment</b>                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Guidance information for assessment</b>                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Range Statement

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.

**Note:**

The Range Statements below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide

**Sheetmetal repairs**

Sheetmetal repairs may include:

1. Removing corrosion by chemical and mechanical methods
2. Restoring protective coatings
3. Freehand precision hole generation
4. Removing and installing fastening devices
5. Routine repairs to non-primary structural sheetmetal components

**Work environment**

Work is undertaken either autonomously or as part of a team and under the guidance of a qualified person.

Routine work is carried out using basic operational knowledge and a defined range of skills ('routine' work is that which follows a customary or regular course of procedure). All work outcomes are achieved by applying known solutions chosen from a limited range of pre-determined options consistent with enterprise procedures. This includes accepting responsibility for own work in terms of quality of outcomes using pre-determined specifications of quality.

**Competency application**

Competency applies to the routine repair and/or minor modification of aircraft non-primary structural sheetmetal components. Note that 'primary structure/structural' refers to all components of an aircraft, the failure of which would seriously endanger safety, for example, wing or tailplane spars, main fuselage frames, engine bearers, portions of skin that are highly stressed. 'Non-primary' refers to any other items. Note also that the scope of any modification and the procedure to be followed will be provided by the qualified person.

**Scope**

Repairs/modification undertaken are limited to the scope of skills and knowledge included in the unit of competency

|                                    |                                                                                                      |
|------------------------------------|------------------------------------------------------------------------------------------------------|
|                                    | MEA109B Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance |
| <b>Procedures and requirements</b> | Refer to industry standard specified by manufacturers, regulatory authorities or the enterprise      |

## Unit Sector(s)

Aviation maintenance

## Competency field

## Co-requisite units

Not applicable