



Australian Government

MEA406 Repair/modify aircraft non-primary structural sheet metal components

Release: 2

MEA406 Repair/modify aircraft non-primary structural sheet metal components

Modification History

Release 2. Equivalent to MEA406 Repair/modify aircraft non-primary structural sheet metal components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of maintenance publications to repair fixed and rotary wing aircraft non-primary structure sheet metal components under the guidance of a qualified person.

This unit is part of the Aeroskills Structures Maintenance Certificate II training pathway. 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

MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA154	Apply work health and safety practices in aviation maintenance
MEA155	Plan and organise aviation maintenance work activities
MEA156	Apply quality standards during aviation maintenance activities
MEA157	Complete aviation maintenance industry documentation
MEA158	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.	Prepare to perform routine repairs and minor modifications to aircraft non-primary structural sheet metal components	1.1	Applicable sheet metal repair scheme is determined in accordance with applicable maintenance documentation, enterprise procedures and qualified person guidance
		1.2	All required materials and equipment are selected and organised in accordance with enterprise procedures and maintenance documentation
2.	Perform routine repairs and minor modifications to aircraft non-primary structural sheet metal components	2.1	Sheet metal repairs are performed in accordance with approved repair scheme, 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)
		2.2	Work area is cleaned of all waste material or adjustments
		2.3	Under guidance of a qualified person, minor adjustments are made, where necessary, for components to operate within prescribed specifications
3.	Complete routine repair and minor modification activities	3.1	Required documentation is accurately completed and correctly processed in accordance with enterprise procedures
		3.2	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.

Sheet metal repairs include:	• Removing corrosion by chemical and mechanical methods • Restoring protective coatings • Freehand precision hole generation • Removing and installing fastening devices • Routine repairs to non-primary structural sheet metal 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 sheet metal 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 MEA158 Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance
Procedures and requirements include:	• Industry standard specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA406 Repair/modify aircraft non-primary structural sheet metal 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 MEA406 Repair/modify aircraft non-primary structural sheet metal 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 procedures, including the use of PPE and MSDS
- using enterprise procedures, approved maintenance documentation and aircraft publications relating to aircraft sheet metal components
- identifying various aircraft metals used for sheet metal 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 sheet metal components, including sealing agents, to industry standards
- identifying aircraft sheet metal 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, sheet metal repair scheme/modification drawings and hand sketches
- using appropriate hand tools and machines under supervision to remove and assemble aircraft sheet metal components
- performing under guidance and in accordance with enterprise procedures a range of routine sheet metal repair techniques, including metal scab patch repairs
- 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 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.

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 a basic knowledge of:

- aircraft sheet metal component construction principles and repair techniques

- how to obtain relevant MSDS
- the use of applicable items of PPE
- WHS procedures.

Assessment Conditions

- 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.
- 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 under qualified person guidance on at least one (1) item from each of the following groups:
 - removing corrosion by chemical and mechanical methods
 - restoring protective coatings
 - freehand precision hole generation
 - removing and installing fastening devices
 - routine repairs to non-primary structural sheet metal components.
- 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).

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