



Australian Government

Department of Education, Employment and Workplace Relations

MEA290A Fit avionics modification sheetmetal components

Revision Number: 2

MEA290A Fit avionic modification sheetmetal components

Modification History

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

Unit Descriptor

This unit of competency is part of the Avionic Certificate IV (Aircraft Maintenance Stream) training pathway. It covers the competencies required for the performance of sheetmetal work associated with the incorporation of avionic modifications on small aircraft.

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the applicable Aircraft Maintenance Engineer Licence under CASR Part 66, in accordance with the licensing provisions in Section 3, Assessment Guidelines.

Application of the Unit

This unit requires application of hand skills and the use of maintenance publications and modification documentation to perform sheetmetal work associated with avionic modifications being incorporated on small aircraft.

Applications include small 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 activities
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. Prepare to fit avionic modification sheetmetal components
 - 1.1. Applicable sheetmetal components are identified in accordance with applicable modification instructions and maintenance documentation
 - 1.2. All required materials and equipment are selected and organised in accordance with the applicable modification instructions and maintenance documentation
2. Fit avionic modification sheetmetal components
 - 2.1. *Sheetmetal components* are fitted in accordance with the modification instructions, ensuring that aircraft standard practices are used and standard process requirements are carried out
 - 2.2. Work area is cleaned of all waste material
3. Complete modification activities
 - 3.1. Required documentation is accurately completed and correctly processed in accordance with enterprise procedures

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, modification drawings and hand sketches
- using appropriate hand tools and machines to fit avionic modification sheetmetal components to the aircraft
- freehand precision hole generation
- applying corrosion prevention techniques during component fitment
- restoring sealing and surface finishes

Required knowledge

Look for evidence that confirms knowledge of:

- aircraft sheetmetal component construction principles
- identification of primary, secondary and tertiary structure
- aircraft sheetmetal assembly fasteners, their characteristics and identification
- fits and clearances for fasteners
- fitting methods for fasteners
- use of grip pins
- corrosion of aircraft structure and its prevention
- application of surface finishes
- relevant OHS procedures
- how to obtain MSDS
- use of PPE

Evidence Guide

<p>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>	
<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 and modification instructions to correctly fit small aircraft avionic modification sheetmetal 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 avionic modification incorporation and practices relating to associated sheetmetal component installation will be necessary to supplement evidence of ability to fit a range of sheetmetal components in a specific application.</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 the range of sheetmetal components listed in Groups 1 to 4 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 in maintenance documentation. It is also expected that general purpose tools and test 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>Sheetmetal components</p>	<p>Sheetmetal components may include:</p> <ol style="list-style-type: none"> 1. Doublers for the installation of antennas 2. Brackets for the installation of avionic system components 3. Racks for components, such as transmitters/receivers 4. Hardware for the support of antenna cables and system electrical wiring
<p>Application</p>	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> • scheduled or unscheduled maintenance • individual or team-related activities
<p>Procedures and requirements</p>	<p>Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise</p>

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable