



Australian Government

MEA290 Fit avionic modification sheet metal components

Release: 2

MEA290 Fit avionic modification sheet metal components

Modification History

Release 2. Equivalent to MEA290 Fit avionic modification sheet metal components with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of maintenance publications and modification documentation to perform sheet metal work associated with avionic modifications being incorporated on small fixed and rotary wing aircraft during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

This unit of competency is part of the Avionic Certificate IV (Aircraft Maintenance Stream) training pathway.

Where a Civil Aviation Safety Authority (CASA) licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

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.

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| 1. Prepare to fit avionic modification sheet metal components | 1.1 Applicable sheet metal 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 sheet metal components | 2.1 Sheet metal components are fitted in accordance with the modification instructions, 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 personal protective equipment (PPE) |
| | 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 |

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 components include:

- Doublers for the installation of antennas
- Brackets for the installation of avionic system components
- Racks for components, such as transmitters/receivers

Procedures and requirements include:

- Hardware for the support of antenna cables and system electrical wiring
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA290 Fit avionic modification 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 MEA290 Fit avionic modification 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 MSDS and PPE
- 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, modification drawings and hand sketches
- using appropriate hand tools and machines to fit avionic modification sheet metal components to the aircraft
- freehand precision hole generation
- applying corrosion prevention techniques during component fitment
- 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 avionic modification incorporation and practices relating to associated sheet metal component installation will be necessary to supplement evidence of ability to fit a range of sheet metal components in a specific application.

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 knowledge of:

- aircraft sheet metal component construction principles
- identification of primary, secondary and tertiary structure
- aircraft sheet metal 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 WHS procedures
- how to obtain MSDS
- use of PPE.

Assessment Conditions

- 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 applicable general-purpose tools and test 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 on the following range of sheet metal components:
 - doublers for the installation of antennas
 - brackets for the installation of avionic system components
 - racks for components, such as transmitters/receivers
 - hardware for the support of antenna cables and system electrical wiring.
- 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).
- 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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