



Australian Government

MEA502 Maintain and fit helmets

Release: 2

MEA502 Maintain and fit helmets

Modification History

Release 2. Equivalent to MEA502 Maintain and fit helmets with amended prerequisite codes.

Application

This unit of competency requires application of skills and knowledge relating to the maintenance and fitment of helmets worn by aircrew and passengers. Maintenance involves inspection, testing, fault diagnosis, replacement of parts, cleaning and functional testing. Fitment involves adjusting the helmet to correctly fit an individual. Maintenance may be performed individually or as part of a team.

Maintaining and fitting ancillary helmet equipment, such as illumination systems, night vision equipment and oxygen masks, is not part of this unit.

This unit is part of the Aeroskills Life Support and Furnishing Certificate III and IV training pathways.

The unit 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
MEA118	Conduct self in the aviation maintenance environment
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
MEA295	Use electrical test equipment to perform basic electrical tests on aircraft and components

Competency Field

Aircraft life support

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. Maintain helmet | 1.1 Helmet is inspected for serviceability in accordance with standard procedures |
| | 1.2 Helmet is tested for serviceability in accordance with standard procedures and manufacturer's specifications |
| | 1.3 Identified faults beyond own authority to rectify are reported to supervisor and faulty helmet is quarantined |
| | 1.4 Unserviceable parts of the helmet are replaced in accordance with standards procedures 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) |
| | 1.5 Communication system components are tested in accordance with standard procedures |
| | 1.6 Helmet is cleaned in accordance with standard procedures |
| | 1.7 Helmet is presented for inspection by supervisor in accordance with standard procedures |
| | 1.8 Maintenance documentation is completed and processed in accordance with standard enterprise procedures |
| 2. Fit helmet | 2.1 Fitting process is explained to the participant so that optimal fit can be achieved through relevant feedback |
| | 2.2 Participant is measured to select an appropriate size helmet |
| | 2.3 Components of helmet are adjusted to optimise fit |
| | 2.4 Helmet fit is verified through participant feedback and by the supervisor |
| | 2.5 Relevant documentation is completed and processed in accordance with standard 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.

Standard procedures are found in any or all of:

- Commonwealth/state/territory WHS legislation, regulations and codes
- Australian Standards
- Equipment manufacturers' specifications and procedures
- Industry practices
- Safety manual
- Maintenance schedules
- Work instructions
- Maintenance organisation manual
- MSDS
- Defence regulations and instructions
- Standing instructions

Faults include:

- Contamination
- Corrosion
- Cracks
- Delamination
- Fraying
- Incorrect manufacture
- Intermittent communication
- Scores/scratches

Replaceable parts of the helmet include:

- Comfort pads
- Ear cup
- Ear cup pads
- Liner
- Retention straps
- Visor

Communication system components include:

- Earphones
- Microphone
- Electric cables
- Switches

Components adjusted for fitment include:

- Communications system (e.g. ear cup and microphone where fitted)
- Comfort system (e.g. pads)
- Retention system (e.g. strap)
- Sizing system (e.g. liner)
- Visor system

Unit Mapping Information

Release 2. Equivalent to MEA502 Maintain and fit helmets

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 MEA502 Maintain and fit helmets

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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 WHS practices relating to helmet maintenance processes, including the selection and correct use of PPE, where applicable
- using MSDS
- using applicable tools and maintenance documentation to:
 - solder helmet electronic/electrical components
 - test the operation of helmet electronic/electrical components
 - replace unserviceable components in accordance with approved procedures including hand sewing, the use of hazardous chemicals and adhesives and thermal oven operation
 - select and use appropriate helmet cleaning materials
 - correctly fit helmets to users
- tying of knots, including:
 - reef knot
 - bowline
 - thumb knot
 - half hitch
- cleaning and maintenance of equipment and tools
- correctly disposing of hazardous waste.

The underlying skills inherent in this unit should be transferable across a range of aircraft life support equipment maintenance activities. It is essential that helmet testing and inspection procedures, cleanliness requirements and safety precautions, including the correct use of PPE, are fully observed, understood and complied with. Ability to interpret maintenance and fitting procedures and apply them in practice is critical.

This is to be demonstrated through demonstration of the ability to recognise faults and damage and perform appropriate repairs that are within the bounds of the individual's authority, and through the demonstration of correct fitting procedures.

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:

- relevant enterprise procedures and maintenance publications

- WHS procedures relating to helmet maintenance including the selection and use of PPE
- how to obtain MSDS
- components of a helmet and their function
- helmet operation in relation to flight
- physiological effects of flight
- aircraft crash dynamics
- critical nature of maintaining and fitting helmets
- need to regularly assess correct fitment of helmets
- helmet fitting procedures
- G forces
- forces of ejection
- basic electrical principles
- environmental conditions that may affect helmets
- approved cleaning methods for aviation life support equipment
- handling, storage and transit procedures relating to life support equipment
- types of corrosion and contamination that may affect helmets
- modification requirements for helmets
- helmet repair procedures and limitations
- soldering techniques
- operation of testing and measuring equipment and relevant specialist tools including thermal oven operation
- use and storage of adhesives.

Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace using materials, tools and equipment specified in the maintenance manuals and applicable procedures. It is also expected that general and special-purpose tools and ground support equipment would be used where appropriate.
- The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- 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 routine supervision on at least three (3) unserviceable helmets providing a representative range of maintenance tasks and on the correct fitting of helmets to at least three (3) individuals.
- 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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