



Australian Government

Department of Education, Employment and Workplace Relations

MEA502A Maintain and fit helmets

Revision Number: 2

MEA502A Maintain and fit helmets

Modification History

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

Unit Descriptor

This unit is part of the Aeroskills Life Support and Furnishing Certificate III and IV training pathways. It covers the competencies required to maintain and fit helmets that are capable of housing communications equipment. Maintenance involves inspecting, testing, isolating faults, replacing parts and sending away for repair, cleaning and testing prior to placing the item back in service. Fitting a helmet includes adjusting the helmet to fit the individual (helmets are not an off-the-shelf issue). This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

This unit is equivalent to PUADEFSL002B Maintain and fit helmets.

Application of the Unit

This unit 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.

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

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

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
 - 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

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying OHS 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 maintaining equipment and tools
- correctly disposing of hazardous waste

Required knowledge

Look for evidence that confirms knowledge of:

- relevant enterprise procedures and maintenance publications
- OHS 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

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.

<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to maintain and fit helmets while using the correct PPE and observing 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 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.</p> <p>Evidence of transferability of skills and knowledge related to helmet maintenance and fitting is essential. 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. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.</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 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 individuals. 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 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.</p>
<p>Method of assessment</p>	

Guidance information for assessment	
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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.

<p>Standard procedures</p>	<p>Standard procedures may be found in any or all of:</p> <ul style="list-style-type: none"> • state/territory/Commonwealth OHS 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
<p>Faults</p>	<p>Faults may include:</p> <ul style="list-style-type: none"> • contamination • corrosion • cracks • delamination • fraying • incorrect manufacture • intermittent communication • scores/scratches
<p>Replaceable parts</p>	<p>Parts of the helmet may include:</p> <ul style="list-style-type: none"> • comfort pads • ear cup • ear cup pads • liner • retention straps • visor
<p>Communication system components</p>	<p>Communication system components may include:</p> <ul style="list-style-type: none"> • earphones • microphone • electric cables

	<ul style="list-style-type: none"> • switches
Components adjusted for fitment	<p>Components may include:</p> <ul style="list-style-type: none"> • 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
Application	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> • scheduled or unscheduled maintenance activities • individual or team-related activities

Unit Sector(s)

Aircraft life support

Competency field

Co-requisite units

MEA118A Conduct self in the aviation maintenance environment

MEA240B Use electrical test equipment to perform basic electrical tests