



Australian Government

Department of Education, Employment and Workplace Relations

MEA501A Maintain and fit anti-G suits

Revision Number: 1

MEA501A Maintain and fit anti-G suits

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	<p>This Unit is part of the Aeroskills Life Support and Furnishing AQF III and IV training pathways. It covers the competencies required to maintain and fit an Anti-G suit. Maintenance involves inspecting, testing, isolating faults, replacing parts, repairing and cleaning, while fitting involves adjusting the Anti-G suit to fit an individual. No licensing requirements apply to this unit at the time of publication.</p> <p>This Unit is equivalent to PUADEFLS001A Maintain and fit Anti-G suits.</p>
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Application of the Unit

Application of the unit	<p>This unit requires application of skills and knowledge relating to the maintenance and fitment of Anti-G suits worn by aircrew and passengers in high performance aircraft. Maintenance involves inspection, testing, fault diagnosis, replacement of parts, repairs to fabric and cleaning. Fitment involves adjusting the Anti-G suit to correctly fit an individual.</p> <p>The scope of repairs excludes inflatable components of the Anti-G suit.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	MEA101B	Interpret occupational health and safety practices in aviation maintenance
	MEA103B	Plan and organise aviation maintenance work activity
	MEA105B	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
	MEA511A	Operate and maintain sewing machines and overlockers
	LMFSF2002B	Machine sew materials

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<p>1. Maintain Anti-G suit</p>	<p>1.1. Anti-G suit is inspected for serviceability in accordance with <i>standard procedures</i>.</p> <p>1.2. Anti-G suit is tested for serviceability in accordance with standard procedures and manufacturer's specifications.</p> <p>1.3. Identified <i>faults</i> beyond own authority to rectify are reported to supervisor and faulty Anti-G suit is quarantined.</p> <p>1.4. Unserviceable <i>parts</i> of the Anti-G suit are replaced and fabric repairs are completed in accordance with standards procedures.</p> <p>1.5. Anti-G suit is cleaned in accordance with standard procedures</p> <p>1.6. Anti-G suit is presented for inspection by supervisor in accordance with standard procedures.</p> <p>1.7. Maintenance documentation is completed and processed in accordance with standard enterprise procedures.</p>
<p>2. Fit Anti-G suit</p>	<p>2.1. Fitting process is explained to the participant so that optimal fit can be achieved.</p> <p>2.2. Participant is measured and appropriate size Anti-G suit is selected.</p> <p>2.3. <i>Anti-G suit is adjusted</i> to optimise fit in conjunction with participant feedback.</p> <p>2.4. Anti-G suit fit is verified by the supervisor.</p> <p>2.5. Relevant documentation is completed and processed in accordance with standard enterprise procedures.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Look for evidence that confirms skills in:

- Application of occupational health and safety (OHS) practices relating to Anti-G suit maintenance processes, including the selection and correct use of PPE where applicable
- Use of Material Safety Data Sheets (MSDS)
- The use of applicable tools and maintenance documentation to:
 - test/inspect Anti-G suits for serviceability
 - replace unserviceable components and repair fabric in accordance with approved procedures including sewing
 - select and use appropriate Anti-G suit cleaning materials
 - correctly fit Anti-G suits to users
- Tying of knots including:
 - reef knot
 - bowline
 - thumb knot
 - daisy chain
 - half hitch
- Cleaning and maintenance of equipment and tools

Required knowledge

Look for evidence that confirms knowledge of:

- Relevant enterprise procedures and maintenance publications
- OHS procedures relating to Anti-G suit maintenance including the selection and use of PPE
- How to obtain MSDS
- G forces and Anti-G suit operation during flight
- Physiological effects of flight
- Critical nature of maintaining and fitting Anti-G suits
- Forces of ejection
- Operation of testing and measuring equipment and tools used to maintain Anti-G suits
- Inflation methods used in the maintenance of Anti-G suits
- Types of corrosion and contamination that may affect Anti-G suits
- Modification requirements for Anti-G suits
- Anti-G suit repair procedures and limitations

REQUIRED SKILLS AND KNOWLEDGE

- Lacing techniques used in the fitting of Anti-G suits
- Anti-G suit cleaning methods and materials
- Handling, storage and transit procedures

Evidence Guide

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 maintain and fit Anti-G suits 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 Anti-G suit 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 Anti-G suit 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 on different sized individuals. 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 a representative range of maintenance tasks and on the correct fitting of Anti-G suits to at least three different sized individuals. This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry</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</p>

EVIDENCE GUIDE	
	would be used where appropriate.
Method of assessment	
Guidance information for assessment	

Range Statement

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><i>Standard procedures may be found in any or all of:</i></p> <ul style="list-style-type: none"> • State/Territory/Commonwealth OH&S 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>Typical faults</p>	<p><i>Faults may include:</i></p> <ul style="list-style-type: none"> • broken zips and stitching • contamination • corrosion of metal parts such as zippers • damaged hardware • excessive wear • incorrect manufacture • leaks • tears
<p>Anti-G suit replaceable parts</p>	<p><i>Parts of the Anti-G suit may include:</i></p> <ul style="list-style-type: none"> • eyelets • press studs • zips
<p>Adjustment of fit</p>	<p><i>Adjustment of the Anti-G suit may be effected by:</i></p> <ul style="list-style-type: none"> • lacing of torso and legs • waist extension/reduction

RANGE STATEMENT

Application	Application of this unit may relate to: <ul style="list-style-type: none"> • scheduled or unscheduled maintenance activities • individual or team related activities
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Unit Sector(s)

Unit sector	
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Competency field

Competency field	Aircraft life support
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Co-requisite units

Co-requisite units		
	MEA118A	Conduct self in the aviation maintenance environment