



Australian Government

Department of Education, Employment and Workplace Relations

MEA503A Maintain and fit immersion suits

Revision Number: 2

MEA503A Maintain and fit immersion suits

Modification History

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

Unit Descriptor

This unit of competency is part of the Aeroskills Life Support and Furnishing Certificate III and IV training pathways. It covers the competencies required to maintain and fit immersion suits. Maintenance involves inspecting, testing, isolating faults, replacing or sending away for repair, cleaning and packing prior to placing the item back into service. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

This unit is equivalent to PUADEFSL003B Maintain and fit immersion suits.

Application of the Unit

This unit requires application of skills and knowledge relating to the maintenance and fitment of immersion suits. Maintenance involves inspection, testing, fault diagnosis, replacement of parts and cleaning. Fitment involves adjusting the immersion suit to correctly fit an individual.

There are two types of immersion suits: quick don and constant wear. Quick don usually does not require fitting while constant wear is custom fitted to the individual.

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
LMTTF2008A	Use adhesives

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 immersion suit
 - 1.1. Immersion suit is inspected for serviceability in accordance with *standard procedures*
 - 1.2. Immersion suit 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 immersion suit is quarantined
 - 1.4. Unserviceable *parts* of the immersion suit are replaced
 - 1.5. Immersion suit is cleaned in accordance with standard procedures
 - 1.6. Immersion suit is re-packed in accordance with standard procedures
 - 1.7. Immersion suit 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 immersion suit
 - 2.1. Fitting process is explained to the participant so that optimal fit can be achieved
 - 2.2. Participant is measured and appropriate size immersion suit is selected
 - 2.3. *Immersion suit is adjusted* to optimise fit in conjunction with participant feedback
 - 2.4. Immersion suit fit is verified 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 immersion suit maintenance processes, including the selection and correct use of PPE, where applicable
- using MSDS
- using applicable tools and maintenance documentation to:
 - test/inspect immersion suits for serviceability
 - replace unserviceable components in accordance with approved procedures, including the use of hazardous materials and adhesives
 - select and use appropriate immersion suit cleaning materials
 - correctly fit immersion suits to users
- operating specialist equipment, including:
 - heat press
 - vacuum heat sealer
 - 3 stage in-line breathing apparatus
 - filter extraction systems
 - spill kits
- cleaning and maintaining equipment and tools

Required knowledge

Look for evidence that confirms knowledge of:

- relevant regulations, standards, enterprise procedures and maintenance publications
- OHS procedures relating to immersion suit maintenance, including the selection and use of PPE
- how to obtain MSDS
- emergency procedures in relation to chemical spills and emergency evacuation of personnel in distress
- chemical disposal procedures
- requirements for storage of adhesives
- cold shock and hypothermia in relation to survival
- priorities of survival and how they relate to immersion suits and associated ancillary equipment
- physiological effects of flight
- critical nature of maintaining and fitting immersion suits
- materials used to manufacture immersion suits (i.e. neoprene and gortex)
- operation of testing and measuring equipment and tools used to maintain immersion suits
- components of an immersion suit and their function
- types of corrosion and contamination that may affect immersion suits
- modification requirements for immersion suits

- immersion suit repair procedures and limitations
- immersion suit cleaning methods and materials
- handling, storage and transit procedures relating to life support equipment
- handling and storage procedures relating to immersion suits (i.e. MACPAC highly susceptible to damage)
- specialist equipment operation, including:
 - heat press
 - vacuum heat sealer
 - 3 stage in-line breathing apparatus
 - filter extraction systems
 - spill kits

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 immersion 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 immersion 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 immersion 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. 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 immersion suits. 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>

Method of assessment	
Guidance information for assessment	

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 of metal parts, such as zippers • delamination • incorrect manufacture • leaks • lifting of tapes • scuffing (e.g. boot) • tears in suit and/or seals
<p>Parts of the immersion suit</p>	<p>Parts of the immersion suit may include:</p> <ul style="list-style-type: none"> • boots • gloves • life line • light • seals (e.g. wrist and neck) • whistle
<p>Adjustment of the immersion suit</p>	<p>Adjustment of the immersion suit may include:</p> <ul style="list-style-type: none"> • leg length • sleeve length • trimming seals

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)

Aircraft life support

Competency field

Co-requisite units

MEA118A Conduct self in the aviation maintenance environment