



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **MEA507A Maintain, pack and fit survival inflatable buoyancy vests**

**Revision Number: 2**

## **MEA507A Maintain, pack and fit survival inflatable buoyancy vests**

### **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, pack and fit survival inflatable buoyancy vests. Maintenance includes inspecting, testing, isolating faults, replacing components and cleaning prior to packing. The unit does not include repairing buoyancy vests. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

This unit is equivalent to PUADEFLS007B Maintain, pack and fit survival inflatable buoyancy vests.

### **Application of the Unit**

This unit requires application of skills and knowledge relating to the maintenance and packing of survival inflatable buoyancy vests. Maintenance involves inspection, testing, fault diagnosis, replacement of parts and cleaning.

The unit applies to a range of types of survival inflatable buoyancy vests.

### **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 survival inflatable buoyancy vests
  - 1.1. *Survival inflatable buoyancy vests* and *associated ancillary equipment* are inspected for serviceability in accordance with *standard procedures*
  - 1.2. Identified *faults* beyond own authority to rectify are reported to supervisor and faulty survival inflatable buoyancy vest and/or ancillary equipment is quarantined
  - 1.3. Unserviceable *parts* of the survival inflatable buoyancy vest and/or ancillary equipment are replaced in accordance with standard procedures
  - 1.4. Survival inflatable buoyancy vest is *tested* for serviceability in accordance with standard procedures and manufacturer's specifications
  - 1.5. Survival inflatable buoyancy vest is cleaned in accordance with standard procedures
  - 1.6. Survival inflatable buoyancy vest is presented for inspection by supervisor in accordance with standard procedures
  - 1.7. Maintenance documentation is completed and processed in accordance with standard enterprise procedures
2. Pack survival inflatable buoyancy vests
  - 2.1. Survival inflatable buoyancy vest is packed for use in accordance with standard procedures
  - 2.2. Ancillary equipment is packed for use in accordance with standard procedures
  - 2.3. Survival inflatable buoyancy vest is presented for inspection by supervisor in accordance with standard enterprise procedures
  - 2.4. Relevant documentation is completed and processed in accordance with standard enterprise procedures
3. Fit survival inflatable buoyancy vests
  - 3.1. Fitting process is explained to the participant so that optimal fit can be achieved through relevant feedback
  - 3.2. Participant is measured to select appropriate size survival inflatable buoyancy vest
  - 3.3. Survival inflatable buoyancy vest is *adjusted* to optimise fit
  - 3.4. Survival inflatable buoyancy vest fit is verified through participant feedback and supervisor approval
  - 3.5. 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 survival inflatable life raft, ancillary equipment and escape slide maintenance processes, including the selection and correct use of PPE, where applicable
- using MSDS
- using maintenance publications, drawings and documentation relating to survival inflatable buoyancy vests and ancillary equipment maintenance
- handling, storing and organising transport of equipment
- delivering briefings to personnel in relation to operating, donning/doffing and fitting of survival inflatable buoyancy vests
- inflating/deflating survival inflatable devices for maintenance
- using applicable testing and measuring equipment, tools and maintenance documentation to:
  - test survival inflatable devices for serviceability
  - replace unserviceable components or items of ancillary equipment in accordance with approved procedures
  - select and use appropriate survival inflatable device cleaning materials
- solder battery terminals on emergency locator transmitters
- tying various types of knots, including:
  - reef knot
  - bowline
  - thumb knot
  - half hitch
- hand sewing
- 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 survival inflatable buoyancy vest maintenance, including the selection and use of PPE
- how to obtain MSDS
- relevant safety precautions including storage and handling of compressed gas cylinders and survival and distress pyrotechnics
- critical nature of maintaining and packing survival inflation devices, i.e. risk of death
- search and rescue procedures
- priorities of survival and how they relate to survival inflatable buoyancy vests and associated ancillary equipment
- electrical principles
- approved cleaning methods for aviation life support equipment

- environmental conditions that may affect survival inflation devices including ultraviolet degradation
- types of corrosion and contamination that may affect survival inflation devices
- handling, storage and transit procedures relating to survival inflation devices
- survival inflation devices and methods of operation
- operation of emergency locator beacons and emergency locator transmitters
- principles of operation of inflation mechanisms
- components of a survival inflation device and their function
- repair limitations for survival inflatable buoyancy vests
- modification requirements for survival inflatable buoyancy vests
- requirements for a survival inflation device servicing facility
- packing tools and measuring equipment required to pack survival inflatable devices
- use of survival inflatable buoyancy vests, including associated ancillary equipment

## 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.

### Overview of assessment

A person who demonstrates competency in this unit must be able to maintain, pack and fit survival inflatable buoyancy vests while observing all relevant safety precautions.

### Critical aspects for assessment and evidence required to demonstrate competency in this unit

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

Evidence of transferability of skills and knowledge related to survival inflatable buoyancy vest maintenance and packing is essential. This is to be demonstrated through demonstration of the ability to recognise faults and replace components that are within the bounds of the individual's authority, and through the demonstration of correct packing and fitting procedures. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.

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 the following range of tasks:

- completing a minimum of three (3) inflation tests without the need for corrective action by the supervisor
- recognising the limits of own authority
- testing cylinder weight and determining if it is within tolerance
- correctly packing a minimum of three (3) survival inflatable buoyancy vests without the need for corrective action by the supervisor
- correctly fitting survival inflatable buoyancy vests to a minimum of three different people without supervisor intervention

	<ul style="list-style-type: none"> <li>recognising a range of faults and their serviceability limits (faults must include incorrect manufacture and verifying expiry date of inflatable buoyancy vest and ancillary equipment).</li> </ul> <p>This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.</p>
<b>Context of and specific resources for assessment</b>	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.
<b>Method of assessment</b>	
<b>Guidance information for assessment</b>	



## Range Statement

<p>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>	
<p><b>Applicable survival inflatable buoyancy vests</b></p>	<p>Survival inflatable buoyancy vests may include:</p> <ul style="list-style-type: none"> <li>• Secumar AUS2</li> </ul>
<p><b>Ancillary equipment</b></p>	<p>Ancillary equipment may include:</p> <ul style="list-style-type: none"> <li>• electronic locating devices</li> <li>• lighting devices</li> <li>• pyrotechnics</li> <li>• rations</li> <li>• survival/location aids</li> <li>• water</li> </ul>
<p><b>Standard procedures</b></p>	<p>Standard procedures may be found in any or all of:</p> <ul style="list-style-type: none"> <li>• state/territory/Commonwealth OHS legislation, regulations and codes</li> <li>• Australian Standards</li> <li>• equipment manufacturers' specifications and procedures</li> <li>• industry practices</li> <li>• safety manual</li> <li>• maintenance schedules</li> <li>• work instructions</li> <li>• maintenance organisation manual</li> <li>• MSDS</li> <li>• Defence regulations and instructions</li> <li>• CASR and advisory material</li> <li>• standing instructions</li> </ul>
<p><b>Faults</b></p>	<p>Faults may include:</p> <ul style="list-style-type: none"> <li>• abrasion</li> <li>• broken stitching</li> <li>• contamination</li> <li>• corrosion of metal parts</li> <li>• damaged hardware</li> <li>• delamination/porosity</li> <li>• expired components or equipment</li> <li>• faulty valves</li> <li>• frayed lines</li> </ul>

	<ul style="list-style-type: none"> <li>• holes</li> <li>• incorrect manufacture</li> <li>• lifting tapes</li> <li>• ultraviolet degradation</li> </ul>
<b>Parts</b>	<p>Parts may include:</p> <ul style="list-style-type: none"> <li>• buoyancy chambers</li> <li>• cylinders</li> <li>• hardware</li> <li>• operating head</li> <li>• valves</li> <li>• valise</li> <li>• zippers</li> </ul>
<b>Testing</b>	<p>Testing may include:</p> <ul style="list-style-type: none"> <li>• checking ancillary equipment (e.g. electronic locating devices and survival/location aids)</li> <li>• cylinder weight tolerance</li> <li>• inflation tests</li> <li>• light and battery test</li> </ul>
<b>Adjustment</b>	<p>Adjustment to vest may include:</p> <ul style="list-style-type: none"> <li>• breast height</li> <li>• chest</li> <li>• waist</li> </ul>
<b>Application</b>	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> <li>• scheduled or unscheduled maintenance activities</li> <li>• individual or team-related activities</li> </ul>

## Unit Sector(s)

Aircraft life support

## Competency field

## Co-requisite units

MEA118A      Conduct self in the aviation maintenance environment