



Australian Government

MEA501 Maintain and fit anti-G suits

Release: 2

MEA501 Maintain and fit anti-G suits

Modification History

Release 2. Equivalent to MEA501 Maintain and fit anti-G suits with amended prerequisite codes.

Application

This unit of competency 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. Maintenance may be performed individually or as part of a team.

The scope of repairs excludes inflatable components of the anti-G suit.

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
MEA511	Operate and maintain sewing machines and overlockers
MSFSF2002	Machine sew materials

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 anti-G suit | 1.1 Anti-G suit is inspected for serviceability in accordance with standard procedures |
| | 1.2 Anti-G 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 anti-G suit is quarantined |
| | 1.4 Unserviceable parts of the anti-G suit are replaced and fabric repairs are completed 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 Anti-G suit is cleaned in accordance with standard procedures |
| | 1.6 Anti-G suit 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. Fit anti-G 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 anti-G suit is selected |
| | 2.3 Anti-G suit is adjusted to optimise fit in conjunction with participant feedback |

- 2.4 Anti-G suit fit is verified 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 manuals
- Maintenance schedules
- Work instructions
- Maintenance organisation manuals
- MSDS
- Defence regulations and instructions
- Standing instructions

Typical faults include:

- Broken zips and stitching
- Contamination
- Corrosion of metal parts, such as zippers
- Damaged hardware
- Excessive wear
- Incorrect manufacture
- Leaks
- Tears

Anti-G suit replaceable parts include:

- Eyelets
- Press studs
- Zips

Adjustment of fit is effected

- Lacing of torso and legs

by:

- Waist extension/reduction

Unit Mapping Information

Release 2. Equivalent to MEA501 Maintain and fit anti-G suits

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 MEA501 Maintain and fit anti-G suits

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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 Anti-G suit maintenance processes, including the selection and correct use of PPE, where applicable
- using MSDS
- using 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.

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.

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.

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 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
- lacing techniques used in the fitting of anti-G suits
- anti-G suit cleaning methods and materials
- handling, storage and transit procedures.

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 a representative range of maintenance tasks and on the correct fitting of anti-G suits to at least three (3) different sized 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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