



Australian Government

MEALSU0008 Manufacture, repair and alter aircraft-related fabric components

Release: 1

MEALSU0008 Manufacture, repair and alter aircraft-related fabric components

Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Assessment Requirements clarified. Supersedes and is equivalent to MEA509 Manufacture, repair and alter aircraft related fabric components.

Application

This unit describes the skills and knowledge required to manufacture, repair and alter aircraft and support equipment fabric components. Manufacture and alteration may be to existing designs or may also involve design. Repair may involve sewing and the use of adhesives.

The unit applies to a range of aircraft environmental protection sets, aircraft life support equipment components, aircraft soft furnishings and associated trimming, aircrew personal fit and associated life support equipment, and to ground support equipment covers. Work may be done individually or as part of a team.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

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

MEALSU0010 Operate and maintain sewing machines and overlockers

MSFSF2002 Machine sew materials

Competency Field

Aircraft life support

Elements and Performance Criteria

Elements	Performance Criteria
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Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Manufacture a fabric component	1.1 Identify and interpret technical instructions to ensure work is compliant in accordance with standard procedures 1.2 Produce detailed working plan in accordance with standard procedures 1.3 Assemble fabric component and attach fittings in accordance with standard procedures while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDSs) and items of personal protective equipment (PPE) 1.4 Present aircraft-related fabric components for inspection by supervisor in accordance with standard enterprise procedures 1.5 Complete and process manufacturing documentation in accordance with standard enterprise procedures 1.6 Clean and perform required maintenance on equipment and tools used, and dispose hazardous materials safely, in accordance with standard enterprise procedures
2. Repair a fabric component	2.1 Identify and interpret technical instructions to ensure faults are corrected in accordance with standard procedures 2.2 Repair fabric component in accordance with standard procedures while observing all relevant WHS requirements, including the use of MSDS and items of PPE 2.3 Present repaired components for inspection by supervisor in accordance with standard enterprise procedures 2.4 Complete repair documentation in accordance with standard enterprise procedures 2.5 Clean and perform required maintenance on equipment and tools used, and dispose safely of hazardous materials, in accordance with standard enterprise procedures
3. Alter a fabric component to meet customer requirements	3.1 Establish requirements for fabric component alterations through customer consultation to ensure defined outcomes are met 3.2 Report identified alterations beyond own authority to alter to supervisor in accordance with enterprise procedures 3.3 Identify requirement for, and produce, detailed working plan in accordance with standard procedures 3.4 Present altered fabric components for inspection by supervisor in accordance with standard enterprise procedures 3.5 Complete relevant documentation in accordance with standard enterprise procedures

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	3.6 Clean and perform required maintenance on equipment and tools used, and dispose safely of hazardous materials, in accordance with standard enterprise procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret a wide range of procedures and manuals.
- Numeracy skills to create and interpret technical information including drawings and take and check measurements.
- Writing and oral communication skills to explain the fitting process and complete documentation.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA509 Manufacture, repair and alter aircraft related fabric components.

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 MEALSU0008 Manufacture, repair and alter aircraft-related fabric components

Modification History

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Performance Evidence

There must be evidence the candidate has complete all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- manufacture, repair and alter aircraft-related fabric components on the following tasks:
 - correctly manufacture three fabric components from technical instructions using machine sewing and at least one other assembly method (hand sew, press fit, adhere or staple)
 - recognise at least three faults and identify limits of repair for the fabric components
 - alter one fabric component to meet customer (aircraft configuration authorities, aircrew, engineering maintenance managers, supervisors) defined outcomes
- produce a detailed working plan that covers:
 - cutting plan
 - expected time of completion
 - manpower requirements
 - method and sequence of assembly
 - resource requirements (material, fittings, tools and ground support equipment)
 - technical sketch (working drawing)
- for the components being manufactured, repaired and altered:
 - use basic drawing tools
 - calculate dimension and allowable dimension variations
 - complete measurements and estimate fabric requirements and other materials requirements
 - use pre-checking and inspection techniques to anticipate cutting problems and to avoid reworking and wastage
 - use limited workplace technology related to cutting, including tools, equipment, calculators and measuring devices
 - apply procedures and safety precautions at all times.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant enterprise procedures and maintenance publications, including:
 - equipment manufacturers' specifications and procedures
 - industry practices
 - safety manuals
 - maintenance schedules
 - work instructions
 - maintenance organisation manuals
 - material safety data sheets (MSDSs)
 - standing instructions
- relevant technical instructions, including:
 - aircraft operational requirements
 - job orders
 - manufacturers' specifications
 - maintenance manuals
 - modification instructions
 - technical drawings
- Commonwealth, state and territory work health and safety (WHS) legislation, regulations, codes and procedures for manufacturing, repairing and altering aircraft-related fabric components, including selecting and using personal protective equipment (PPE)
- Australian Standards for fabric components
- relevant Defence Aviation Safety Authority (DASA) and Civil Aviation Safety Authority (CASA) regulations and instructions how to obtain and use MSDSs
- basic sewing techniques using AS 2860-1986 Textiles – stitch types – classification and terminology
- types of aircraft-related fabric components, including:
 - aircraft environmental protection sets and warning devices
 - aircraft life support equipment components
 - aircraft soft furnishings and associated trimming
 - aircrew personal fit and associated life support equipment
 - ground support equipment covers
- construction principles of fabric components
- cutting equipment and techniques
- design features of finished items
- fabric types and inspection procedures
- impact of cutting on fabrics
- geometric drawing processes and techniques
- reading and interpreting specifications
- typical faults that may affect aircraft fabric components:
 - broken stitching
 - broken zippers
 - contamination

- corrosion of metal parts
- damaged fittings
- excessive wear
- incorrect manufacture
- tears in fabric
- ultraviolet (UV) degradation.
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Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in manufacturing, repairing and altering aircraft-related fabric components. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to manufacturing, repairing and altering aircraft-related fabric components
 - materials, tools and equipment specified in the maintenance manuals and applicable procedures
 - general- and special-purpose tools and items of ground support equipment.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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