



Australian Government

Department of Education, Employment and Workplace Relations

MEA511A Operate and maintain sewing machines and overlockers

Revision Number: 2

MEA511A Operate and maintain sewing machines and overlockers

Modification History

Minor formatting and editorial changes made.

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 sewing machines and overlockers. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

This unit is equivalent to unit LMTPRTF05A Operate and maintain sewing machines - 3 which was deleted from a revised version of its parent Training Package, but the content remains valid for Aeroskills Life Support and Furnishing.

Application of the Unit

This unit requires application of skills and knowledge relating to the operation and maintenance of sewing machines and overlockers in the maintenance of items of aircraft life support equipment and in the fabrication and maintenance of items of aircraft soft furnishings.

The unit applies to sewing machines and overlockers used in the range of tasks mentioned above.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable

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.
---	--

Elements and Performance Criteria

1. Plan work and prepare work area
 - 1.1. Work is planned to maximise safety and productivity
 - 1.2. Work area is cleared and cleaned to provide work table free of obstructions and clear access to sewing/overlocking machine
 - 1.3. Safe *working environment* is established
 - 1.4. Suitable electrical power outlets, if required, are identified
 - 1.5. Assistance to move and position workpiece is obtained, if necessary
2. Select thread and needle
 - 2.1. Type of material to be sewn, type of stitch to be used and nature of duty to which finished product is to be subjected is determined to assist in selection of thread and needle
 - 2.2. Suitable thread is selected with regard to thread material, diameter of thread, tensile strength and colour
 - 2.3. Appropriate needle is chosen to suit type of thread, type of stitch and material to be sewn
3. Set up machine
 - 3.1. Machine is examined for damage, missing components or other defects
 - 3.2. Power cords are examined for knots, unsafe routing and insulation damage
 - 3.3. Machine is safely connected to power and correct 'power-on' procedure is followed
 - 3.4. Condition of needle is checked to ensure it is sharp, clean and free from rust and dirt
 - 3.5. Needle is fitted to machine
 - 3.6. Machine is threaded and thread is checked for free travel from spool
 - 3.7. Thread tension and other machine settings are checked and adjusted using test pieces, if necessary
4. Operate machine
 - 4.1. Work piece is correctly aligned to machine
 - 4.2. Machine is operated in accordance with *standard procedures* and OHS requirements
 - 4.3. Work piece is appropriately fed into machine
 - 4.4. Performance of machine is monitored through regular checking of thread tension and other settings and inspection of stitching in finished product
5. Undertake inspection, quality, labelling and documentation
 - 5.1. Work piece is removed from machine using assistance, if necessary
 - 5.2. Completed work is inspected to verify that it meets applicable *technical instructions*
 - 5.3. Any areas in need of rework or rectification are identified and marked

- 5.4. Rework is performed or other appropriate action arranged
- 5.5. Completed product is labelled or tagged and any necessary documentation completed in accordance with standard enterprise procedures
- 6. Clean up and maintain equipment
 - 6.1. Machine is switched off using correct 'power off' procedures
 - 6.2. Machine is cleaned, and programmed maintenance, which is within the province of the operator, is performed in accordance with enterprise requirements and manufacturer's specifications
 - 6.3. Worn or damaged needles are disposed of in accordance with safe working practice
 - 6.4. Supervisor is notified of any abnormal conditions requiring maintenance or repair

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills to:

- interpreting and applying work instructions and established procedures
- planning and coordinating work activities
- locating and interpreting technical information about machines and materials used in aircraft life support and furnishing
- selecting appropriate needle and thread
- identifying unsatisfactory machine performance
- using relevant hand and power tools
- using relevant chemicals and cleaning agents and dispose of waste products
- maintaining machines and work area
- applying all relevant safety practices
- communicating effectively within the workplace
- documenting and transferring information

Required knowledge

Look for evidence that confirms knowledge of:

- precautions and safe working practices based on relevant OHS legislation, codes of practice, policies and procedures
- advanced work piece construction principles and methods
- characteristics of a wide range of materials used in aircraft life support and furnishing
- operating principles of a wide range of sewing/overlocking machines
- types of needles and threads and their applications
- types of stitching and their applications
- standard industry practice for needle storage and safe disposal
- the range of sewing/overlocking machines, hand tools and power tools used in sewing/overlocking processes and their appropriateness for particular applications
- relevant quality standards for sewn/overlocked products
- power sources, such as single phase, three phase and weather protected outlets
- electrical isolation procedures for sewing/overlocking machines
- safety and environmental requirements of relevant industry and enterprise procedures
- general housekeeping policies and procedures
- recording and reporting procedures

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 operate and maintain sewing and overlocking machines used in aircraft life support and furnishing while 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 involving the use of sewing machines/overlockers. It is essential that fabric component manufacture, repair and alteration procedures and safety precautions are fully observed, understood and complied with. Ability to interpret fabric component requirements and apply them in practice is critical.</p> <p>Evidence of transferability of skills and knowledge related to the use and maintenance of sewing machines and overlockers is essential. This is to be demonstrated through demonstration of the ability to perform appropriate manufacturing, repair and alteration tasks that are within the bounds of the individual's authority. 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 sufficient number of occasions or over sufficient period of time to ensure consistent performance across a typical range of sewing and overlocking requirements. 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>Access is required to:</p> <ul style="list-style-type: none"> • real or appropriately simulated situations involving the sewing or overlocking of materials used in aircraft life support equipment and in aircraft soft furnishings • information on specifications of materials used in sewing and overlocking, settings for machines, relevant safety procedures and regulations, quality

	<p>standards and enterprise procedures</p> <ul style="list-style-type: none">• all necessary facilities, sewing/overlocking machines and associated hand and power tools. <p>Assessment may occur on the job or in an industry approved simulated environment.</p>
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.

Application

Application of this unit may relate to:

- scheduled or unscheduled maintenance
- individual or team-related activities

Procedures and requirements

Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Working environment

Working environment may include:

- work organisation procedures and practices relating to the sewing/overlocking of materials
- safe use of sewing/overlocking machines and relevant hand and power tools
- storage, safe handling and disposal of needles, threads and materials associated with sewing/overlocking
- reporting actions which include verbal and written communication in accordance with enterprise policies and procedures
- oral, written or visual communication, including completion of standard forms, interpretation of information and instructions associated with workplace activities, and recording and reporting of work outcomes
- procedures for safety, environmental protection, housekeeping and quality as specified by equipment and materials manufacturers, regulatory authorities and the enterprise

Standard procedures

Standard procedures may be found in any or all of:

- 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

RANGE STATEMENT	
	<ul style="list-style-type: none"> • MSDS • Defence regulations and instructions • CASR and advisory material • standing instructions
Technical instructions	Technical instructions may include: <ul style="list-style-type: none"> • aircraft operational requirements • job orders • manufacturers' specifications • maintenance manuals • modification instructions • technical drawings

Unit Sector(s)

Aircraft life support

Competency field

Co-requisite units

Not applicable