



Australian Government

MEA364A Maintain and/or repair small aircraft mechanical components or parts

Revision Number: 2

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Modification History

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

Unit Descriptor

This unit of competency is part of the Mechanical Certificate IV (Aircraft Maintenance Stream) training pathway. It covers the competencies required to maintain and repair a range of small aircraft mechanical components and parts.

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen Aircraft Maintenance Engineer Licence under CASR Part 66, in accordance with the licensing provisions in Section 3, Assessment Guidelines.

Application of the Unit

This unit requires application of hand skills and the use of relevant maintenance publications to maintain and repair a range of aircraft mechanical components.

Applications include fixed and rotary wing aircraft classified by CASA as small aircraft, and components in workshops.

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 and/or repair mechanical components or parts
 - 1.1. Maintenance and/or repair requirements are determined following disassembly and assessment of component parts for serviceability in accordance with the relevant maintenance documentation
 - 1.2. Tagging and repair instructions are accurately specified for parts requiring specialist repair
 - 1.3. Appropriate materials, tools, equipment and assembly or fabrication jigs are selected and prepared for the particular specification requirements
 - 1.4. *Components or parts* are *maintained, repaired* or modified, as approved by relevant manufacturers' bulletins or procedures, in accordance with required specifications
 - 1.5. Mechanical component parts are assembled within specified tolerances and in accordance with the appropriate maintenance documents
 - 1.6. Mechanical components are adjusted, as required, to operate within prescribed specifications
 - 1.7. Test equipment and rigs are used, where applicable, to confirm serviceability
 - 1.8. Maintained/repaired or modified components are tagged, sealed and packaged within specified procedures
 - 1.9. Required maintenance 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 relevant OHS practices, including the selection and use of MSDS and PPE
- using relevant maintenance documentation, specifications and aircraft/component manuals to:
 - recognise state of serviceability and repair requirements for the range of components listed in the Range Statement
 - identify requirements and complete repairs and/or modifications
 - test and/or adjust components as required
 - correctly tag, seal and package completed components that are not being immediately refitted

Required knowledge

Look for evidence that confirms knowledge of:

- mechanical component operation and repair procedures and processes:
 - hoses
 - pipes
 - cables, turnbuckles and tensioning devices
 - pulleys
 - chains and sprockets
 - gear drives
 - screwjacks
 - control rods
 - bellcranks
 - links
- internal fittings and emergency equipment operation, construction, installation and maintenance/repair:
 - trim panels
 - linings and coverings
 - seats and crew/passenger restraints
 - cargo restraints
 - cabin equipment and consoles
- emergency equipment inspection and stowage requirements:
 - passenger escape systems
 - life jackets
 - rafts
 - emergency location transmitters
- applicable OHS procedures, including the selection and use of items of PPE

- how to obtain relevant MSDS
- how to identify suitable adhesives and patching materials for upholstery and trim
- inspection and test requirements for restraint system components
- safe stowage requirements for items of emergency equipment
- how to determine serviceability of items of emergency equipment
- relevant maintenance manuals, standards and specifications
- relevant regulatory requirements and standard procedures

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.

<p>Overview of assessment</p>	<p>A person who demonstrates competency in this unit must be able to apply hand skills and use relevant maintenance publications to maintain and repair mechanical components while applying 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 maintenance and repair applications associated with aircraft components. It is essential that the relevant procedures are interpreted and applied to ensure quality and safety standards are achieved.</p> <p>Evidence of transferability of skills and knowledge related to maintenance/repair is essential. This may be demonstrated through application across a number of different aircraft components. Ability to assess component serviceability and interpret parts requirements will be necessary before undertaking any action. 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 components or parts from each of Groups 1 to 5, as listed in the Range Statement. 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 work environment or simulated work environment using tools and equipment specified in maintenance documentation. It is also expected that general and special purpose tools and test equipment found in most routine situations would be used where appropriate.</p>
<p>Method of assessment</p>	
<p>Guidance information for</p>	

assessment	
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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>	
Note	Range statements listed below are numbered to facilitate specification of the assessment requirements included in the Evidence Guide
Components or parts to be maintained and/or repaired	<p>Components or parts to be maintained and/or repaired may include:</p> <ol style="list-style-type: none"> 1. Hoses 2. Pipes 3. Cables, pulleys, chains, sprockets and gear drives 4. Control rods, bellcranks, links and screwjacks 5. Trim panels, linings, seats, cabin equipment and consoles, coverings, emergency equipment stowage (including passenger escape systems, life jackets, rafts, location transmitters, cargo, crew and/or passenger seat restraints)
Maintain	Maintain involves cleaning, inspection for wear or damage and adjustment and lubrication, where applicable
Repair	<p>Repair comprises:</p> <ul style="list-style-type: none"> • standard techniques for pipes and replacement of eye-ends, tubes or bearings for control rods/pulleys/sprockets and bushes or bearings for bellcranks and links • the use of adhesives and appropriate patch materials for trim and upholstery repairs (more extensive repairs involving sewing are covered by MEA509A Manufacture, repair and alter aircraft-related fabric components) • replacement of restraint system components where sewing is not required (more extensive repairs are covered by MEA508A Maintain, install and remove restraint systems)
Application	<p>Application of this unit may relate to:</p> <ul style="list-style-type: none"> • scheduled or unscheduled maintenance activities • individual or team- related activities

Procedures and requirements	Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise
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Unit Sector(s)

Aviation maintenance

Competency field**Co-requisite units**

Not applicable