Australian Government

Department of Education, Employment and Workplace Relations

MEA333B Dismantle, inspect, maintain and assemble aircraft piston engine components or parts

Release: 2

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Modification History

Minor formatting and editorial changes made. Prerequisite unit version code updated. Missing knowledge requirements reinstated.

Unit Descriptor

This unit of competency is part of a Mechanical Certificate II training pathway. It covers the competencies required to undertake routine maintenance and/or repair/modification of aircraft piston engine components or parts under the guidance of a qualified person. Achievement of this unit will contribute towards the attainment of MEA388A Repair and/or overhaul piston engines. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

Application of the Unit

This unit requires application of hand skills and maintenance documentation to dismantle, inspect, maintain and assemble aircraft piston engine components or parts under the guidance of a qualified person.
Applications include piston engine components or parts in a workshop.

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.

Elements and Performance Criteria

1. Prepare to dismantle inspect, maintain and assemble piston engine components or parts	1.1. Maintenance and/or repair requirements as defined by the qualified person, procedures and the relevant maintenance documentation, are understood 1.2. Tagging and repair instructions are accurately specified in accordance with procedures and as directed by a qualified person for parts requiring specialis 1.3. Appropriate materials, tools, equipment and assembly or fabrication jigs, w selected and prepared for the particular maintenance and repair requirement with standard enterprise procedures and relevant maintenance documentatio
2. Dismantle, inspect, maintain and assemble aircraft piston engine components or parts	2.1. ***Components*** are removed and/or disassembled in accordance with standard procedures, relevant maintenance documentation and qualified person guida 2.2. Routine maintenance, repair or modification procedures are carried out, as a relevant manufacturers' bulletins or procedures in accordance with required procedures and specifications 2.3. Component parts are assembled within specified tolerances and in accordan enterprise procedures and the appropriate maintenance documents 2.4. Where applicable, and as required by the qualified person, assistance is pro adjustment and testing of components to confirm serviceability
3. Complete maintenance, repair or modification activities	3.1. Required documentation is completed and processed in accordance with sta procedures 3.2. Maintained/repaired or modified components are tagged, sealed and packag procedures

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying relevant OHS procedures
- using relevant maintenance documentation, specifications and aircraft/component manuals to:
  - recognise state of serviceability and standard/routine maintenance and repair requirements for the range of engine components listed in the Range Statement
  - identify requirements under the guidance of a qualified person and complete repairs and/or modifications
  - correctly tag, seal and package completed components

Required knowledge

Look for evidence that confirms knowledge of:

- component operation at a basic level
- standard/routine repair procedures and processes

For the purpose of this unit, basic knowledge is defined as the level of knowledge required to:

- remove, install and maintain components, such as hoses, pipes and ducts, and so on
- dismantle and maintain engine assemblies and sub-assemblies
- apply relevant hand skills to repair or modify components of sub-assemblies and systems listed in the Range Statement
- relevant OHS practices
- how to obtain MSDS
- use of PPE

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 dismantle, inspect, maintain and assemble aircraft piston engine components or parts under qualified person guidance 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 maintenance and repair applications associated with engine components. It is essential that the relevant standard enterprise procedures are interpreted and applied to ensure quality and safety standards are achieved. Evidence of transferability of skills and knowledge related to maintenance/repair standard enterprise procedures is essential. This may be demonstrated through application across a number of different engine components. Ability to assess component serviceability under qualified person guidance 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. 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 qualified person guidance on a representative range of components or parts 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.
Context of and specific resources for assessment	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 found in most routine situations would be used where appropriate.
Method of assessment	
Guidance information for	

assessment	

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.	
Routine work	Routine work is carried out using basic operational knowledge and a defined range of skills ('routine' work is that which follows a customary or regular course or procedure)
Outcomes are achieved by:	Outcomes are achieved by applying known solutions chosen from a limited range of pre-determined options consistent with standard enterprise procedures. This includes accepting responsibility for own work in terms of quality of outcomes using pre-determined specifications of quality
Scope of work	Note that the scope of any repair or modification and the procedure to be followed will be provided by the qualified person, and will be within the scope of the unit of competency MEA109B Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance
Maintain	Maintain involves removal and installation, cleaning, inspection for wear or damage and consequent replacement of parts, and routine adjustment and lubrication, where applicable, in accordance with standard enterprise procedures
Components to be maintained	Components to be maintained include hoses, pipes, ducts and components of: • cooling systems • engine head assemblies • engine block assemblies • accessory drives • lubrication systems
Application	Work can relate to: • routine scheduled or unscheduled maintenance activities performed under qualified person guidance in accordance with standard enterprise procedures • tasks performed either autonomously or as part of a team and under the guidance of a qualified person

Procedures and requirements	Refer to procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable