



Australian Government

MEA392 Disassemble aircraft piston engines

Release: 2

MEA392 Disassemble aircraft piston engines

Modification History

Release 2. Equivalent to MEA392 Disassemble aircraft piston engines with amended prerequisite codes.

Application

This unit of competency requires application of hand skills, theory knowledge and maintenance publication procedures to disassemble aircraft piston engines during workshop repair and/or overhaul.

Applications include fixed and rotary wing aircraft piston engines and components and work may be performed individually or as part of a team.

The unit is part of the Mechanical Certificate IV (Component Workshop Maintenance Stream) training pathway. It 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
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

Competency Field

Aviation maintenance

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. Determine requirements | 1.1 Engine defect reports (removal tags) or customer order are correctly interpreted and matched by part and serial numbers |
| | 1.2 Piston engine is inspected in accordance with maintenance publications to establish serviceability state and confirm defects, if necessary |
| | 1.3 Piston engine build status is determined and quick engine change (QEC) components are recorded in accordance with standard enterprise procedures |
| | 1.4 Modification status and engine operating hours are clearly established from the engine log book to assist in determining the repair or overhaul requirements for the engine |
| | 1.5 Extent of overhaul or repair is identified and documented in accordance with standard enterprise procedures |
| 2. Disassemble piston engine | 2.1 Where applicable, QEC components are removed from the engine, maintenance requirements are determined, and necessary documentation is raised and packaged with the components |
| | 2.2 Any removed QEC components not requiring maintenance are correctly labelled and stored for reinstallation |
| | 2.3 Engine is installed in work stand and engine is cleaned |
| | 2.4 Engine is disassembled in accordance with maintenance publication and/or enterprise procedures while observing all relevant work health and safety (WHS) procedures, including the use of material safety data sheets (MSDS) and personal protective equipment (PPE) |
| | 2.5 Removed components are cleaned, tagged and inspected for serviceability in accordance with |

enterprise procedures

- 2.6 Components that are not to be reinstalled are disposed of in accordance with enterprise procedures and action is initiated to obtain replacement components
- 2.7 Components to be re-fitted are processed for detailed inspection, repair/overhaul and/or modification, as required

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.

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| Piston engines include: | <ul style="list-style-type: none">• The engine assembly and components that comprise a QEC unit. Engine types include all cylinder arrangements and fuel types (aviation gasoline, two stroke or diesel) |
| Procedures and requirements include: | <ul style="list-style-type: none">• Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise |

Unit Mapping Information

Release 2. Equivalent to MEA392 Disassemble aircraft piston engines

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 MEA392 Disassemble aircraft piston engines

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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 relevant WHS procedures, including the use of MSDS and PPE
- using relevant maintenance documentation, enterprise procedures, specifications and aircraft/component manuals to:
 - recognise state of serviceability and overhaul or repair requirements for piston engines
 - accurately and efficiently troubleshoot unserviceabilities and document the causes for piston engines and components
 - dismantle and inspect piston engine component parts for serviceability
 - identify and initiate procurement for piston engine component parts/hardware that are discarded
 - identify and process engine components that require detailed inspection, repair, overhaul or modification.

Evidence of transferability of skills and knowledge related to repair and overhaul is essential. This shall be demonstrated through application across a number of different piston engines. Ability to assess component serviceability and interpret parts requirements will be necessary to supplement the required evidence. Capability to interpret inspection procedures and specifications (allowable limits) and apply them in practice is critical.

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:

- how to obtain relevant MSDS
- the use of applicable items of PPE
- WHS procedures
- fault diagnosis techniques
- system and component operation
- engine cleaning and disassembly procedures and component inspection for serviceability, including identification of life expired components
- enterprise documentation requirements.

Assessment Conditions

- 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-purpose tools and test equipment found in most routine situations would be used where appropriate.
- Knowledge of system operation and the relationship of individual components will be necessary to supplement evidence of ability to troubleshoot component faults before undertaking any action.
- 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 the engine types maintained by the enterprise.
- 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).

Links

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