



Australian Government

MEAMEC0075 Assemble aircraft piston engine quick engine change unit

Release: 1

MEAMEC0075 Assemble aircraft piston engine quick engine change unit

Modification History

Release 1. Application changed. Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA396 Assemble aircraft piston engine quick engine change unit.

Application

This unit describes the skills and knowledge required to apply hand skills and use theory knowledge and maintenance publication procedures to assemble aircraft piston engine quick engine change (QEC) units following engine repair and/or overhaul.

This unit includes the fixed and rotary wing aircraft piston engines and components. Work can be performed individually or as a member 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

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

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare to assemble	1.1 Interpret and match QEC build requirements by part and serial

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
piston engine QEC unit	numbers 1.2 Gather correct QEC components for assembly and confirm their serviceability state and modification status in accordance with the relevant maintenance documentation and quality procedures 1.3 Obtain required hardware and plumbing and confirm as approved items
2. Assemble piston engine QEC unit	2.1 Prepare piston engine for QEC assembly in accordance with maintenance manual and/or enterprise procedures 2.2 Assemble QEC components to the engine and adjust in accordance with the maintenance manual and/or enterprise procedures while observing relevant work health and safety (WHS) procedures, including the use of material safety data sheets (MSDSs) and personal protective equipment (PPE) 2.3 Assemble QEC unit and adjust components and linkages in accordance with maintenance data requirements, and seek required supervisory guidance for complex testing and adjustments 2.4 When required, prepare QEC unit for testing 2.5 Complete required documentation 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 maintenance documentation, procedures, specifications (allowable limits) and manufacturer's instructions.
- Writing skills to complete maintenance documentation.
- Numeracy skills to interpret and communicate data and technical information.

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 MEA396 Assemble aircraft piston engine quick engine change unit.

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 MEAMEC0075 Assemble aircraft piston engine quick engine change unit

Modification History

Release 1. Application changed. Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA396 Assemble aircraft piston engine quick engine change unit.

Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to assemble an aircraft piston engine quick engine change (QEC) unit on at least one of the engine types maintained by the enterprise, which will comprise any of the following components:

- engine
- engine mount frame
- external lubrication system components
- baffles
- heat shields
- fuel system plumbing
- pneumatic plumbing
- control linkages
- induction system
- exhaust system components
- turbocharger and waste gate
- tachometer generator and wiring
- vacuum pump
- air pump
- hydraulic pump
- fire warning system.
-

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- how to obtain relevant material safety data sheets (MSDSs)
- the use of applicable items of personal protective equipment (PPE) for piston engine QEC work
- enterprise procedures relating to piston engine, including work health and safety (WHS) and quality
- piston engine fault diagnosis techniques

- piston engine system and component operation
- QEC assembly and component adjustment requirements.
-

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators Defence Aviation Safety Authority (DASA) and Civil Aviation Safety Authority (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 assembling aircraft piston engine QEC units. 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 assembling aircraft piston engine QEC units
 - tools and equipment specified in maintenance documentation
 - general-purpose tools and test equipment found in most routine situations.

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

Companion Volume implementation guides are found in VETNet –

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>