



**Australian Government**

# **MEA396 Assemble aircraft piston engine quick engine change unit**

**Release: 2**

# MEA396 Assemble aircraft piston engine quick engine change unit

## Modification History

Release 2. Equivalent to MEA396 Assemble aircraft piston engine quick engine change unit with amended prerequisite codes.

## Application

This unit of competency requires application of hand skills, theory knowledge and maintenance publication procedures to assemble aircraft piston engine quick engine change (QEC) units following engine repair and/or overhaul.

Applications include fixed and rotary wing aircraft piston engines and components. Work can be performed individually or as a member of a team.

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

- |                                               |                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Prepare to assemble piston engine QEC unit | 1.1 QEC build requirements are correctly interpreted and matched by part and serial numbers                                                                                                                                                                                                          |
|                                               | 1.2 Correct QEC components are gathered for assembly and their serviceability state and modification status is confirmed in accordance with the relevant maintenance documentation and quality procedures                                                                                            |
|                                               | 1.3 Required hardware and plumbing is obtained and confirmed as approved items                                                                                                                                                                                                                       |
| 2. Assemble piston engine QEC unit            | 2.1 Piston engine is prepared for QEC assembly in accordance with maintenance manual and/or enterprise procedures                                                                                                                                                                                    |
|                                               | 2.2 QEC components are assembled to the engine and adjusted 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 (MSDS) and personal protective equipment (PPE) |
|                                               | 2.3 QEC unit is assembled and components and linkages are adjusted in accordance with maintenance data requirements                                                                                                                                                                                  |
|                                               | 2.4 Where required, QEC unit is prepared for testing                                                                                                                                                                                                                                                 |

### 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.

**Piston engine QEC unit components include:**

Components from the following list, according to build requirements:

- 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

**Testing and adjustment:**

- Complex testing and adjusting of components, where required, will be carried out under supervision at the appropriate level

**Procedures and requirements include:**

- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

## Unit Mapping Information

Release 2. Equivalent to MEA396 Assemble aircraft piston engine quick engine change unit

## Links

Companion Volume implementation guides are found in VETNet -

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