



**Australian Government**

# **MEA127 Provide technical advice in the maintenance and management of aircraft and aeronautical product**

**Release: 2**

# **MEA127 Provide technical advice in the maintenance and management of aircraft and aeronautical product**

## **Modification History**

Release 2. Equivalent to MEA127 Provide technical advice in the maintenance and management of aircraft and aeronautical product. Updated to meet training package policy requirements.

## **Application**

This unit of competency describes the skills and knowledge required to provide technical advice on the need for modifications, repairs, and scheduled or unscheduled maintenance on aircraft, aircraft systems, and items of aeronautical product.

The unit applies within the jurisdiction of the Civil Aviation Safety Authority (CASA).

This unit forms part of the Civil Aviation Safety Authority (CASA) requirement for maintenance certification licences under Civil Aviation Safety Regulation (CASR) Part 66. Where a CASA licensing outcome is sought, users must refer to the licensing provisions in the MEA Aeroskills Companion Volume Implementation Guide.

## **Pre-requisite Unit**

MEA705      Apply basic scientific principles and techniques in aeronautical engineering situations

*and*

MEA707      Select and test aeronautical engineering materials

**OR**

MEA706      Apply basic scientific principles and techniques in avionic engineering situations

*and*

MEA708      Select and test avionic engineering materials

## **Competency Field**

Aviation maintenance management

## 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. Develop an aircraft maintenance program and minimum equipment list

1.1 Determine requirements for an aircraft maintenance program from regulations, and organisational policies and procedures

1.2 Identify or draft applicable maintenance program according to regulatory guidelines

1.3 Submit proposed maintenance program for approval

1.4 Determine requirement for minimum equipment list from regulations, and organisational policies and procedures

1.5 Compile and submit minimum equipment list for approval according to regulations, and organisational policies and procedures

2. Develop a continuing airworthiness management organisation exposition

2.1 Determine need for continuing airworthiness management organisation exposition from regulations

2.2 Draft and submit continuing airworthiness management organisation exposition for approval according to organisational policies and procedures

3. Develop a maintenance organisation exposition

3.1 Determine requirement for maintenance organisation exposition from regulations

3.2 Draft maintenance organisation exposition according to regulatory guidelines, and organisational policies and procedures

4. Provide mechanical advice in aircraft maintenance

4.1 Provide independent technical input with regard to aircraft structure and mechanical systems and components

4.2 Use own knowledge of aircraft structures and seek specialist input to determine their airworthiness

4.3 Use own knowledge of aircraft mechanical systems and components and seek specialist input to determine their airworthiness

5. Provide avionic advice in aircraft maintenance

5.1 Provide independent technical input with regard to avionic systems and components

## ELEMENTS

## PERFORMANCE CRITERIA

- |                                                                            |                                                                                                                                                                          |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                            | 5.2 Use own knowledge of avionic systems and components and seek specialist input to determine their airworthiness                                                       |
| 6. Evaluate and review aircraft maintenance and management system elements | 6.1 Monitor aircraft operation and maintenance trends                                                                                                                    |
|                                                                            | 6.2 Review maintenance management system elements against trends and propose amendments according to regulatory requirements, and organisational policies and procedures |

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Unit Mapping Information

Release 2. Equivalent to MEA127 Provide technical advice in the maintenance and management of aircraft and aeronautical product.

## 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 MEA127 Provide technical advice in the maintenance and management of aircraft and aeronautical product**

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## **Performance Evidence**

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, which must include the ability to:

- provide technical advice during the set-up of a maintenance control and management system for one aircraft and one aeronautical product according to required regulations, policies and procedures.

Technical advice must be provided to maintenance personnel, senior maintenance managers, or higher technical/regulatory authorities and relate to at least one of the following:

- defect investigation and compilation of service difficulty report
- modification proposal
- repair scheme proposal
- proposed amendments to servicing schedule and maintenance data and program.

The set-up of each of the above systems must include:

- an aircraft maintenance program
- a minimum equipment list
- a continuing airworthiness management organisation exposition
- an aviation maintenance organisation exposition.

In the course of the above work, the candidate must:

- use own knowledge, trend data and specialist advice effectively to determine airworthiness and propose variations to maintenance schedules, repairs and modifications
- produce verbal and written communication in English to the required level.

## **Knowledge Evidence**

There must be evidence the candidate has knowledge of:

- regulatory and organisational policies and procedures relating to aircraft and aeronautical product maintenance and maintenance control, including:
  - Civil Aviation Regulations (CARs) and Advisory Circulars (ACs)
  - Civil Aviation Safety Regulations (CASRs), Manuals of Standards and associated Acceptable Means of Compliance and Guidance Material
  - aviation maintenance organisation expositions
  - continuing airworthiness management organisation expositions
  - policy manuals
  - procedures manuals
  - quality manuals
- organisational policies and procedures relating to aircraft and aeronautical product maintenance and maintenance control, including:
  - work health and safety (WHS)
  - equity, fraud and ethics requirements set out in organisational code of conduct specific to the work described in the performance evidence
- key features of aircraft structure being maintained and managed, including:
  - primary and secondary structural components
  - seating and cargo restraints
- key features of aircraft mechanical systems and components being maintained and managed, including:
  - engines and engine systems and components
  - propellers and propeller system components
  - landing gear systems and components
  - hydro-mechanical systems comprising hydraulic, pneumatic, fuel and components
  - mechanical systems and components
  - electrical systems and components
  - oxygen
  - furnishings and safety equipment
- key features of aircraft power plants
- key features of avionic systems and components being maintained and managed
- key features of aircraft operation and maintenance trend data obtained from:
  - aircraft flight and technical records
  - service difficulty reports
  - maintenance worksheets
  - log books
  - continuing analysis maintenance program reports
  - data from manufacturers and other operators
- key features and characteristics of avionic systems and components, including:
  - electrical power generation and distribution
  - electrical systems
  - control and warning systems

- flight instruments
- aircraft data communication
- automatic flight and engine control systems
- communication systems
- navigation systems
- radar
- role equipment, such as forward looking infra-red (FLIR) pods.

## Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.

This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work an appropriate simulation must be used where the range of conditions reflects realistic workplace situations encountered when providing advice in the maintenance and management of aircraft and aeronautical product within the CASA airworthiness regulatory system.

The candidate must be permitted to refer to relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals, and reference materials.

The candidate must have access to:

- tools, equipment, and materials required to demonstrate the performance evidence above
- specialist input from suitable personnel as required, including from:
  - professional engineers
  - non-destructive testing (NDT) technicians
  - licensed aircraft maintenance engineers (LAMEs) with applicable ratings
  - personnel with Civil Aviation Safety Regulation (CASR) Part 145 or Part 42F certifying authorities.

Candidate capability of providing the required performance and knowledge evidence must be established via the records in the Maintenance Management Competency Log. Where the individual does not have a Competency Log, evidence of capability can be gathered through direct observation, supervisor's reports, project work, samples and questioning.

Assessors of this unit must satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

## Links

Companion Volume implementation guides are found in VETNet -

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