



Australian Government

MEACOM0016 Provide engineering advice for modifying, maintaining and managing aircraft systems

Release: 1

MEACOM0016 Provide engineering advice for modifying, maintaining and managing aircraft systems

Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Assessment Requirements clarified. Supersedes and is equivalent to MEA128 Provide engineering advice in the modification, maintenance and management of aircraft systems.

Application

This unit describes the skills and knowledge required to provide engineering advice in the Australian Defence Force airworthiness environment on mechanical and avionics systems. The advice is provided in relation to modifying, repairing, maintaining and managing aircraft and associated mechanical and avionic systems.

The unit applies to advice provided in scheduled and unscheduled maintenance.

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

MEAENG0003 Select and test 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. Provide mechanical systems advice in modification, repair, maintenance design relating to aircraft mechanical systems and structures	1.1 Provide independent technical input when requested by maintenance personnel, senior maintenance managers, and higher technical authorities 1.2 Use own aircraft mechanical systems knowledge to determine aircraft airworthiness 1.3 Use own knowledge of aircraft structures to determine aircraft airworthiness

Elements	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Provide advice in the maintenance and modification design for aircraft avionics systems	2.1 Provide independent technical input when requested by maintenance personnel, senior maintenance managers, and higher technical authorities 2.2 Use aircraft avionic systems knowledge to determine aircraft airworthiness
3. Conduct and advise on aircraft recovery	3.1 Evaluate battle or incident damage and operational capability of an aircraft 3.2 Determine repair methods and/or limits 3.3 Plan an aircraft recovery

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
- Numeracy skills to interpret and communicate 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 MEA128 Provide engineering advice in the modification, maintenance and management of aircraft systems.

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 MEACOM0016 Provide engineering advice for modifying, maintaining and managing aircraft systems

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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:

- provide independent engineering advice on the modification, maintenance and management of aircraft systems in the ADF technical airworthiness regulatory system to operators, engineering officers, or executive personnel that require:
 - assessing the battle damage of one aircraft
 - assessing the incident damage to a different aircraft.

Each assessment must include:

- repair scheme development and/or extension
- development of modification proposals
- review of maintenance requirements.

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

- use subject matter experts and documented technical information
- provide advice orally and in writing
- provide advice that complies with regulations and organisational policy and procedures.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- regulatory and organisational policy and procedures, including:
 - modification proposal development and processing
 - aircraft recovery procedures
 - 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

- repair scheme proposal, including equivalent strength repair design and justification for extension of an approved repair scheme
- management processes for monitoring and reviewing maintenance requirements
- key features of aircraft structures, including:
 - primary and secondary structures
 - flight controls
 - fairings
 - doors
 - access panels
- key features of aircraft mechanical systems, including:
 - engines
 - landing gear systems
 - hydro-mechanical systems comprising oil, fuel, hydraulic and pneumatic
 - furnishings and safety equipment
 - propellers/rotors
- aircraft avionics systems, including:
 - electrical generation and distribution
 - electrical systems
 - electrical control and warning
 - flight instruments
 - aircraft data communication
 - automatic flight and engine control
 - communications
 - navigation
 - radar
 - life support
 - ordnance.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and 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 providing engineering advice for modifying, maintaining and managing aircraft systems, or a combination of on- and off-the-job assessment. 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 providing engineering advice for modifying, maintaining and managing aircraft systems

- tools, equipment, and materials required to demonstrate the performance evidence above.

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.

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