



Australian Government

MEACOM0029 Convert skills and knowledge from allied trades for employment in aviation maintenance workshops

Release: 1

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Modification History

Release 1. Application changed. Elements and 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 MEA145 Conversion from allied trades for employment in aviation maintenance workshops.

Application

This unit describes the skills and knowledge required to apply common core skills and knowledge that are aviation maintenance–specific and meet the requirements of the two regulators, the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA). The skills and knowledge will be applied during the maintenance of items of aeronautical product in aviation maintenance workshops.

The unit applies to individuals with Certificate III or Certificate IV qualifications in allied trades (primarily automotive, electrotechnology or metals and engineering) who will be employed in aviation maintenance workshops. It covers aviation maintenance–specific parts of common core competencies that must be applied by all individuals employed to maintain items of aeronautical product and that have not been covered in allied trade units relating to similar areas of expertise.

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

MEA157 Complete aviation maintenance industry documentation

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. Identify and access	1.1 Identify and access appropriate manuals for the type of

aviation industry manuals, specifications and drawings	aircraft or component being maintained 1.2 Establish amendment status from documentation to ensure the correct specifications and procedures are applied
2. Amend and store manuals, specifications or drawings	2.1 Incorporate and document manual, specification or drawing changes or amendments, including current or approved amendment status, in accordance with statutory regulations and/or enterprise procedures 2.2 Store manuals, specifications or drawings to ensure prevention of damage, ready access and required updating of information in accordance with regulatory or enterprise procedures
3. Apply standard trade practices	3.1 Lay out and fabricate simple items from common aircraft materials 3.2 Select and use common types of aircraft attachment hardware to meet specified requirements and suit construction material 3.3 Select and use common types of safety locking devices and fasteners to meet requirements 3.4 Lockwire aircraft components, devices and hardware, using the appropriate wire gauge 3.5 Assemble or connect common types of aircraft connectors and plumbing and apply required safety locking devices to meet requirements 3.6 Assemble or connect aircraft control cables and apply required safety locking devices to meet requirements
4. Interpret and apply quality standards in the aviation maintenance environment	4.1 Communicate standards or specifications in maintenance documents and identify and interpret process specifications 4.2 Identify, confirm and apply enterprise quality requirements
5. Plan steps and organise work to complete task	5.1 Plan work steps in conjunction with the work of other personnel to achieve practical outcomes in accordance with relevant aircraft publications, maintenance regulations, orders and standards and practices 5.2 Allow for human factors and work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS), in planning of steps 5.3 Organise work activity with other involved personnel, allowing for relevant human factors and using relevant communication processes to ensure safe and appropriate sequencing of tasks

	5.4 Complete and record all necessary documentation related to job planning and progress in accordance with relevant aircraft publications, maintenance regulations, orders and standards and practices
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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 manuals.
- Numeracy skills to interpret technical information.

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA145 Conversion from allied trades for employment in aviation maintenance workshops.

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 MEACOM0029 Convert skills and knowledge from allied trades for employment in aviation maintenance workshops

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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:

- convert allied trades skills and knowledge to aviation maintenance workshops on:
 - at least one manual from each of:
 - aircraft publications, maintenance instruction manuals, process specifications, servicing or service bulletins or structural repair manuals
 - tooling or equipment manuals, manufacturer's manuals, standard practices, enterprise aviation regulations and publications
 - illustrated parts catalogues, aircraft wiring manuals or drawings
 - and on at least three of the following:
 - laying out and fabricating simple items from common aircraft materials
 - assembling items using a representative range of common types of aircraft attachment hardware for which relevant fits and clearances, appropriate safety locking devices and fasteners, including lockwire, are correctly selected and applied
 - assembling or connecting a range of common aircraft connectors and plumbing, applying safety locking devices, where applicable
 - assembling or connecting aircraft control cables and applying safety locking devices, where applicable.

In performing the above tasks, there must be evidence of knowledge about how aircraft materials, standard items of hardware and fittings are used in component maintenance and the application of quality systems and work planning by demonstrating the ability to:

- access, interpret and apply information from industry manuals, including paper-based, microfiche or computer-based media, relating to work activities, including determination of amendment status of the manual, knowledge of manual structures and locating relevant information/instructions for work activity

- identify and interpret information from drawings and diagrams in aircraft maintenance manuals, including component scaling, section, assembly, location, drawing applicability or amendment status from the title block as required for the tasks being performed
- determine correct lubricants for specified applications
- identify common ferrous and non-ferrous aircraft materials and identify common aircraft composite and non-metallic materials (other than wood)
- identify aircraft hardware by markings, part numbers, size, shape and material
- install aircraft hardware using standard practices or techniques to ensure safe security and including each of following:
 - minimum thread engagement
 - split pinning
 - lockwiring
 - application of locking compounds
 - locking tabs and spring washers
 - lock nuts
- install aircraft hardware using tightening, torquing and tensioning techniques
- identify various types of aircraft rigid and flexible plumbing and their connectors
- identify aircraft control cables and related cable system hardware
- apply workplace hazard reporting and identification procedures
- differentiate the elements that constitute the quality system and identify processes, workplace regulations and ISO 9000 compliant documentation and specifications within the workplace environment.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- the types and structures of industry manuals used in aviation maintenance and types of media, including paper-based, microfiche or computer-based media, and other relevant sources of information or instructions for work activity
- sources of regulatory and standard enterprise procedures, including:
 - Civil Aviation Regulations (CARs) or Civil Aviation Safety Regulations (CASRs)
 - maintenance organisation manual
 - procedures manuals
 - work instructions
 - quality manuals
 - safety manuals
 - applicable Australia Defence Force (ADF) regulations and instructions
 - standing instructions
- requirements for custody and upkeep of industry manuals
- techniques for obtaining and applying data contained in industry manuals
- types of standard aircraft hardware and methods of identification, including bolts, nuts, washers, pins (cotter and tapered), and fasteners (rivets and camlocs)

- materials from which hardware is manufactured and its applications, including plain, corrosion resistant and temperature/heat resistant
- types of safety locking devices and their application
- common ferrous and non-ferrous aircraft materials, heat treatment and testing
- characteristics and properties of common composite and non-metallic materials (other than wood)
- types of aircraft cable, turnbuckles, end fittings, tensiometers, pulleys and cable system components, and aircraft flexible control systems
- types and characteristics of lubricants
- typical quality systems and their operation in the workplace
- workplace quality documentation, such as quality manuals, procedures manuals, work instructions and worksheets
- workplace maintenance procedural documentation specific to the tasks listed in the Performance Evidence, such as maintenance logs, overhaul test/check sheets, job history sheets, traveller cards, maintenance reports, irregularity reports, serviceable tags and removal tags.
- the relationship between the quality system and work health and safety (WHS) requirements, such as workplace hazard reporting
- the relationship between the quality system and identification systems for aircraft hardware, materials and components
- the impact of human factors on the safe and effective performance of maintenance on aircraft and aircraft components
- considerations relating to WHS regulations/precautions specific to the work activity and others working in the vicinity of the planned work activity, particularly with regard to electricity, gases (especially oxygen), oils and chemicals
- how to access and apply material safety data sheets (MSDSs) and material record sheets.

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 aviation maintenance workshops. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - the use of publications/maintenance regulations/orders and standards and practices
 - the application of aviation maintenance specific standard trade practices
 - task planning and quality system application in the aeronautical product maintenance environment.

This unit must be linked in its assessment and application to those that apply to the actual maintenance of items of aeronautical product. It is essential that all WHS requirements are met and understood.

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

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