Australian Government

Assessment Requirements for MEA158 Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Release: 1

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Modification History

Release 1. Supersedes and equivalent to MEA109 Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance. Revised as a result of changed prerequisites. Unit codes updated.

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:

- use basic hand skills and standard trade practices when completing each of the following aircraft maintenance activities, demonstrating transferability of hand skills across applications:
  - lay out and fabricate a representative range of simple items from common aircraft materials
  - assemble 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
  - assemble and connect common aircraft connectors and plumbing, and apply safety locking devices where applicable
  - identify aircraft control cables and related cable system hardware; and assemble and connect aircraft control cables, applying safety locking devices where applicable
  - identify, inspect and use lubrication equipment
  - determine correct lubricants for specified applications.

Evidence of the hand skills required to perform the above aircraft maintenance must be demonstrated on at least one occasion in an area where access is extremely limited.

In providing evidence of the above, the candidate must:

- identify, inspect, apply, use and store general and purpose-specific hand tools found in an aircraft engineering workshop or hangar, including spanners, screwdrivers, pliers, hammers, cutting devices, files, punches, drills and marking out tools
- identify, inspect (including calibration), apply, use and store precision measuring tools found in an aircraft engineering workshop or hangar, including micrometers, vernier instruments, feeler gauges, and go/no-go gauges; reading instrument scales during application of these instruments to ensure compliance with specifications
- identify, inspect, apply, operate, service and store portable and fixed power and machine tools found in an aircraft engineering workshop or hangar, including drills, presses, grinders, shears, and pan breaks

- identify common ferrous and non-ferrous aircraft materials
- 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 and techniques to ensure safety and security, including:
  - minimum thread engagement
  - split pinning
  - lockwiring
  - application of locking compounds
  - locking tabs, spring washers
  - lock nuts
- install aircraft hardware using tightening, torquing and tensioning techniques; calculating setting, reading scales and setting up of torque wrench and/or tensioning devices must be clearly demonstrated before application of wrench or device
- identify various types of aircraft rigid and flexible plumbing and their connectors.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- work health and safety (WHS) requirements and standard workshop and organisational procedures relating to using the hand and power tools and equipment required for the aviation maintenance activities described in the performance evidence, including those applicable for:
  - selecting and using tools and equipment
  - identifying unsafe or faulty tools and equipment and marking them for repair
  - undertaking operational maintenance and storage of the tools and equipment used
- types of standard aircraft hardware and methods of identification, including bolts, nuts, washers, pins (cotter, tapered) and fasteners (rivets and camlocs)
- materials from which hardware is manufactured and their applications, including plain, corrosion resistant and temperature/heat resistant
- types and uses of:
  - lubrication equipment
  - safety locking devices
- characteristics and properties of:
  - common ferrous and non-ferrous aircraft materials, heat treatment and testing
  - common composite and non-metallic materials other than wood
- types and characteristics of:
  - aircraft cable, turnbuckles, end fittings, tensiometers, pulleys and cable system components, and aircraft flexible control systems
  - lubricants
- fits and clearances
- standard trade practices and fundamentals for:

- using the tools and/or equipment used in the aviation maintenance activities described in the performance evidence
- laying out simple items for manufacture using basic hand skills
- tool calibration requirements.

Assessment Conditions

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

Competency must be assessed in the work environment, or by use of simulated activities.

The candidate must have access to:

- the tools and equipment specified by aircraft manuals
- general purpose tools and test equipment found in most routine aviation maintenance situations.

This unit must be linked in its assessment and application to other units that apply to the actual maintenance of aircraft.

Candidate capability of providing the required performance and knowledge evidence must be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Implementation Guide).

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