



Australian Government

**Assessment Requirements for MEA423
Aircraft structure major disassembly and
reassembly**

Release: 2

Assessment Requirements for MEA423 Aircraft structure major disassembly and reassembly

Modification History

Release 2 – Assessment Conditions amended to permit assessment in a simulated workplace

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying relevant WHS procedures, including the use of MSDS and applicable items of PPE
- using approved maintenance documentation and aircraft publications relating to aircraft structural disassembly and assembly
- correctly supporting the aircraft structure by jacking, trestling, bracing and/or jiggling methods
- safely handling heavy components during removal and assembly
- identifying various aircraft metals/composite materials and their basic metallurgy properties by interpretation of markings, numbering systems or visual, chemical or mechanical means
- handling and storing aircraft metal and composite components to industry standards
- identifying aircraft structural assembly fasteners (metal and composite) by interpretation of markings, numbering systems, size, shape and colour
- using appropriate hand tools and machines to remove and assemble aircraft structural components, parts, sections and skin, including riveting equipment, drilling equipment, aligning tools, reamers and material fasteners (grip pins)
- applying correct removal and installation techniques for general and close tolerance fasteners (rivets, standard and oversize hilocks), including hole preparation and location techniques
- performing aircraft alignment and mensuration checks
- applying sealants and restoring aircraft structure surface finishes.

The underlying skills inherent in this unit should be transferable into other areas that require similar techniques.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aircraft construction principles, including the causes of structural fatigue and corrosion
- describing the basic construction methods used to assemble:
 - fuselage (pressure and non-pressurised)

- wings, vertical and horizontal stabilisers, rotary wing tail cones and pylons
- engine nacelles/pylons
- doors and windows, including seals, sealants and locking mechanisms
- material specifications for aluminium alloys and steel alloys used in aircraft structure
- composite cloths, matrix materials and adhesives
- structural material identification by markings and numbering systems
- material identification by chemical, electrical and mechanical methods
- material storage requirements
- hardware types and specifications
- composite bonding methods
- identification of hardware
- sealants used in aircraft structure and their application and handling
- chemical surface treatments
- electroplating
- paints and finishes
- WHS precautions associated with repair of aircraft structure, including the safe handling of heavy components
- MSDS
- PPE.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment, using tools and equipment specified by aircraft maintenance manuals. It is also expected that general-purpose tools and ground support equipment found in most routine situations would be used where appropriate.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of the unit of competency are being achieved under routine supervision on elements from each of the following groups:
 - assembly of aircraft sub-assemblies or end items from detailed parts using jigs and fixtures
 - disassembly and reassembly of aircraft structure, such as wings, tailplanes or fuselage sections, using trestling, jigs and fixtures
 - replacement of major structural load carrying members, for example, skins, longerons, spars, frames and bulkheads.
- This shall 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 Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).

Links

Companion Volume implementation guides are found in VETNet -

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