



Australian Government

Assessment Requirements for MEAMEC0032 Apply basic aircraft design characteristics

Release: 1

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Modification History

Release 1. Application changed. 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 MEA341 Apply basic aircraft design characteristics.

Performance Evidence

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

- develop a basic aircraft design or repair proposal that shows consideration of the following areas of aerodynamic design:
 - the effects of aerodynamic shape and types of flight controls on aircraft performance, stability and control
 - the influence of rotor design on rotary wing aircraft stability and control
 - the loads acting on aircraft structure, types of structure and related maintenance requirements
 - the types and designs of landing gear and their applications.
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Knowledge Evidence

There must be evidence the candidate has knowledge of:

- theory of flight, including rotary wing
- loads acting on aircraft structures and structural fatigue, including rotary wing
- aircraft design characteristics, including rotary wing
- common wing plan forms, including
 - straight
 - tapered
 - swept
 - delta
 - variable geometry
 - canard
- common wing configurations, including:
 - mid-wing
 - low wing
 - high wing
- common rotor configurations, including:

- main rotor and tail rotor
- two main rotors
- two blade main rotor
- multiple blade main rotor
- hinged main rotor blades
- types of aircraft structure
- methods of aircraft construction
- materials of construction
- structural maintenance requirements
- use of non-destructive testing (NDT) in structural maintenance
- basic landing gear design characteristics and configurations, including:
 - tricycle
 - tail wheel
 - tail skid
 - floats
 - skis
 - helicopter skids
 - helicopter wheels and brakes
- use of ultra-high strength steels in landing gear design and related maintenance requirements.
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Assessment Conditions

The following conditions of assessment represent the requirements of the regulators Defence Aviation Safety Authority (DASA) and Civil Aviation Safety Authority (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, such as a training environment equipped to provide exposure to the relevant aircraft design characteristics and to theory of flight. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - tools, equipment, materials and documentation
 - workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials relevant to applying basic aircraft design characteristics.

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

Companion Volume implementation guides are found in VETNet -

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