



Australian Government

MEA241 Perform aircraft weight and balance calculations as a result of modifications

Release: 1

MEA241 Perform aircraft weight and balance calculations as a result of modifications

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of mathematical formulae to calculate the weight and balance effect of components installed in fixed and rotary wing aircraft during modification incorporation and may involve individual activities or supervision of other personnel.

The unit covers competencies required to progress from an Aircraft Maintenance Engineer at Certificate IV to the granting of a B2 Aircraft Maintenance Engineer Licence in the Avionics category under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide and the Companion Volume CASA Interface.

The skills and knowledge covered by the units of competency listed in the MEA Aeroskills Training Package for Aircraft Maintenance Engineer (Avionics or Mechanical as applicable) at Certificate IV are prerequisite to the attainment of the elements of competency specified in this unit.

Pre-requisite Unit

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Calculate the weight and balance impact of a modification	1.1 The requirement for aircraft weighing is determined
	1.2 The new empty weight of the aircraft is determined and it is ensured that the weight is within the predetermined limits set by the Continuing Airworthiness Management Organisation (CAMO)
	1.3 The new empty weight centre of gravity of the aircraft

is calculated using the weight and moment arm data for a modification and it is ensured that the centre of gravity is within the predetermined limits set by the CAMO

- 1.4 Maintenance records are updated with new figures

Foundation Skills

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Procedures and requirements include:

- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 1 – equivalent to MEA241C Perform aircraft weight and balance calculations as a result of modifications

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 MEA241 Perform aircraft weight and balance calculations as a result of modifications

Modification History

Release 1 - New unit of competency

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:

- calculating the effect on aircraft weight and centre of gravity of components installed during modification incorporation using weight and moment arm data.

The underlying skills inherent in this unit should be transferable across a range of aircraft types. Ability to interpret the instructions for configuring and weighing aircraft is critical.

Evidence of transferability of skills and knowledge related to aircraft weight and calculation of centre of gravity is essential

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:

- mathematical formulae used to calculate centre of gravity of an aircraft.

Assessment Conditions

- 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 supervision without intervention.
- This shall be established via simulated activities at the CASR Part 147 Maintenance Training Organisation and performance during observed workplace activities.
- The Assessor must 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>