



Australian Government

Department of Education, Employment and Workplace Relations

MEA325B Weigh aircraft and perform aircraft weight and balance calculations as a result of modifications

Release: 2

MEA325B Weigh aircraft and perform aircraft weight and balance calculations as a result of modifications

Modification History

Minor formatting and editorial changes made.

Unit Descriptor

This unit covers competencies required to progress from an Aircraft Maintenance Engineer at Certificate IV to the granting of a chosen Aircraft Maintenance Engineer Licence under CASR Part 66, in accordance with the licensing provisions in Section 3, Assessment Guidelines.

The skills and knowledge covered by the units of competency listed in the MEA11 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. This includes full coverage of the CASR Part 66 Syllabus subjects/topics listed in Section 3.

Application of the Unit

This unit requires application of knowledge regarding aircraft weighing and the use of relevant maintenance publications and modification data (where applicable) to weigh an aircraft and use the results to calculate centre of gravity and confirm that it is within limits.

Applications include fixed and rotary wing aircraft.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

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| 1. Weigh aircraft | 1.1. The requirement for aircraft weighing is determined
1.2. Aircraft is weighed in accordance with the specified procedure
1.3. Aircraft weighing results are provided to the CAMO |
| 2. Calculate the weight and balance impact of a modification | 2.1. The new empty weight of the aircraft is determined and it is ensured that the predetermined limits set by the CAMO
2.2. The new empty weight <i>centre of gravity of the aircraft is calculated</i> and its centre of gravity is within the predetermined limits set by the CAMO
2.3. Maintenance records are updated with new figures |

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying relevant OHS procedures
- configuring aircraft for weighing
- weighing aircraft
- using weighing results to calculate centre of gravity

Required knowledge

Look for evidence that confirms knowledge of:

- types of weighing equipment used to weigh aircraft and associated safety precautions:
 - mechanical platform scales
 - electronic platform scales
 - electronic load pots
- methods used to level aircraft for weighing
- the importance of correctly configuring aircraft for weighing
- mathematical formulae used to calculate centre of gravity

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to determine the requirement to weigh an aircraft, weigh it using a specified method and use the results to calculate centre of gravity. Safety precautions applicable to the weighing method involved are to be fully observed.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	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 weighing of aircraft and calculation of centre of gravity is essential. The aircraft weighing work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards, especially in relation to aircraft jacking and levelling. A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of the unit of competency are being achieved under supervision without intervention. This shall be established via simulated activities at the CASR Part 147 MTO and performance during observed workplace activities.
Context of and specific resources for assessment	Competency may be assessed in the workplace or in the training environment.
Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Centre of gravity calculation	Centre of gravity of the aircraft is calculated: • using the results obtained by weighing an aircraft • using the weight and moment arm data for a modification
Application	Application of this unit may relate to: • scheduled or unscheduled maintenance activities • individual activities or supervision of other personnel
Procedures and requirements	Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable