



Australian Government

MEA325 Weigh aircraft and perform aircraft weight and balance calculations as a result of modifications

Release: 1

MEA325 Weigh aircraft and 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 knowledge regarding aircraft weighing and the use of relevant maintenance publications and modification data (where applicable) to weigh a fixed and rotary wing aircraft and use the results to calculate centre of gravity and confirm that it is within limits. Weighing may be performed during scheduled or unscheduled maintenance and involve individual activities and the supervision of other personnel.

The unit covers competencies required to progress from an Aircraft Maintenance Engineer (AME) at Certificate IV to the granting of a chosen maintenance certification licence 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. This includes full coverage of the CASR Part 66 Syllabus subjects/topics listed in the Companion Volume CASA Interface.

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. Weigh aircraft | 1.1 The requirement for aircraft weighing is determined |
| | 1.1 Aircraft is weighed in accordance with the specified procedure while observing all relevant work health and safety (WHS) requirements |

- | | | | | | | | | |
|-----|--|---|-----|---|-----|--|-----|--|
| | 1.3 | Aircraft weighing results are provided to the Continuing Airworthiness Management Organisation (CAMO) | | | | | | |
| 2. | Calculate the weight and balance impact of a modification | <table border="0"><tr><td>2.1</td><td>The new empty weight of the aircraft is determined and it is ensured that the weight is within the predetermined limits set by the CAMO</td></tr><tr><td>2.2</td><td>The new empty weight centre of gravity of the aircraft is calculated and it is ensured that the centre of gravity is within the predetermined limits set by the CAMO</td></tr><tr><td>2.3</td><td>Maintenance records are updated with new figures</td></tr></table> | 2.1 | The new empty weight of the aircraft is determined and it is ensured that the weight is within the predetermined limits set by the CAMO | 2.2 | The new empty weight centre of gravity of the aircraft is calculated and it is ensured that the centre of gravity is within the predetermined limits set by the CAMO | 2.3 | Maintenance records are updated with new figures |
| 2.1 | The new empty weight of the aircraft is determined and it is ensured that the weight is within the predetermined limits set by the CAMO | | | | | | | |
| 2.2 | The new empty weight centre of gravity of the aircraft is calculated and it is ensured that the centre of gravity is within the predetermined limits set by the CAMO | | | | | | | |
| 2.3 | 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.

- | | |
|---|--|
| Centre of gravity of the aircraft is calculated: | <ul style="list-style-type: none">• Using the results obtained by weighing an aircraft• Using the weight and moment arm data for a modification |
| Procedures and requirements include: | <ul style="list-style-type: none">• Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise |

Unit Mapping Information

Release 1 – equivalent to MEA325B Weigh aircraft and 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 MEA325 Weigh aircraft and 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:

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

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.

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:

- 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.

Assessment Conditions

- Competency may be assessed in the workplace or in the training environment. 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.
- The following conditions of assessment represent the requirements of CASA 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 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>