



Australian Government

MEA731 Perform aircraft weight control activities

Release: 1

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Modification History

Release	Comments
1	New unit of competency.

Application

This unit of competency describes the skills and knowledge required to perform aircraft weight control activities. Activities include weighing aircraft and calculating the centre of gravity (CG), developing and maintaining weighing records, and developing and updating applicable loading systems.

The unit applies to weight control activities for large and small aeroplanes and helicopters.

The unit involves activities associated with the privileges and responsibilities of an aircraft weight control authority appointed by the Civil Aviation Safety Authority (CASA) in accordance with Civil Aviation Order (CAO) 100.28.

This unit forms part of the CASA requirement for maintenance certification licences under Civil Aviation Safety Regulation (CASR) Part 66. Where a CASA licensing outcome is sought, users must refer to the licensing provisions in the MEA Aeroskills Companion Volume Implementation Guide.

Pre-requisite Unit

Nil.

Competency Field

Aeronautical engineering

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1. Determine requirement to weigh an aircraft

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Determine regulatory, aircraft manufacturer, and organisational requirements for weighing aircraft

ELEMENTS**PERFORMANCE CRITERIA**

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| | 1.2 Identify modifications or repairs that necessitate the weighing of aircraft |
| | 1.3 Identify regulatory requirements for weighing the aircraft, and required time intervals for re-weighing it |
| | 1.4 Identify regulatory requirements for establishing fleet weight values, and required time intervals for re-establishing them |
| 2. Weigh aircraft | 2.1 Determine applicable weighing procedure |
| | 2.2 Assemble required support equipment and scales or load cells, and personnel qualified to perform the weighing activity |
| | 2.3 Ensure aircraft is prepared for weighing according to aircraft maintenance manuals, applicable data, and work health and safety (WHS) requirements |
| | 2.4 Ensure aircraft is placed on weighing equipment and set up in required weighing attitude while observing WHS requirements |
| | 2.5 Weigh aircraft according to specified procedure |
| | 2.6 Ensure aircraft is restored to operating configuration |
| 3. Calculate and assess centre of gravity | 3.1 Determine aircraft empty weight from weighing results |
| | 3.2 Use required moment arm data and mathematical formulas to calculate empty weight CG |
| | 3.3 Initiate remedial action according to regulatory requirements and organisational procedures if CG is outside certificated limits for aircraft type |
| 4. Update aircraft weighing record | 4.1 Update aircraft weighing summary with revised aircraft empty weight and empty weight CG data according to regulatory requirements and organisational procedures |
| | 4.2 Revise load data sheet as required to align with revised aircraft weighing summary weight and balance data |
| 5. Develop or update an aircraft loading system | 5.1 Determine fore and aft CG weight and balance extreme conditions, and revise load data sheet and loading system as required |

ELEMENTS**PERFORMANCE CRITERIA**

- 5.2 Calculate aircraft operational weight and operational weight CG for entry on to load data sheet and for use in developing or revising aircraft loading system
- 5.3 For small aircraft, develop/revise loading system using placards placed in aircraft or information in Aircraft Flight Manual
- 5.4 For large aircraft, calculate weight and balance data for required passenger and cargo loading requirements/configurations, and present data in a form that meets regulatory and organisational requirements for a system that guides and controls aircraft loading
- 5.5 Update or provide data for updating computers used for aircraft loading and weight and balance computations
- 5.6 Provide data to designated authority for the amendment of flight manual content relating to aircraft weight and balance

Foundation Skills

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

Unit Mapping Information

Release 1. No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

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