



Australian Government

MEA321 Test and troubleshoot aircraft fixed wing flight control systems and components

Release: 1

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Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills and the use of maintenance publications and knowledge of system theory to test and troubleshoot aircraft flight control systems and components of fixed wing aircraft during the performance of scheduled or unscheduled maintenance. Maintenance may be performed individually or as part of a team.

The unit is part of the Mechanical Aircraft Maintenance Engineer (AME) Certificate IV training pathways.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation safety Authority (CASA).

Where a CASA licensing outcome is sought this unit forms part of the CASA requirement for the granting of the chosen maintenance certification licence under Civil Aviation Safety Regulation (CASR) Part 66, in accordance with the licensing provisions in the Companion Volume Implementation Guide.

Pre-requisite Unit

MEA318 Inspect aircraft hydro-mechanical, mechanical gaseous and landing gear systems and components

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.

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| 1. Prepare for troubleshooting | 1.1 Relevant maintenance documentation and modification status, including system defect reports, where relevant, are interpreted to identify an unserviceability |
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| 2. Test fixed wing flight control systems | 2.1 Powered controls of the aircraft and system are prepared in accordance with maintenance manual for the application of electrical and hydraulic power |
| | 2.2 Power is applied, if necessary, and system is functionally tested in accordance with applicable maintenance manual for malfunction or evidence of incorrect rigging while observing all relevant work health and safety (WHS) requirements |
| | 2.3 System rigging is performed in accordance with applicable maintenance manual |
| 3. Troubleshoot fixed wing flight control systems | 3.1 Available information from maintenance documentation and inspection and test results is used, where necessary, to assist in fault determination |
| | 3.2 Maintenance manual fault diagnosis guide and logical processes are used to ensure efficient and accurate troubleshooting to line replacement level |
| | 3.3 Specialist advice is obtained, where required, to assist with the troubleshooting process |
| | 3.4 Fixed wing flight control system faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required |

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.

Fixed wing flight control systems and components include:

- Ailerons, elevators, rudders, trim tabs, speed brakes, spoilers, flaps and slats
- Actuators – mechanical, hydraulic, pneumatic or electric
- Mechanical flight control components, including cables, pulleys, guides, fairleads, tension regulators, control

rods, bellcranks, torque tubes, chains, sprockets, control sticks (or wheels or columns), trim wheels or handles, and rudder pedals

Procedures and requirements include:

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

Unit Mapping Information

Release 1 – equivalent to MEA321C Test and troubleshoot aircraft fixed wing flight control systems and components

Links

Companion Volume implementation guides are found in VETNet -

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