



Australian Government

MEA322 Test and troubleshoot gas turbine engine systems and components

Release: 1

MEA322 Test and troubleshoot gas turbine engine systems and components

Modification History

Release 1 - New unit of competency

Application

This unit of competency requires application of hand skills, the use of maintenance publications, and knowledge of gas turbine engine and system theory to test and troubleshoot gas turbine engines and engine system components of fixed and rotary 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 and must be taken with MEA319 Inspect gas turbine engine systems and components.

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

MEA319 Inspect gas turbine engine 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 |
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unserviceability

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| 2. | Test gas turbine engine system | 2.1 | Aircraft and gas turbine engine system are correctly prepared in accordance with applicable maintenance manual and connected to appropriate test equipment while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of personal protective equipment (PPE) |
| | | 2.2 | Built-in system test functions and status displays are activated, where applicable, outputs recorded and interpreted |
| | | 2.3 | Assistance is provided with gas turbine engine and/or system operation during prescribed test procedures to establish serviceability and correct function in accordance with applicable maintenance manual |
| 3. | Troubleshoot gas turbine engine system | 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 | Gas turbine engine system faults are located and causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required |
| | | 3.5 | Fault rectification requirements are determined to assist in planning the repair or adjustment |

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.

Gas turbine engine systems include:

- Engine change unit, main components and accessories/drives
 - Control system
 - Ignition and starter systems
 - Fuel system
 - Oil system
 - Air system
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 1 – equivalent to MEA322C Test and troubleshoot gas turbine engine 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>