



Australian Government

MEA279 Inspect, test and troubleshoot full authority digital engine control systems

Release: 2

MEA279 Inspect, test and troubleshoot full authority digital engine control systems

Modification History

Release 2. Equivalent to MEA279 Inspect, test and troubleshoot full authority digital engine control systems with amended prerequisite codes.

Application

This unit of competency requires application of hand skills and the use of maintenance documentation/publications and test sets in the inspection, testing and troubleshooting of full authority digital engine control (FADEC) systems of fixed and rotary wing aircraft scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate IV (Aircraft Maintenance Stream) and small aircraft maintenance Certificate IV (Mechatronic) training pathways.

Where a Civil Aviation Safety Authority (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

MEA246	Fabricate and/or repair aircraft electrical hardware or parts
MEA293	Remove and install aircraft electronic system 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.
1. Inspect FADEC systems and components	1.1 Relevant maintenance documentation and modification status, including system defect reports, where relevant, are used to identify specific inspection requirements

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| | 1.2 | Isolation tags are checked and aircraft configured for safe system inspection and operation in accordance with the applicable maintenance manual |
| | 1.3 | FADEC system is visually or physically checked for external signs of defects in accordance with applicable maintenance manual while observing all relevant work health and safety (WHS) requirements |
| | 1.4 | Defects are correctly identified and reported |
| 2. Test FADEC systems | 2.1 | Aircraft and system are prepared in accordance with applicable maintenance manual for the application of power/system operation |
| | 2.2 | FADEC system is functionally tested in accordance with maintenance manual for evidence of serviceability or malfunction |
| 3. Troubleshoot FADEC 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 guides and logic processes are used to ensure efficient and accurate troubleshooting using test sets, downloaded maintenance data and fault-finding charts or similar, to line replacement level |
| | 3.3 | Specialist advice is obtained, where required, to assist with the troubleshooting process |
| | 3.4 | System faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required, and in accordance with standard enterprise procedures |
| | 3.5 | Rectification requirements are determined |

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.

- FADEC systems include:**
- Computers, sensors, interfaces, cockpit controls, data cables and wiring looms that comprise the electronic control system
 - Other engine-mounted related components, such as spark plugs, ignition units, injectors and fuel control units are covered by the applicable engine maintenance units (e.g. MEA313 Inspect, test and troubleshoot piston engine systems and components, MEA314 Inspect, test and troubleshoot gas turbine engine systems and components or MEA353 Maintain basic light aircraft engines and propellers)
- Procedures and requirements include:**
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Unit Mapping Information

Release 2. Equivalent to MEA279 Inspect, test and troubleshoot full authority digital engine control systems

Links

Companion Volume implementation guides are found in VETNet -

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