



Australian Government

**MEA281 Maintain light aircraft AC
powered instrument systems and
components**

Release: 2

MEA281 Maintain light aircraft AC powered instrument systems and components

Modification History

Release 2. Equivalent to MEA281 Maintain light aircraft AC powered instrument systems and components with amended prerequisite unit name.

Application

This unit of competency requires application of hand skills and the use of system/component knowledge and applicable test equipment to inspect, test and troubleshoot alternating current (AC) powered aircraft instrument systems, including the power supply, and to remove and install components during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

Applications include light fixed wing and rotary wing aircraft with piston or turbine engines.

The unit is part of the small aircraft maintenance Certificate IV (Mechatronics) training pathway.

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

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. Inspect light aircraft AC instrument systems, power supplies and | 1.1 Relevant maintenance documentation and modification status, including system defect reports, where relevant, are used to identify specific inspection requirements |
|---|--|

components

- 1.2 Isolation tags are checked and aircraft configured for safe system inspection and operation in accordance with the applicable maintenance manual
- 1.3 AC instrument system and AC power supply components are 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/adjust light aircraft AC instrument systems, power supplies and components
 - 2.1 Aircraft and system are prepared in accordance with applicable maintenance manual for the application of power/system operation
 - 2.2 Instrument system and AC power supply is functionally tested in accordance with maintenance manual for evidence of serviceability or malfunction
 - 2.3 System calibration or adjustments are performed in accordance with maintenance manual, as appropriate
- 3. Troubleshoot light aircraft AC instrument systems, power supplies and components
 - 3.1 Available information from maintenance documentation, 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 Instrument system or power supply faults are located and the causes of the faults are clearly identified and correctly recorded in maintenance documentation, where required, in accordance with standard enterprise procedures
 - 3.5 Rectification requirements are determined
- 4. Remove and install light aircraft AC
 - 4.1 System is rendered safe and prepared in accordance with the applicable maintenance manual and isolation

instrument system, and power supply components

tags are fitted, where necessary, to ensure personnel safety

- 4.2 Instrument or power supply component removal is carried out in accordance with the applicable maintenance manual while observing all relevant WHS requirements
- 4.3 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures
- 4.4 Removed components are tagged and packaged in accordance with specified procedures
- 4.5 Instrument or power supply components to be installed are checked to confirm correct part numbers, modification status, serviceability and shelf life
- 4.6 Physical installation of instrument or power supply components is performed in accordance with the applicable maintenance manual and regulatory requirements, ensuring appropriate adjustment/alignment is carried out
- 4.7 System is reinstated to correct operational condition in preparation for testing, as necessary
- 4.8 Required maintenance documentation is completed and processed in accordance with standard enterprise procedures

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.

AC instrument systems and AC power supply

- Directional gyro (DG), artificial horizon (AH), attitude heading and reference system (AHRS) and components, servo and encoding altimeters, and remote reading gyro

components include:

- compasses and components
- Piston engine and gas turbine engine indication system components
- Fuel quantity indication and flow indication systems and components
- Transmitter/indicator measuring instrument systems (pressure, temperature and vacuum) and components
- Inverters and transformer/rectifier units
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Procedures and requirements include:

Unit Mapping Information

Release 2. Equivalent to MEA281 Maintain light aircraft AC powered instrument systems and components.

Links

Companion Volume implementation guides are found in VETNet -

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