



Australian Government

MEA228 Test and troubleshoot aircraft instrument systems and components

Release: 2

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Modification History

Release 2. Equivalent to MEA228 Test and troubleshoot aircraft instrument systems and components with amended unit name in Assessment Conditions.

Application

This unit of competency requires application of hand skills, standard trade practices and systems knowledge in the testing and troubleshooting of aircraft instrument and display systems and components during both scheduled and unscheduled maintenance on both fixed and rotary wing aircraft. Work may be performed individually or as part of a team.

The unit is part of the Avionic Certificate IV (Aircraft Maintenance Stream) training pathway.

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

MEA224	Inspect aircraft instrument systems and components
MEA226	Inspect aircraft electronic 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.
1. Prepare for troubleshooting	1.1 Relevant maintenance documentation and modification status, including system defect/service difficulty reports, where relevant, are interpreted to identify an

			unserviceability
2.	Test/adjust instrument and display systems	2.1	The aircraft and systems are correctly prepared in accordance with specified procedures for the application of power and system operation
		2.2	Instrument or display system is functionally tested in accordance with specified procedures for evidence of serviceability or malfunction while observing all relevant work health and safety (WHS) requirements
		2.3	System calibration or adjustments are performed in accordance with specified procedures
3.	Troubleshoot instrument and display 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 to line replacement level
		3.3	Specialist advice is obtained, where required, to assist with the troubleshooting process
		3.4	Instrument or display system faults are located and the 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.

Instrument or display systems include:

- Flight instruments – pitot/static systems, airspeed indicators (ASIs), machmeters, air data systems and instruments, vertical speed indicators (VSIs), altimeters,

altitude alerting and reporting, turn and bank, directional gyros (DGs), artificial horizons (AHs), angle of attack, stall warning/avoidance, ground proximity warning system (GPWS) and flight data recorders (FDRs)

- Engine instruments – engine speed, pressure, temperature, performance, vibration and torque
- Instrument navigation systems – inertial navigation system (INS), inertial reference system (IRS), compasses and attitude and heading reference system (AHRS)
- Miscellaneous – pressure, fuel quantity, fuel flow, position, voltage, frequency, current and power
- Display systems – electronic flight instrument system (EFIS), engine indicating and crew alerting system (EICAS), flight management computer system (FMCS), electronic central aircraft monitor system (ECAM) and head-up display (HUD) (where applicable to the enterprise)
- Integrated modular avionics (where applicable to the enterprise)
- Industry standard procedures specified by manufacturers, regulatory authorities or the enterprise

Procedures and requirements include:

Unit Mapping Information

Release 2. Equivalent to MEA228 Test and troubleshoot aircraft instrument 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>