



Australian Government

MEAAVI0048 Inspect, test and troubleshoot aircraft instrument display systems and components

Release: 1

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Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA278 Inspect, test and troubleshoot instrument display systems and components.

Application

This unit describes the skills and knowledge required to apply hand skills and use system and component knowledge, applicable maintenance publications and test equipment to inspect, test and troubleshoot electronic instrument display systems and components of fixed and rotary wing aircraft during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

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

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Inspect electronic aircraft instrument display systems and components	1.1 Identify specific inspection requirements using maintenance documentation and modification status, including relevant system defect reports 1.2 Check isolation tags and configure aircraft for safe system inspection and operation in accordance with maintenance manual while observing all relevant work health and safety (WHS) requirements

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
	1.3 Visually or physically check electronic instrument display system components for external signs of defects in accordance with maintenance manual 1.4 Identify and report defects in accordance with standard enterprise procedures
2. Test or adjust electronic aircraft instrument display systems and components	2.1 Prepare aircraft and system for application of power or system operation in accordance with maintenance manual 2.2 Perform functional testing on electronic instrument display system for evidence of serviceability or malfunction in accordance with maintenance manual 2.3 Perform required calibration or adjustments to system in accordance with maintenance manual
3. Troubleshoot electronic aircraft instrument display systems	3.1 Use available information from maintenance documentation, inspection and test results to assist in fault determination of identified faults 3.2 Troubleshoot to line replacement level using maintenance manual fault diagnosis guides and logic processes 3.3 Obtain required specialist or supervisory advice to assist with the troubleshooting process 3.4 Locate electronic instrument display system faults and identify and record causes of faults in required maintenance documentation in accordance with standard enterprise procedures 3.5 Determine requirements for rectification of faults

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret maintenance manuals, inspection procedures and specifications (allowable limits).
- Writing skills to record and report on defects and faults and their causes.
- Numeracy skills to interpret and communicate technical information and take and interpret system measurements and readings.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA278 Inspect, test and troubleshoot instrument display 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>

Assessment Requirements for MEAAVI0048 Inspect, test and troubleshoot aircraft instrument display systems and components

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Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- perform inspection, testing and troubleshooting on instrument display systems and components during scheduled or unscheduled maintenance on a system and on at least one major system component of each of the following:
 - electronic flight instrument system (EFIS)
 - engine indicating and crew alerting system (EICAS)
 - electronic central aircraft monitoring (ECAM)
 - head-up display (HUD) (where applicable to the enterprise)
- recognise system and component defects, external damage, correct or incorrect installation, connection of plugs, terminations, and attachment hardware (including cabling or harnesses) for the systems being maintained
- perform functional testing by applying logic processes and using appropriate wiring diagrams and manuals to isolate instrument display system malfunctions and assess post-maintenance serviceability
- apply testing procedures, cleanliness requirements and safety precautions at all times, and as relevant to the system/s being maintained.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- standard trade practices relating to tool and test equipment usage and installation or securing of system components
- the basic layout (block diagram level) of EFIS, EICAS, ECAM, and HUD (where applicable to the enterprise)
- the operating principles of EFIS, EICAS, ECAM, and HUD (where applicable to the enterprise) and associated with:
 - electrical and instrument fundamentals relating to multi-function display systems
 - interpretation of display information and display screen symbol generation
 - the operation of each listed system and system components
- work health and safety (WHS) procedures for instrument display systems and components

- relevant Aeronautical Radio Incorporated (ARINC) specifications (avionic data bus)
- maintenance manuals for instrument display systems and components
- maintenance requirements and troubleshooting procedures
- relevant regulatory requirements and standard procedures, including software management control.

Assessment Conditions

The following conditions of assessment represent the requirements of the regulators (DASA and CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in inspecting, testing and troubleshooting instrument display systems and components. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to inspecting, testing and troubleshooting instrument display systems and components
 - tools and equipment specified in maintenance documentation
 - general-purpose tools and test equipment found in most routine situations and required for inspecting, testing and troubleshooting instrument display systems and components.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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