



Australian Government

**Assessment Requirements for MEA278
Inspect, test and troubleshoot instrument
display systems and components**

Release: 1

Assessment Requirements for MEA278 Inspect, test and troubleshoot instrument display systems and components

Modification History

Release 1 - New unit of competency

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- using hand skills, tools and test equipment in the testing, adjustment and troubleshooting of instrument display systems and data transmission and linkage systems
- recognising system and component defects/external damage, correct installation, connection of plugs, terminations, attaching hardware (including cabling/harnesses) for the range of systems listed in the Range of Conditions
- interpreting the information presented on instrument display systems
- applying logic processes and using appropriate wiring diagrams and manuals to isolate instrument display system malfunctions
- performing system functional tests and checks to isolate system faults and assess post-maintenance serviceability
- effectively using maintenance documentation and relevant fault diagnosis guides in the troubleshooting process
- applying standard procedures
- observing all relevant WHS procedures.

It is essential that system testing procedures, cleanliness requirements and safety precautions applicable to the instrument display system being maintained are fully observed, understood and complied with. Ability to interpret inspection procedures and specifications (allowable limits) and apply them in practice across a range of inspection, testing and troubleshooting applications (including the timely involvement of supervisors or other trades) is critical.

Evidence of transferability of skills and knowledge related to inspection, testing and troubleshooting is essential. This may be demonstrated through application across a range of aircraft instrument and display systems (where display systems are applicable to the enterprise) listed in the Assessment Conditions.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- standard trade practices relating to tool and test equipment usage and installation/securing of system components
- the basic layout (block diagram level) of the systems listed in the Range of Conditions
- the operating principles of the systems listed in the Range of Conditions 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
- WHS procedures relating to instrument display systems and components
- relevant Aeronautical Radio Incorporated (ARINC) specifications (avionics data bus)
- relevant maintenance manuals
- maintenance requirements and troubleshooting procedures

- relevant regulatory requirements and standard procedures, including software management control.

Assessment Conditions

- Competency should be assessed in the work environment or simulated work environment using tools and equipment specified in maintenance documentation. It is also expected that general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- The application of testing procedures should clearly indicate knowledge of system operation, the relationship of individual components and the links with other systems (if applicable) within the limits of the aircraft/system fault-finding guide before undertaking any action. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of this unit of competency are being achieved under routine supervision on a system and on at least one (1) major system component of each of the following:
 - EFIS
 - EICAS
 - ECAM
 - Data linkage and transmission systems
 - HUD (may be omitted if not applicable to the enterprise).
- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.
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Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>