



Australian Government

# **Assessment Requirements for MEAAVI0039 Modify and repair aircraft component single-layer printed circuit boards**

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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 MEA262 Modify/repair aircraft component single layer printed circuit boards.

## **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:

- modify or repair aircraft component single-layer printed circuit boards comprising at least eight of the following substrate materials and components and using approved repair procedures and processes relating to single-layer circuit board:
  - capacitors:
  - resistors
  - wires
  - semiconductors
  - inductors
  - transformers
  - switches
  - connectors
  - multi-pin ICs
  - terminal posts
  - heat-sink materials
  - electrostatic sensitive devices
- recognise the following on the circuit boards being maintained:
  - unacceptable soldered connections
  - damaged circuit board components
  - circuit tracks integrity
  - substrate damage
  - edge connector condition
- rework unacceptable printed circuit board soldered connections via acceptable de-soldering and soldering techniques on the circuit board being maintained
- follow substrate abrasion and rebuilding techniques and precautions associated with handling and assembly of electrostatic and temperature sensitive devices and safety precautions associated with beryllium materials and use of fluxes and solvents for the circuit boards being modified or repaired.

## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- component operation
- basic principles and functions relating to electrical and electronic components on printed circuit boards
- types of substrate materials and their application in single-layer printed circuit boards
- types of conformal coating and their application in single-layer printed circuit boards
- types of soldering equipment and solders used in track repair and component assembly
- how to obtain material safety data sheets (MSDS)
- normal trade practices for functional testing of circuit board assemblies
- work health and safety (WHS) procedures for modifying or repairing single-layer printed circuit boards
- maintenance manuals for modifying or repairing single-layer printed circuit boards
- relevant regulatory requirements and standard procedures as defined by equipment manufacturers, regulatory authorities and the enterprise
- procedures and standards for repair of printed circuit board assemblies, including the range of required general engineering hand skills in addition to specific high-reliability soldering skills.

## 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 modifying or repairing aircraft component single-layer circuit boards. 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 modifying or repairing aircraft component single-layer circuit boards
  - tools and equipment specified in maintenance manuals
  - general and special-purpose test equipment found in most routine situations and required for modifying or repairing aircraft component single-layer circuit boards.

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

The work plan should take account of applicable safety and quality requirements in accordance with industry and regulatory standards.

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

## Links

Companion Volume implementation guides are found in VETNet -

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