



Australian Government

**Assessment Requirements for MEM27016
Diagnose and maintain electronic
controlling systems on mobile and
stationary plant**

Release: 1

Assessment Requirements for MEM27016 Diagnose and maintain electronic controlling systems on mobile and stationary plant

Modification History

Release 1. Supersedes and is equivalent to MEM18047B Diagnose and maintain electronic controlling systems on mobile plant

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, manufacture/technical manuals and other applicable reference documents to diagnose and maintain electronic controlling systems on mobile plant
- identifying applicable control unit and using fault codes correctly to access fault codes with indicators, meters or diagnostic tooling then clearing codes from memory and verifying using applicable procedures and manuals
- tracing the root cause of faults
- identifying and applying procedures to safeguard electronic components and systems when diagnosing and maintaining typical mobile electronic circuits
- locating, identifying and testing applicable input and output components
- repairing/replacing components and selecting replacement parts using manufacturer specifications and data
- adjusting mechanical clearances and measured electrical and resistance values using appropriate tools and techniques
- obtaining security codes using correct protocol from manufacturer, plant/equipment identification and using computer and relevant computer applications to download, enter and verify new specifications in accordance with manufacturer procedures.

Knowledge Evidence

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

- safe work practices and procedures and use of personal protective equipment (PPE)
- applicable fault codes and their meanings and procedures to clear fault codes and verify clearance
- sources of potential damage to typical mobile plant electronic systems when performing maintenance and diagnostic work and techniques and procedures to safeguard against damage

- correct troubleshooting procedures, including identifying root causes of faults, including faults related to:
 - design
 - manufacturing
 - operator error (e.g. overload and over speed)
 - environment (e.g. contamination, interference and hazards)
 - previous service or maintenance error
- procedures for:
 - removal and replacement of faulty components and techniques and procedures
 - obtaining security code
 - downloading, entering and verifying data
- various types of input components
- operation and principles of transducers used in control systems
- relevant testing procedures
- component types, functions and locations
- techniques for repairing components
- operation and principles of actuators used in control system
- concepts of erasable programmable read-only memory (EPROM) and microprocessors.

Assessment Conditions

- Assessors must:
 - have vocational competency in diagnosing and maintaining electronic controlling systems on mobile plant at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>