Australian Government

MEM27007 Diagnose and rectify low voltage starting systems

Release: 1

MEM27007 Diagnose and rectify low voltage starting systems

Modification History

Release 1. Supersedes and is equivalent to MEM18031B Diagnose and rectify low voltage starting systems

Application

This unit of competency defines the skills and knowledge required to assess the operation, test and repair starting systems requiring the use of amps, voltage and resistance (AVR) test equipment.

Where soldering of wires/connections is required unit MEM05001 Perform manual soldering/desoldering - electrical/electronic components should also be selected.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: **A**

Unit Weight: **2**

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components
MEM27006	Diagnose and rectify batteries, low voltage sensors and circuits

Competency Field

Fixed and mobile plant

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine job requirements**	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	**Assess starting motor operation**	2.1	Apply principles of magnetism, induced voltage and electromagnetism and electric motor principles to assess starter motor operation
		2.2	Interpret starting motor component functions and multi-pole/winding/shunt wiring arrangements
		2.3	Test the performance of the cranking motor drive mechanism
		2.4	Determine starter locked armature current, voltage and torque
3	**Test and rectify starting motors**	3.1	Dismantle and assemble starting motors according to manufacturer recommendations
		3.2	Perform testing to determine shorts to ground, turn shorts and winding continuity
		3.3	Test solenoid, relays and over-temperature devices
		3.4	Test starter engagement mechanism and adjust where possible, i.e. pinion clearance
		3.5	Ensure starting system is free of excessive voltage drops
		3.6	Connect starting and charging cables to circuit connections tighten and insulate
		3.7	Determine starter locked armature current, voltage and

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	torque

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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.

Axial and coaxial type starters with drive arrangements include one (1) or more of the following:	• Dyer • Positork • Sprag clutch • overrunning clutch • inertia drive

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2