

<b>Title</b>	<b>Describe overhauling starter motors</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe starter motor dismantling, inspecting, and testing procedures; and rectifying starter motor faults and reassembling and testing the unit.
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<b>Classification</b>	Motor Industry > Automotive Electrical and Electronics
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 It is recommended that people hold credit for Unit 30563, *Demonstrate knowledge of automotive charging and starting systems* before being assessed against this unit standard.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Performance of the outcomes of this unit standard must comply with the following: Health and Safety at Work Act 2015.
- 4 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 5 Definitions  
*Company requirements* refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.  
*Service information* refers to technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.  
*Suitable tools and equipment* means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.
- 6 Range  
This unit standard includes – inertia-type starter motors, pre-engaged-type starter motors.

## Outcomes and performance criteria

### Outcome 1

Describe starter motor dismantling, inspecting, and testing procedures.

#### Performance criteria

- 1.1 Procedures for disassembling the starter motor are described.
- 1.2 Procedures for inspecting the starter motor components and circuitry for condition are described.
- Range components include – case, shafts, gears, bushes, clutch, engagement mechanism and pinion, brushes and brush holders.
- 1.3 Procedures for testing the starter motor electrical components and circuitry for faults are described.
- Range solenoids, commutator, brush holders, field and armature windings.

### Outcome 2

Describe rectifying starter motor faults and reassembling and testing the unit.

#### Performance criteria

- 2.1 Component repair and replacement procedures are described.
- 2.2 Reassembly procedures are described.
- 2.3 Procedures to bench test the starter motor are described.
- Range free running, current draw, pinion setting.

<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 January 2008	31 December 2022
Review	2	25 March 2021	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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**Comments on this unit standard**

Please contact MITO New Zealand Incorporated [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.