

## Disassemble and reassemble a single cylinder or multi-cylinder four stroke engine under supervision

**Level** 1

**Credits** 2

**Purpose** This unit standard is for people who wish to gain experience on the mechanics of engines. People credited with this unit standard are, under supervision, able to disassemble an engine, and reassemble an engine.

**Subfield** Motor Industry

**Domain** Engines

**Status** Registered

**Status date** 27 July 2005

**Date version published** 26 November 2007

**Planned review date** 31 December 2012

**Entry information** Open.

**Accreditation** Evaluation of documentation by NZQA and industry.

**Standard setting body (SSB)** NZ Motor Industry Training Organisation (Incorporated)

**Accreditation and Moderation Action Plan (AMAP) reference** 0014

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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### Special notes

- 1 Legislation relevant to this unit standard includes but is not limited to Health and Safety in Employment Act 1992.
- 2 This unit standard can lead on to Unit 244, *Disassemble and reassemble a four cylinder four stroke engine to a running state*, and Unit 21688, *Demonstrate knowledge of disassembling and reassembling a four stroke multi-cylinder engine*.
- 3 Reference to *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 to a professional and competent manner with due regard to safe working practices.
- 4 This standard can be assessed against in conjunction with Unit 231, *Explain the operation of two and four stroke petrol and diesel engines*.

- 5 A multi-cylinder engine referred to in this unit standard can be either a four cylinder overhead valve or single overhead camshaft engine.

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## Elements and performance criteria

### Element 1

Disassemble an engine under supervision.

#### Performance criteria

- 1.1 Safe working practices are observed throughout the task according to legislative requirements.
- Range personal safety, safety of others, no damage to equipment.
- 1.2 Suitable tools and equipment are selected and used that enable the engine to be disassembled according to the engine or vehicle manufacturer's instructions.
- 1.3 Engine assembly is inspected before disassembling to ensure exterior dirt and oil are removed.
- 1.4 Engine assembly is secured on an engine stand so that it is safe.
- 1.5 Cylinder head and sump are removed in a manner that minimises damage to parts and fasteners.
- 1.6 Parts and fasteners are stored in a parts tray suitable for the purpose.
- 1.7 Crankshaft and piston assembly or assemblies are removed from the engine in the manner and sequence recommended by the engine or vehicle manufacturer.
- 1.8 Parts are laid out and tabulated for easy identification.

### Element 2

Reassemble an engine under supervision.

#### Performance criteria

- 2.1 Safe working practices are observed throughout the task according to legislative requirements.
- Range personal safety, safety of others, no damage to equipment.
- 2.2 Suitable tools and equipment are selected and used that enable the engine to be reassembled according to the engine or vehicle manufacturer's instructions.
- 2.3 Oil and water passages are identified and the flow paths of lubricating oil and coolant are determined according to the engine or vehicle manufacturer's specifications.

- 2.4 Engine components are assembled in the manner and sequence recommended by the manufacturer, and all tightening torques strictly adhered to according to the manufacturer's specifications.

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**Please note**

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

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**Comments on this unit standard**

Please contact the NZ Motor Industry Training Organisation (Incorporated) [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.