

Title	Repair a motorcycle engine crankshaft assembly		
Level	4	Credits	4

Purpose	<p>This unit standard is intended for people in the automotive repair industry.</p> <p>People credited with this unit standard are able to: diagnose motorcycle engine crankshaft assembly faults and their causes; repair a composite crankshaft assembly; and repair a solid crankshaft.</p>
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Classification	Motor Industry > Engines
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Available grade	Achieved
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Guidance Information

- 1 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.
- 2 Performance of the outcomes of this unit standard must comply with the following:
Health and Safety at Work Act 2015;
Land Transport Rule: Vehicle Repair 1998.
- 3 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.
- 4 **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 refer to 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.
- 5 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

Outcomes and performance criteria

Outcome 1

Diagnose motorcycle engine crankshaft assembly faults and their causes.

Performance criteria

- 1.1 An initial diagnosis is made to identify potential faults.
- Range may include but is not limited to – obtaining machine specifications, checking for any modifications, using diagnostic equipment, isolating actual faults.
- 1.2 The engine assembly is removed from the frame.
- 1.3 The engine is disassembled.
- 1.4 Engine components are cleaned of oil, dirt, and carbon to enable their condition to be assessed.
- 1.5 Component wear and damage are determined using precision measuring instruments.
- 1.6 An assessment report is completed, and a repair method is determined.

Outcome 2

Repair a composite crankshaft assembly.

Performance criteria

- 2.1 The crankshaft is disassembled and cleaned so that the extent of wear and damage can be assessed.
- 2.2 The crankshaft condition is determined.
- Range bearing clearances, journal wear.
- 2.3 The crankshaft assembly is reassembled and fitted to the crankcase.
- Range selecting and fitting roller and ball bearing races, rebuilding assembly, aligning and truing webs, installation procedures.
- 2.4 The engine assembly is refitted to the frame.

Outcome 3

Repair a solid crankshaft.

Performance criteria

- 3.1 The solid crankshaft is cleaned so that the extent of wear and damage can be assessed.
- 3.2 All oil passages are cleared to enable the lubricant to reach all running surfaces.
- 3.3 The crankshaft condition is determined.
Range bearing clearances, tunnel and journal wear.
- 3.4 The crankshaft is reassembled and refitted to the crankcase.
Range check fitting bearings to housings, measuring bearing clearances, installation procedures.
- 3.5 The engine assembly is refitted to the frame.

Planned review date	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	21 February 1999	31 December 2022
Review	2	25 January 2008	31 December 2022
Review	3	29 April 2021	N/A

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

Comments on this unit standard

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