

Title	Inspect engine flywheel and fit starter ring gear		
Level	2	Credits	1

Purpose	This unit standard is for people in the automotive repair industry. People credited with this unit standard are able to assess the condition of an engine flywheel and a flexiplate, and fit a starter ring gear.
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Classification	Motor Industry > Engine Repairs
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Available grade	Achieved
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Entry information	
Critical health and safety prerequisites	Unit 230, <i>Repair and manufacture automotive components by oxy-acetylene gas welding</i> , or demonstrate equivalent knowledge and skills.

Explanatory notes

- 1 The following legislation and amendments are required to be consulted and followed where applicable:
Health and Safety in Employment Act, 1992.
- 2 Because of the particular nature of this unit standard, it is essential that the practical assessment evidence is obtained from commercial jobs in the workplace under normal workplace conditions.

Outcomes and evidence requirements

Outcome 1

Assess condition of engine flywheel and flexiplate.

Evidence requirements

- 1.1 Safe working practices are observed throughout the task.

Range personal safety, safety of others, no damage to workshop equipment.
- 1.2 The importance of checking friction surface finish and cleanliness is identified in relation to clutch performance.

- 1.3 The flywheel is inspected to ascertain its serviceability.
- Range flywheel to crankshaft flange contact, clutch surface finish, flywheel run-out, dishing, hard spots and discolouration, heat cracks, groove wear, ring gear wear.
- 1.4 The flywheel and flexiplate friction surface finish is cleaned.
- Range free of all foreign matter, deglazed.
- 1.5 Arrangements are made for faulty flywheel and flexiplate surfaces to be machined and dressed.
- 1.6 The symptoms of flywheel faults on a vehicle are identified.
- Range noise, vibration, clutch problems.

Outcome 2

Fit a starter ring gear.

Range interference fit type.

Evidence requirements

- 2.1 Safe working practices are observed throughout the task.
- Range personal safety, safety of others, no damage to workshop equipment.
- 2.2 A new replacement ring gear is checked to ensure conformability with manufacturer's specifications.
- 2.3 The ring gear is inspected for condition, and the need for replacement is ascertained by the extent of tooth wear.
- 2.4 The ring gear is removed from the flywheel without damage to the flywheel.
- 2.5 The replacement ring gear is fitted to the flywheel following vehicle and/or engine manufacturer's instructions, ensuring that the ring gear is not overheated, is fully seated and secured in position, and that the starter pinion entry direction is correct.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	29 October 1993	31 December 2016
Review	2	4 October 1996	31 December 2016
Review	3	26 February 1999	31 December 2016
Revision	4	13 March 2001	31 December 2016
Review	5	25 January 2008	31 December 2020
Rollover	6	19 November 2010	31 December 2020
Rollover	7	22 August 2014	31 December 2020

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>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR 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.

This unit standard is expiring