

Title	Test, locate and diagnose faults in electrical machine windings		
Level	3	Credits	2

Purpose	<p>This unit standard is intended for people who have responsibility for preparing machines for rewinding.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – test electrical machine windings in accordance with industry practice; and – locate and diagnose faults in electrical machine windings in accordance with industry practice.
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Classification	Electrical Engineering > Electrical Machines
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Available grade	Achieved
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job or off-job in a simulated environment.
- 2 Definitions

Electrical machines – are defined as electric motors, generators, alternators, and transformers.

Industry practice – those practices that competent practitioners within the industry recognise as current industry best practice.
- 3 Assessment

The number and type of machines chosen are left to the discretion of the assessor, but must be sufficient to assess competence in all outcomes of the unit standard.

Outcomes and performance criteria

Outcome 1

Test electrical machine windings in accordance with industry practice.

Performance criteria

- 1.1 Carry out tests.

Range	tests – continuity of supply conductors, insulation resistance between windings and earth, resistance of windings; growler test on machines containing armatures.
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1.2 Record results of tests.

Outcome 2

Locate and diagnose faults in electrical machine windings in accordance with industry practice.

Range faults – open circuit, short circuit, leakage to earth, differences in readings between windings;
at least one of each type of fault is required.

Performance criteria

2.1 Interpret test results and locate faults.

2.2 Diagnose the cause of fault from test results and visual inspection.

2.3 Tag machines and complete documentation.

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Status information and last date for assessment for superseded versions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	29 April 1994	31 December 2013
Review	2	23 April 1996	31 December 2013
Review	3	10 February 1999	31 December 2013
Revision	4	3 April 2001	31 December 2013
Review	5	26 May 2005	31 December 2013
Review	6	22 August 2008	31 December 2013
Revision	7	16 April 2010	31 December 2023
Rollover and Revision	8	15 March 2012	31 December 2023
Revision	9	15 January 2014	31 December 2023
Review	10	22 August 2019	N/A
Review	11	30 January 2025	N/A

Consent and Moderation Requirements (CMR) reference	0003
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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 Waihangā Ara Rau Construction and Infrastructure Workforce Development Council qualifications@waihangaararau.nz if you wish to suggest changes to the content of this unit standard.