

Title	Fault-find, repair, and re-commission fixed-wired electrical appliances		
Level	3	Credits	4

Purpose	<p>This unit standard covers the repair of fixed-wired appliances, and is intended for people wishing to qualify as electricians, electrical service technicians, or appliance service persons.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – fault-find fixed-wired electrical appliances; – repair fixed-wired electrical appliances; and – re-commission fixed-wired electrical appliances.
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Classification	Electrical Engineering > Electrical Appliance Servicing
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Available grade	Achieved
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Prerequisites	<p>For safety reasons, competency in this unit standard should be assessed only after competency in the following unit standards has been achieved, or equivalent knowledge and skills demonstrated:</p> <p>Unit 750, <i>Demonstrate knowledge of electrical test instruments and take measurements</i>;</p> <p>Unit 1204, <i>Demonstrate knowledge of earthing</i> or Unit 17806, <i>Demonstrate knowledge of protection from the harmful effects of electricity</i>, and Unit 15856, <i>Demonstrate knowledge of the New Zealand electricity supply system</i>;</p> <p>Unit 6705, <i>Test electrical appliances for safety</i>, or Unit 17804, <i>Test single-phase electrical appliances</i>;</p> <p>Unit 15848, <i>Demonstrate knowledge of safeguards for use with portable electrical appliances</i>;</p> <p>Unit 15851, <i>Demonstrate knowledge of electrical safety and safe working practices for electrical workers</i>;</p> <p>Unit 15852, <i>Isolate and test low-voltage electrical subcircuits</i>, or Unit 17799, <i>Demonstrate knowledge of testing for electrical safety for electrical appliance servicing - single-phase</i>;</p> <p>Unit 15855, <i>Demonstrate knowledge of circuit protection</i> or Unit 17802, <i>Replace fuses and plug-in miniature circuit breakers</i>, and Unit 17806, <i>Demonstrate knowledge of protection from the harmful effects of electricity</i>;</p> <p>Unit 26551, <i>Provide first aid for life threatening conditions</i>;</p> <p>Unit 26552, <i>Demonstrate knowledge of common first aid conditions and how to respond to them</i>.</p>
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Guidance Information

- 1 This unit standard has been developed for learning and assessment on-job under adequate supervision as defined in the Electricity Act 1992, and Electrical Workers Registration Board, *Supervision Procedures for Trainees*, (2010) available at [EWRB - Publications](#).
- 2 Competency under this unit standard does not entitle the candidate to legally perform prescribed electrical work without adequate supervision until the candidate has been registered under the Electricity Act 1992.
- 3 **References**
Electrical Workers Registration Board, *Supervision Procedures for Trainees*, (2010) available at [EWRB - Publications](#);
Electricity (Safety) Regulations 2010;
Electricity Act 1992;
Health and Safety in Employment Act 1992, and associated regulations;
New Zealand Electrical Codes of Practice (Ministry of Business, Innovation and Employment, ISSN 0114-0663);
AS/NZS 3760:2010, *In-service safety inspection and testing of electrical equipment*, including Amendment 1;
AS/NZS 5762: 2011, *In-service safety inspection and testing - Repaired electrical equipment*,
and all subsequent amendments and replacements.
- 4 **Definitions**
Current regulations and standards – refers to the requirements of the above legislation and standards, applied to the context in which the term is used.
Electrical technicians and service persons – for the purposes of this unit standard means, people who hold or who are working towards electrical registration as an Electrical Service Technician or Electrical Appliance Serviceperson (endorsed to disconnect and connect).
Fixed-wired appliances – appliances that connect to a power source directly without the use of a plug and socket.
- 5 **Range**
Evidence is required of three different types of fixed-wired appliances with genuine faults.
- 6 **Assessment**
Persons assessing against this unit standard are required to hold a current practising licence at or above the level being sought by the trainee.

Outcomes and performance criteria

Outcome 1

Fault-find fixed-wired electrical appliances.

Performance criteria

- 1.1 Electrical safe working practices relating to isolation, disconnection, and tagging of the supply are applied.
- 1.2 Fault-finding includes visual inspection for faults and/or indications of faults.
- Range faults and indications of faults may include – worn, loose or damaged accessories; imprecise movement of switches, adjustment devices; damaged casings; rattling; indications of overheating such as deformed casing, discolouration, melting, burnt insulation smell.
- 1.3 Fault-finding demonstrates a logical technique of analysing symptoms and making measurements where necessary, to locate fault and faulty components, and follows manufacturer's documented procedures, where available.
- 1.4 Assessment of viability of repair takes into account component availability, cost and time of repair, cost of equivalent new appliance, and supervisor or customer instructions.

Outcome 2

Repair fixed-wired electrical appliances.

Performance criteria

- 2.1 Fixed-wired appliance is repaired in accordance with company requirements, and manufacturer's documented procedures where available.
- 2.2 Replacement wiring matches the original in terms of length, type, current rating, insulation rating, voltage rating, temperature rating, and rigidity or flexibility.
- 2.3 Repair restores appliance to fully serviceable condition.

Outcome 3

Re-commission fixed-wired electrical appliances.

Performance criteria

- 3.1 Electrical, mechanical and visual safety tests are completed, and equipment labelled as tested, in accordance with current regulations and standards.
- 3.2 Supply is reconnected in accordance with current regulations and standards.
- 3.3 Operational tests and adjustments where relevant or necessary, ensure that the appliances perform according to manufacturer's specification.
- 3.4 Re-commissioning is documented according to company requirements.

Replacement information	This unit standard replaced unit standard 1193.
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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	28 June 1999	31 December 2013
Review	2	28 January 2001	31 December 2013
Revision	3	3 April 2001	31 December 2013
Review	4	20 June 2006	31 December 2022
Rollover and Revision	5	20 September 2012	31 December 2022
Revision	6	15 January 2014	31 December 2022
Review	7	28 January 2021	31 December 2022

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>.