Title Demonstrate knowledge of the operating principles and installation requirements of domestic electrical appliances

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<th>Level</th>
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Purpose

This unit standard covers the operating principles of domestic electrical appliances and is intended for use in the training of domestic electrical appliance servicing technicians.

People credited with this unit standard are able to describe:
- legal and regulatory obligations relevant to domestic appliance servicing;
- the operating principles and installation requirements of installed kitchen appliances;
- the operating principles of clothes washing and drying machines;
- the operating principles and installation requirements of dish washing machines; and
- the operating principles of electric heaters, ranges, cook-tops, and ovens.

Classification

Electrical Engineering > Electrical Appliance Servicing

Available grade

Achieved

Explanatory notes

1 This unit standard has been developed for learning and assessment off-job.

2 Refrigerators, freezers, dehumidifiers, and air conditioners are covered in unit standard 18084.

3 References
Consumer Guarantees Act 1993;
Electricity (Safety) Regulations 2010;
Electricity Act 1992;
Fair Trading Act 1986;
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);
and all subsequent amendments and replacements.
Outcomes and evidence requirements

Outcome 1
Describe legal and regulatory obligations relevant to domestic appliance servicing.

Evidence requirements
1.1 Legal and regulatory obligations pertaining to consumer rights protection are described.

1.2 Legal and regulatory obligations pertaining to workplace safety, including electrical safety, are described.

Outcome 2
Describe the operating principles and installation requirements of installed kitchen appliances.

Range including but not limited to – range hood, waste disposal unit, electromechanical trash compactor.

Evidence requirements
2.1 The operation of installed kitchen appliances is described with reference to wiring diagrams, electrical components, and mechanical components.
   Range electrical components – motor, capacitor, switch, overload, suppression circuit; speed control; mechanical components – associated parts and accessories. Evidence of two types of installed kitchen appliances is required.

2.2 The installation requirements of typical kitchen appliances are described with reference to operational requirements, commissioning requirements, and safety.
   Range operational requirements – electrical connections, mechanical fixing, pipe work. Evidence of two types of installed kitchen appliances is required.

Outcome 3
Describe the operating principles of clothes washing and drying machines.

Evidence requirements
3.1 The operating principles of clothes washing machines are described with reference to methods of loading and cycles of operation.
Range top and side loading, cold and hot water filling, heating, pre-soak and soak options, wash, rinse, spin.

3.2 The operating principles of clothes drying machines are described with reference to actions and cycles of operation.

Range tumbling and non-tumbling options, heating level option, duration of drying, ventilation, lint control, thermal protection.

Outcome 4
Describe the operating principles and installation requirements of dish washing machines.

Evidence requirements

4.1 The operating principles of dish washing machines are described with reference to cycles of operation.

Range cold and hot water filling, heating, rinse and hold options, wash, rinse, dry.

4.2 The installation requirements of dish washing machines are described with reference to operational requirements, commissioning requirements, and safety.

Range operational requirements – electrical connections, mechanical fixing, pipe work.

Outcome 5
Describe the operating principles of electric heaters, ranges, cook-tops, and ovens.

Evidence requirements

5.1 The operating principles of electric heaters are described with reference to components and wiring diagrams.

Range electrical resistance elements, reflectors, hot black body, radiance, convection, forced air circulation, heat storage, ventilation, thermostats, thermal protective devices, tilt switches.

5.2 The operating principles of electric ranges, cook-tops and ovens are described with reference to components and wiring diagrams.

Range oven and oven elements, top plates, griller, electrical resistance elements, radiant elements, forced air circulation in ovens, oven thermostats, top plate simmerstats, timers, medium frequency magnetic induction hobs, top plates.

5.3 The installation requirements of electric ranges, cook-tops and ovens are described with reference to operational requirements, commissioning requirements, and safety.
### Planned review date

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<tr>
<th>Process</th>
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<td>Registration</td>
<td>1</td>
<td>28 January 2001</td>
<td>31 December 2013</td>
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<td>Review</td>
<td>2</td>
<td>20 June 2006</td>
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<td>Rollover and Revision</td>
<td>3</td>
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<td>15 January 2014</td>
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### Consent and Moderation Requirements (CMR) reference

0003


### 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.

### Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.