

<b>Title</b>	<b>Maintain gas appliances and associated equipment and identify and rectify faults</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is for people who work in the gasfitting industry.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> <li>– maintain gas appliances and associated equipment;</li> <li>– identify and rectify faults in gas appliances and associated equipment; and</li> <li>– identify and rectify faults in control and safety devices for gas appliances.</li> </ul>
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<b>Classification</b>	Plumbing, Gasfitting and Drainlaying > Gasfitting
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<b>Available grade</b>	Achieved
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## Guidance Information

- 1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

Building Act 2004;

Electricity Act 1992;

Gas Act 1992;

Gas (Safety and Measurement) Regulations 2010;

Health and Safety at Work Act 2015;

Plumbers, Gasfitters, and Drainlayers Act 2006;

Plumbers, Gasfitters, and Drainlayers Regulations 2010.

The following standards, which are available at <http://www.standards.govt.nz>:

AS/NZS 5601.1:2013 *Gas installations – Part 1: General installations*;

NZS 5266:2014 *Safety of gas appliances*;

NZS 5255:2014 *Safety verification of existing gas installations*;

NZS 3604:2011 *Timber-framed buildings*.

The following Building Code clauses, and any related Acceptable Solution and Verification Method documents, which are available at <https://www.building.govt.nz/>:

- New Zealand Building Code Clause E2 External moisture,
- New Zealand Building Code Clause G11 Gas as an Energy Source.

Any new, amended or replacement referenced standards, codes of practice, guidelines, Building Code Acceptable Solutions and Verification Methods, or authority requirements affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

## 2 Definitions

*Isolation* refers to gas, water, or electrical supply.

*Maintain* may refer to all or any of – repair, upgrade, alter, remove.

*Ignition devices* refer to piezo, manual spark, automatic spark, hot surface, flash tube.

*Pressure control devices* refer to appliance regulators.

*Flame failure devices* refer to thermoelectric, flame rectification, photocell detection.

*Temperature control devices* refer to rod and tube, bi-metal switch, liquid expansion, thermistor.

*Other control and safety devices* refer to oxygen depletion cutoffs, tip-over switches, pressure switches, solenoids, overheat protection devices, new and emerging technologies where relevant.

3 Candidates must hold a current limited certificate trainee authorisation or exemption under supervision as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006.

## 4 Level of performance

To achieve this standard the candidate must be capable of consistently performing the requirements:

- to current and relevant legislation, standards and codes (including safety);
- in an environmentally sustainable manner;
- within an acceptable timeframe;
- in the workplace;
- in different and unfamiliar contexts.

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## Outcomes and performance criteria

### Outcome 1

Maintain gas appliances and associated equipment.

Range two heating appliances, two water heating appliances, two cooking appliances.

### Performance criteria

- 1.1 Perform scheduled maintenance in accordance with job specifications and manufacturer instructions.
- 1.2 Carry out gas appliance isolation in accordance with job specifications.
- 1.3 Test flues and ventilation in accordance with job specifications.
- 1.4 Carry out operational tests in accordance with applicable standards and job specifications.

1.5 Complete documentation and customer handover in accordance with job specifications.

Range documentation may include but is not limited to – Gas Safety Certificate (GSC), Certificate of Compliance (CoC), Certificate of Verification.

## Outcome 2

Identify and rectify faults in gas appliances and associated equipment.

Range evidence is required for a minimum of two faults.

### Performance criteria

2.1 Identify causes of faults and possible means of rectification.

Range faults may include but are not limited to – poor gas supply, insufficient ventilation for complete combustion, regulator fault, ignition fault, burner fault, flame failure device fault, heat exchanger, flue; considerations relating to possible means of repair may include but are not limited to – component availability, repair costs, cost of equivalent new appliance.

2.2 Rectify faults in accordance with job specifications and manufacturer instructions.

2.3 Carry out operational tests in accordance with applicable standards and job specifications.

2.4 Complete documentation and customer handover in accordance with job specifications.

Range documentation may include but is not limited to – Gas Safety Certificate (GSC), Certificate of Compliance (CoC), Certificate of Verification.

## Outcome 3

Identify and rectify faults in control and safety devices for gas appliances.

Range at least two devices from each of – ignition devices, flame failure devices, temperature control devices, other control and safety devices.

### Performance criteria

3.1 Assess control and safety devices to identify the correct operation in accordance with maintenance requirements.

3.2 Test control and safety devices to identify faults and determine their serviceability in accordance with the type of device.

- 3.3 Rectify faults in control and safety devices in accordance with maintenance requirements and manufacturer instructions.
- 3.4 Re-commission and retest control and safety devices in accordance with manufacturer instructions, maintenance requirements, and relevant standards and codes.
- 3.5 Complete documentation and customer handover in accordance with job specifications.

Range documentation may include but is not limited to – Gas Safety Certificate (GSC), Certificate of Compliance (CoC), Certificate of Verification.

<b>Planned review date</b>	31 December 2029
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 July 2024	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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 Waihanga Ara Rau Construction and Infrastructure Workforce Development Council [qualifications@waihangaararau.nz](mailto:qualifications@waihangaararau.nz) if you wish to suggest changes to the content of this unit standard.