Title	**Demonstrate knowledge of carburettors used on outdoor powered equipment**		
Level	**3**	**Credits**	**4**

Purpose	This theory-based unit standard is intended for people in the outdoor power equipment repair industry. People credited with this unit standard are able to demonstrate knowledge of: carburettor operation used on outdoor powered equipment; basic carburettor service checks; and carburettor fault diagnosis and repair procedures.

Classification	Motor Industry > Automotive Fuel Systems and Exhaust

Available grade	Achieved

Guidance Information

1 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

2 Performance of the outcomes of this unit standard must comply with the following: Health and Safety at Work Act 2015.

3 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

4 Definitions
Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.
Service information refers to technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.
Suitable tools and equipment refer to industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of carburettor operation used on outdoor powered equipment.

Performance criteria

1.1 The functions of float type carburettor components are described.

Range venturi, main nozzle, choke valve, main air bleed, idle air bleed, float, inlet needle and seat, throttle valve, main jet, power jet, bowl vent.

1.2 The functions of diaphragm (pressure differential) carburettor components are described.

Range diaphragm, throttle valve, inlet needle and seat assembly, main nozzle and ball check valve, choke valve, throttle valve, atmospheric vent, idle and main mixture adjustments, fixed jets.

1.3 The operation of a float type carburettor and a diaphragm type carburettor are described.

Range choke or start position, idle, intermediate, high speed.

1.4 The operation of a fuel primer is described.

Range remote primer, integral part of the carburettor.

1.5 The operation of impulse fuel pumps is described.

Range actuation of the diaphragm and flap valves.

Outcome 2

Demonstrate knowledge of basic carburettor service checks.

Performance criteria

2.1 Carburettor pre-set adjustment procedures are described.

Range identifying carburettor model and manufacturer, governor adjustments, speed controls and linkage, normal maintenance procedures (oil changed, fresh fuel, air filter cleaned, air filter replaced, mixture screw pre-sets).

2.2 Final adjustment procedures are described.

Range normal operating temperature, adjusting main mixture setting, setting idle, setting slow position.

2.3 Procedures to check lines, hose condition and connections are described.

Range hose perished, hose deteriorated, fuel tap blocked, fuel leaks, component damage, component security.

2.4 Procedure to check fuel supply is described.

Range fuel pump, float level, fuel tank, filters, fuel line, primer.

2.5 Procedure to check air supply is described.

Range air filter, gaskets, component security.

Outcome 3

Demonstrate knowledge of carburettor fault diagnosis and repair procedures.

Performance criteria

3.1 Precautions to be taken when diagnosing and repairing carburettor faults are described.

Range effects of petrol on the skin, dealing with petrol spills, fire risk, effects of petrol on components, danger of moving parts on a running engine, danger of petrol fumes, danger of exhaust fumes, using compressed air.

3.2 Carburettor faults and their causes are described.

Range flat spot and hesitation, poor idle, flooding, fuel leaks, poor high-speed operation, engine hard to start.

3.3 Procedures for dismantling, cleaning, inspecting, repairing and replacing components, and reassembling a carburettor are described.

Range float type, diaphragm type.

Planned review date	31 December 2025

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 February 1999	31 December 2022
Revision	2	16 April 2003	31 December 2022
Review	3	25 January 2008	31 December 2022
Review	4	29 April 2021	N/A

Consent and Moderation Requirements (CMR) reference	0014

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.