

40478 Test, tune and repair two-stroke petrol engines

Kaupae Level	4
Whiwhinga Credit	6
Whāinga Purpose	<p>This skill standard is intended for people already working in the outdoor power equipment industry. People credited with this skill standard can test and tune a two-stroke petrol engine then diagnose and repair engine system faults.</p> <p>This standard can be used in programmes incorporating the use of outdoor power equipment.</p>

Hua o te ako me Paearu aromatawai | Learning outcomes and assessment criteria

Hua o te ako Learning outcomes	Paearu aromatawai Assessment criteria
1. Carry out engine performance tests	a. Test the engine performance.
	b. Remove and inspect spark plugs.
	c. Test the engine pressure and complete a vacuum test.
2. Tune two-stroke petrol engines.	a. Check and adjust the tuning as required.
3. Diagnose and repair two-stroke petrol engine system faults.	a. Diagnose and repair system faults.

Pārongo aromatawai me te taumata paearu | Assessment information and grade criteria

Assessment specifications

The evidence presented for assessment against this skill standard must be consistent with safe working procedures and be in accordance with applicable service information.

It is recommended that people hold credit for Unit 40477, *Describe how to lubricate, test, and tune a two-stroke petrol engine, testing* before being assessed against this skill standard.

Evidence for learning outcomes 1 and 2 must include four separate two-stroke petrol engines.

Engine performance tests must include:

- under load
- idle
- acceleration
- wide open throttle.

Engine pressure and vacuum tests must include:

- cylinder leakage
- compression
- crankcase
- pressure
- vacuum.

Evidence for learning outcome 3 must include four separate system faults.

Definitions

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.

Workplace procedures refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the automotive industry.

Ngā momo whiwhinga | Grades available

Achieved

Ihirangi waitohu | Indicative content

Engine systems faults, such as:

- fuel
- oil
- ignition
- power valve
- intake
- exhaust
- mechanical.

Rauemi | Resources

Legislation and resources relevant to this skill standard include:

- [Health and Safety at Work Act 2015](#).

Pārongo Whakaū Kouna | Quality assurance information

Ngā rōpū whakatau-paerewa Standard Setting Body	Hanga-Aro-Rau Engineering, Manufacturing and Logistics Workforce Development Council
Whakaritenga Rārangi Paetae Aromatawai DASS classification	Engineering and Technology > Motor Industry > Engines
Ko te tohutoro ki ngā Whakaritenga i te Whakamanatanga me te Whakaōritenga CMR	0014

Hātepe Process	Putanga Version	Rā whakaputa Review Date	Rā whakamutunga mō te aromatawai Last date for assessment
Rēhitatanga Registration	1	27 March 2025	N/A
Kōrero whakakapinga Replacement information	This skill standard replaced unit standard 879.		
Rā arotake Planned review date	31 December 2029		

Please contact Hanga-Aro-Rau Engineering, Manufacturing and Logistics Workforce Development Council at qualifications@hangaarorau.nz to suggest changes to this skill standard.