

Title	Carry out general engineering tasks in the automotive industry		
Level	2	Credits	4

Purpose	People credited with this unit standard are able to assemble and secure components, drill holes in materials, use hand threading tools to repair a component, remove a broken stud and insert new stud, and use a grinder in the automotive industry.
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Classification	Motor Industry > Automotive Workshop Engineering
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe work 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 Legislation, regulations and/or industry standards relevant to this unit standard may include:
 - Health and Safety at Work Act 2015; and any subsequent amendments and replacements.
- 3 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 information such as 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 refers 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 work practices.

Outcomes and performance criteria

Outcome 1

Assemble and secure components in the automotive industry.

Performance criteria

- 1.1 Tools and equipment used for securing components are selected.
Range may include – spanners, sockets, screwdrivers, torque wrench.
- 1.2 Bolts, nuts, and studs are selected for the job and secured to correct tension.
- 1.3 Locking devices are selected and used to retain the components.
Range may include – mechanical and chemical types.
- 1.4 Components are secured.
- 1.5 Mechanical locking devices are torqued.
Range may include – bonnet, guards, bumper beams, wheels, suspension.

Outcome 2

Drill holes in materials in the automotive industry.

Performance criteria

- 2.1 Drilling equipment is identified and selected.
Range may include – power drill, drill press, cutting fluid.
- 2.2 Twist drills are sharpened to suit the material being drilled.
- 2.3 Twist drill is selected, and the drilling operation is completed.
- 2.4 Hole is drilled in the determined position.

Outcome 3

Use hand threading tools to repair a component in the automotive industry.

Range any three of – taps, dies, die nuts, thread files, sleeve thread inserts.

Performance criteria

- 3.1 The type and size of thread required is identified.
- 3.2 Internal and/or external threads are cut parallel to the axis, or square to the plane, and threads are full in depth and shape.
- 3.3 Damaged thread is restored so it can be reused without damage to a corresponding thread, and so it can be tensioned to the torque specified.

Outcome 4

Remove a broken stud and insert new stud in the automotive industry.

Performance criteria

4.1 The type and size of stud is identified.

4.2 Tools and equipment to remove the stud are selected to enable the job to be carried out.

Range may include – drill, ezyout extractor, stud extractor sockets, vice grips.

4.3 Stud is removed.

4.4 Damaged thread is restored, and a new stud inserted.

Outcome 5

Use a grinder in the automotive industry.

Range bench or pedestal grinder, portable grinder.

Performance criteria

5.1 The type of grinding wheel is compatible with the material being ground.

5.2 Grinding is carried out.

Range grinder set-up, material being used.

Replacement information	This unit standard and unit standard 21670 replaced unit standard 227 and unit standard 3879.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 July 2005	31 December 2018
Review	2	21 April 2016	31 December 2023
Review	3	24 March 2022	N/A

Consent and Moderation Requirements (CMR) reference	0014
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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 Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.