
**AUTOMOTIVE WORKSHOP
ENGINEERING**
**Select and use hand tools and
workshop equipment for an automotive
application**

level:	2
credit:	2
planned review date:	December 2009
sub-field:	Motor Industry
replacement information:	This unit standard and unit standard 21669 replaced unit standard 228 and unit standard 3880.
purpose:	This unit standard is for people entering the automotive repair industry or when initially employed to carry out tasks in any automotive application. People credited with this unit standard are able to select the appropriate tools and workshop equipment for the job, and maintain and use tools and workshop equipment.
entry information:	Recommended: Unit 21669, <i>Demonstrate knowledge of hand tools and workshop equipment for motor industry applications</i> , or demonstrate equivalent knowledge and skills.
accreditation option:	Evaluation of documentation by NZQA and industry.
moderation option:	A centrally established and directed national moderation system has been set up by the NZ Motor Industry Training Organisation.
special notes:	<ol style="list-style-type: none">1 Hand tools and workshop equipment vary between businesses and between occupations. This standard is not intended to encompass all variants available on the market, but to indicate basic tools and equipment required to complete the various mechanical jobs in an automotive workshop. The NZ Motor Industry Training Organisation Training Manuals, for the relevant occupations, list recommended tools and equipment for particular unit standards.

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- 2 Terminology of hand tools and workshop equipment can vary between manufacturers and between countries.
- 3 Legislation relevant to this unit standard includes but is not limited to – Health and Safety in Employment Act 1992, Resource Management Act 1991.
- 4 For the purpose of assessment, company guidelines may include training provider’s guidelines. These guidelines include workplace standards, practices, and procedures, which must comply with current legislative requirements. It is assumed the policy also meets product manufacturer’s specifications, recommendations, and standards.

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Elements and Performance Criteria

element 1

Select the appropriate tools and workshop equipment for the job.

performance criteria

- 1.1 Hand tools, measuring instruments, and workshop equipment are selected for the task according to the manufacturer's specifications and requirements.

Range: may include but is not limited to –
hand tools – adjustable wrenches, Allen keys, bars, chisels, files, hacksaw, hammers, inspection mirror, magnet, pliers, punches, riveter, screwdrivers, socket sets, spanners, wire brushes;
measuring instruments – dial test indicators, feeler gauge, gap gauges, micrometers, torque wrenches, vernier callipers;
workshop equipment – air compressor, buff, clamps, cleaning equipment, computer system, drills, extractors, fault finding diagnostic equipment, floor creeper, grease gun, grinder, hoist, inspection light, jacks, lifting equipment, measuring equipment, multimeter, parts trays, press, protective covers, pullers, soldering equipment, stands, straight edge and surface plate, thread restoring and cutting tools, welding equipment, work bench and vice, workshop manuals.

- 1.2 The selection of tools and equipment is made that enables the task to be completed without undue time being lost, componentry damage, or injury to people.

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element 2

Maintain and use tools and workshop equipment.

performance criteria

- 2.1 Safe working practices are observed throughout the task according to legislative requirements.
- Range: personal safety, safety of others, no damage to tools and equipment.
- 2.2 Tools and workshop equipment are cleaned, lubricated, and stored for easy access without damage and loss.
- 2.3 Hand tools are maintained in a safe working condition.
- 2.4 Measuring instruments are checked to ensure accuracy before use.
- 2.5 Measuring instruments and tools are used to determine accurate dimensions.
- Range: may include but is not limited to – micrometer, ball gauge, vernier calliper, dial test indicator, feeler gauge, gap gauge, torque wrench.
- 2.6 Workshop equipment is checked to ensure that it is in a safe operating condition prior to use.
- 2.7 Tools and workshop equipment are used in the manner and purpose for which they are designed.

Comments on this unit standard

Please contact the NZ Motor Industry Training Organisation jlane@mito.org.nz if you wish to suggest changes to the content of this unit standard.

Please Note

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Providers must be accredited by the Qualifications Authority or a delegated inter-institutional body before they can register credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for providers wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

This unit standard is covered by AMAP 0014 which can be accessed at <http://www.nzqa.govt.nz/site/framework/search.html>.