

<b>Title</b>	<b>Produce components by performing horizontal boring operations</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	<p>This unit standard covers machining of components to predetermined specifications, using horizontal boring operations.</p> <p>People credited with this unit standard are able to prepare for, and perform, horizontal boring operations, and measure components.</p>
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<b>Classification</b>	Mechanical Engineering > Engineering Machining and Toolmaking
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 References
 

Health and Safety at Work Act 2015.  
*Best Practice Guidelines, Safe Use of Machinery*, Worksafe, 2014.
- 2 Definition
 

*Specifications* – detail that defines an object being made; commonly communicated by annotated and dimensioned drawings; by written description, or by other communication media. External references may also be used to specify objects such as tables or industry standards.

*Workplace procedures* – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.
- 3 Recommended for entry
 

Unit 21906, *Perform basic mechanical engineering machining operations under supervision*. Candidates must be able to safely carry out basic machining operations.

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### Outcomes and performance criteria

#### Outcome 1

Prepare for horizontal boring operations.

Range parallel line boring, facing, turning, drilling, reaming.

**Performance criteria**

- 1.1 Machine is lubricated and routine maintenance carried out in accordance with workplace procedures.
- 1.2 Drawings, instructions, and specifications are interpreted to establish job requirements.
- 1.3 Sequence of operations is planned to achieve job requirements efficiently, and verified in accordance with workplace procedures.
- 1.4 Components are marked out as required by specifications.
- 1.5 Accessories and work-holding fixtures are installed to securely hold the work.
- 1.6 Tools are selected for efficient machining, prepared, and mounted securely.
- 1.7 Cutting speeds and feeds are selected relevant to machine, material, and tooling.

**Outcome 2**

Perform horizontal boring operations.

Range operations from outcome 1.

**Performance criteria**

- 2.1 Machine coolant type and flow are adjusted as required by machine and boring operations.
- 2.2 Components are machined and finished to specified tolerances, without damage to machine and tools.
- 2.3 Machine is cleaned and waste material disposed of in accordance with workplace procedures.

**Outcome 3**

Measure components.

Range operations from outcome 1.

**Performance criteria**

- 3.1 Components are measured using precision instruments matching the required accuracy to confirm that specifications have been achieved.
- 3.2 Measurements are recorded in accordance with workplace procedures.

<b>Planned review date</b>	31 December 2022
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	17 January 1995	31 December 2012
Revision	2	14 April 1997	31 December 2012
Revision	3	13 November 1997	31 December 2012
Revision	4	5 January 1999	31 December 2012
Revision	5	25 September 2001	31 December 2012
Review	6	20 June 2006	31 December 2022
Rollover and Revision	7	17 November 2011	31 December 2022
Review	8	17 August 2017	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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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 Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.