

Title	Align mechanical machinery		
Level	4	Credits	6

Purpose	<p>This unit standard, intended for on job assessment, is for people training in mechanical engineering trades.</p> <p>People credited with this unit standard are able to check alignment, and align mechanical machinery.</p>
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Classification	Mechanical Engineering > Maintenance and Diagnostics in Mechanical Engineering
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Available grade	Achieved
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Prerequisite	Unit 21912, <i>Apply safe working practices on an engineering worksite</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 References

Health and Safety at Work Act 2015.
Fitting and Machining, Culley, R (editor), 2010, 1998, RMIT publications/TAFE publications, Melbourne, ISBN: 9781921426780.
- 2 Definitions

Accepted industry practice – approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.

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 22898, *Demonstrate and apply knowledge of machine levelling and alignment*.
- 4 Related unit standards

This unit standard is one of a machinery levelling and alignment set:

 - Unit 22898, *Demonstrate and apply knowledge of machine levelling and alignment* (Level 3), an introductory unit standard that covers basic levelling and alignment knowledge and application.
 - Unit 2408, *Align mechanical machinery* (Level 4).
 - Unit 2409, *Level mechanical machinery* (Level 3).

5 Timeframe

All activities are expected to be completed within commercially acceptable timeframes.

Outcomes and performance criteria

Outcome 1

Check alignment of mechanical machinery.

Range examples are – axial, parallel, and angular shafts; couplings; gear trains; belts; pulleys; chain drives; slideways; evidence is required for two alignment jobs.

Performance criteria

1.1 Procedures and equipment for checking alignment are identified.

Range equipment examples are – dial test indicator (DTI), straight edges, feeler gauges, laser alignment.

1.2 Alignment tolerances are identified from machinery manufacturer's specifications or accepted industry practice.

1.3 Alignment checks are carried out in accordance with manufacturer's specifications or accepted industry practice.

Outcome 2

Align mechanical machinery.

Range alignment jobs from outcome 1.

Performance criteria

2.1 Reasons for misalignment are determined and rectified.

Range examples of reasons for misalignment are – soft foot, pipe strain, thermal growth, faulty installation, distortion, wear.

2.2 Machinery is aligned in accordance manufacturer's specifications or accepted industry practice.

2.3 Machinery records are completed in accordance with workplace procedures.

Planned review date	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	25 October 1994	31 December 2011
Revision	2	14 April 1997	31 December 2011
Revision	3	5 January 1999	31 December 2011
Revision	4	18 September 2001	31 December 2011
Review	5	28 April 2003	31 December 2011
Revision	6	25 July 2006	31 December 2011
Rollover	7	20 June 2008	31 December 2014
Review	8	15 April 2011	31 December 2022
Review	9	17 August 2017	N/A

Consent and Moderation Requirements (CMR) reference

0013

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 if you wish to suggest changes to the content of this unit standard.