

Title	Service and replace bearings in mechanical machinery		
Level	4	Credits	8

Purpose	<p>This practical 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 bearings in machinery for serviceability; remove and inspect bearings from machinery; and install bearings to 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 29652, <i>Demonstrate knowledge of safety, health, risk assessment, and hazard ID and control on an engineering worksite</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 Reference
Health and Safety at Work Act 2015.
- 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 19873, *Demonstrate knowledge of bearings used in machines and equipment*.
- 4 Related unit standards
This unit standard is one of two bearing specific unit standards:
 - Unit 19873, *Demonstrate knowledge of bearings used in machines and equipment* (Level 3).
 - Unit 19874, *Service and replace bearings in mechanical machinery* (Level 4).

5 Timeframe

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

Outcomes and performance criteria

Outcome 1

Check bearings in machinery for serviceability.

Range serviceability – machine idle, machine operating; examples of bearing types are – plain, ball, roller, journal, thrust; evidence of three different bearing types is required.

Performance criteria

1.1 Bearing assemblies are visually inspected while in situ for conformance to machine manufacturer's specifications or accepted industry practice.

Range examples are – security, signs of wear or deterioration, seal failure.

1.2 Bearing lubrication and cooling devices and system, if fitted, are checked for operation in accordance with workplace procedures.

1.3 Diagnostic equipment is used to establish bearing condition in accordance with the diagnostic equipment user instructions or workplace procedures.

Range examples of bearing diagnostic equipment are – thermometer, strobe, vibration sensors, current transducer, feeler gauges, ultrasound, thermal imaging; listening devices – stethoscope type devices.

Outcome 2

Remove and inspect bearings from machinery.

Range bearings checked in outcome 1.

Performance criteria

2.1 Bearing assemblies are removed in accordance with manufacturer's guidelines or accepted industry practice.

2.2 Bearing assemblies are stripped, and parts are identified in accordance with accepted industry practice.

2.3 Bearing assemblies are cleaned in accordance with accepted industry practice.

2.4 Bearing assemblies are inspected for damage, and where appropriate, measured for wear in accordance with manufacturer's specifications or accepted industry practice.

Outcome 3

Install bearings to machinery.

Range bearings assemblies removed and inspected in outcome 2.

Performance criteria

3.1 Bearing parts and fitting equipment are selected to match bearing type and fitting procedure.

Range includes new or serviced bearing.

3.2 Bearing assemblies are installed in accordance with manufacturer's specifications or accepted industry practice.

Range examples of installation actions are – checking clearance and alignment, preloading, lubrication, scraping surfaces to obtain required fit, fitting locking devices.

3.3 Bearing assemblies are recommissioned in accordance with machine requirements and accepted industry practice.

3.4 Maintenance records for bearing replacement are completed in accordance with workplace procedures.

Replacement information	This unit standard and unit standard 19873 replaced unit standard 2405.
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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	28 April 2003	31 December 2011
Revision	2	25 July 2006	31 December 2011
Rollover	3	20 June 2008	31 December 2014
Review	4	15 April 2011	31 December 2022
Review	5	17 August 2017	N/A

Consent and Moderation Requirements (CMR) reference	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 if you wish to suggest changes to the content of this unit standard.