

Title	Monitor the condition of mechanical machinery		
Level	4	Credits	10

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 carry out routine sensory checks, instrument checks, and deterioration checks on 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 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 Machinery and equipment
Examples of mechanical machinery are – rotating drives, pumps, fans, gearboxes, slides and bedways.
- 4 Timeframe
All activities are expected to be completed within commercially acceptable timeframes.

Outcomes and performance criteria

Outcome 1

Carry out routine sensory checks on mechanical machinery.

Range two machines or machinery components;
sensory checks – visual, sound, touch, smell.

Performance criteria

- 1.1 Checks are carried out in accordance with workplace procedures.
- 1.2 Results of the checks are recorded or reported in accordance with workplace procedures.
- 1.3 Results are interpreted and any remedial requirements referred for action in accordance with workplace procedures.

Outcome 2

Carry out instrument checks on mechanical machinery.

Range two machines or machinery components;
examples of instrument types are – inbuilt meters, vibration pen/meter, thermometer, thermal imaging, pressure gauge, decibel meter, digital ultrasonic detector.

Performance criteria

- 2.1 Instruments are calibrated in accordance with manufacturer's specifications and workplace procedures.
- 2.2 Data is obtained from instruments in accordance with workplace procedures.
- 2.3 Checks are carried out in accordance with workplace procedures.
- 2.4 Results of checks are recorded or reported in accordance with workplace procedures.
- 2.5 Results are interpreted and any remedial requirements referred for action in accordance with workplace procedures.

Outcome 3

Carry out deterioration checks on mechanical machinery.

Range two machines or machinery components;
two types of deterioration; examples of deterioration are – electrolysis, galvanic action, cavitation, chemical corrosion, erosion, wear, mechanical damage.

Performance criteria

- 3.1 Deterioration symptoms are identified in accordance with accepted industry practice.
- Range examples of possible symptoms are – product quality variation, machine noise, processing time variation, fluid leaks, excessive power consumption.
- 3.2 Deterioration causes are identified in accordance with accepted industry practice.
- 3.3 Results of checks are recorded or reported 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
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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.