Title	**Maintain a hydraulic system**		
Level	**3**	**Credits**	**7**

Purpose	People credited with this unit standard are able to: prepare to maintain a hydraulic system; carry out preliminary sensory checks on a hydraulic system; maintain a hydraulic system; and return a hydraulic system to operation.

Classification	Mechanical Engineering > Fluid Power - Hydraulics

Available grade	Achieved

Guidance Information

1 Legislation and references
Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:
Health and Safety at Work Act 2015;
Resource Management Act 1991.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

2 Definitions
Accepted industry practice refers to approved codes of practice and standardised procedures accepted by the wider mechanical engineering industry sectors as examples of best practice.
Components are defined as filters, breathers, tubing and piping or other associated hydraulic system parts.
PPE refers to personal protective equipment and may include but is not limited to protective clothing, gloves, safety glasses, headwear, footwear, hearing protection, and safety devices.
Service is defined as carrying out routine actions that ensure operational integrity. Examples include cleaning, replenishing, lubricating, minor adjustments, and dispatch of components for specialist work.
Workplace procedures are 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 skills and knowledge
It is recommended that people hold credits for Unit 20597, *Shut down for maintenance, and start up, a hydraulic system*, or demonstrate equivalent knowledge and skills, before being assessed against this unit standard.

Outcomes and performance criteria

Outcome 1

Prepare to maintain a hydraulic system.

Performance criteria

1.1 Routine preventive maintenance activities in accordance with the selected system and workplace procedures are described.

Range may include – isolations, cleaning of system, checking of fluid types and fluid levels, filter and fluid tests.

1.2 Consequences of a poorly maintained system are identified.

Range must include three consequences.

1.3 Tools and equipment are prepared in accordance with the selected system and accepted industry practice.

Range may include – containers, blanking flanges, plates and plugs, absorbent materials, hand tools, cleaning equipment and fluids.

1.4 Procedure for making the system safe is established in accordance with accepted industry practice prior to commencing maintenance.

1.5 System and adjacent environment are cleaned, to prevent system contamination, in accordance with legislative requirements and accepted industry practice.

Outcome 2

Carry out preliminary sensory checks on a hydraulic system.

Range sensory – sight, sound, touch, smell;
examples of checks may include – leaks, levels, hose condition, filters, couplings, temperatures, gauges and indicators, excessive or unusual noise, machine odour.

Performance criteria

2.1 Checks are carried out in accordance with health and safety legislation and accepted industry practice, and results are communicated to the supervisor.

Outcome 3

Maintain a hydraulic system.

Performance criteria

3.1 System is made safe in accordance with workplace procedures, and confirmed with supervisor.

Range may include – isolation, depressurisation, PPE, safety supports.

3.2 Components to be serviced are identified and confirmed with supervisor.

3.3 Components are removed without damage to the system or component.

3.4 Components are serviced in accordance with manufacturer's instructions or accepted industry practice.

3.5 Components are replaced without damage to the system or component.

3.6 Fluid samples are collected for analysis in accordance with accepted industry practice.

Outcome 4

Return a hydraulic system to operation.

Performance criteria

4.1 System is re-energised in accordance with workplace procedures, and confirmed with supervisor.

Range may include – electrical, mechanical, and potential energy.

4.2 System performance is verified with supervisor to ensure it meets operational requirements.

4.3 Work area is cleaned in accordance with legislative requirements and accepted industry practice.

Replacement information	This unit standard and unit standard 20614 replaced unit standard 2722.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 May 2004	31 December 2014
Review	2	18 March 2011	31 December 2022
Review	3	17 August 2017	N/A
Review	4	30 March 2023	N/A

Consent and Moderation Requirements (CMR) reference	0014

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.