

Title	Diagnose hydraulic power system faults		
Level	4	Credits	20

Purpose	People credited with this unit standard are able to prepare to diagnose faults, carry out fault diagnoses, and follow up hydraulic power system fault diagnoses.
----------------	--

Classification	Mechanical Engineering > Fluid Power - Hydraulics
-----------------------	---

Available grade	Achieved
------------------------	----------

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.

Components – filters, breathers, cylinders, piping, pumps, valves, and motors or other associated hydraulic power system parts.

Fault – defect in the system or components of the system that results in deviation from specification or normal performance, which requires repair to bring the system back to normal performance. Noise and heat are not considered faults in themselves, but as symptoms of faults associated with the principal areas of flow or pressure.

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.

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 2731, *Service hydraulic power system components*.
- 4 Assessment information
Assessment may need to be spread over a period of time to enable the occurrence of faults relevant to this unit standard.

Outcomes and performance criteria

Outcome 1

Prepare to diagnose hydraulic power system faults.

Range six different faults over a range of system components using specialist diagnostics equipment.

Performance criteria

1.1 Documentation is obtained relevant to the system.

Range examples are – operating manual, circuit drawings, malfunction report, historical records, feedback from operator.

1.2 Initial safety precautions are taken in accordance with workplace procedures.

Range examples are – advice to personnel, tags, lockout, PPE.

1.3 System performance is measured against operational specifications and historical data.

1.4 Preliminary assessment is made to establish the nature of the fault relative to the principal fault categories of flow or pressure.

1.5 Tools and equipment are prepared in accordance with the system type and fault category.

Outcome 2

Carry out hydraulic power system fault diagnoses.

Performance criteria

2.1 Full system safety is established prior to further diagnostics activity in accordance with workplace procedures.

Range examples are – isolation, depressurisation.

2.2 Tools and equipment are selected as per the diagnostic task and fault category.

Range examples are – flow meter, pressure gauge.

2.3 Fault diagnosis is carried out in a logical and systematic manner in accordance with accepted industry practice.

Range machine type, fault category.

2.4 Isolated faults are correctly diagnosed and recorded in accordance with accepted industry practice.

Outcome 3

Follow up hydraulic power system fault diagnoses.

Performance criteria

3.1 The significance of any system variance from original specification is determined.

Range examples are – costs, machine and personal safety, trends, time out of service, correct machine operation, factors contributing to failure.

3.2 Faulty parts are referred for repair or replacement in accordance with workplace procedures.

Range examples are – maintenance personnel, specialist services.

3.3 Provisional maintenance forecasts are prepared from results of diagnoses and historical data.

Range predictive, preventive.

Planned review date	31 December 2022
----------------------------	------------------

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	5 January 1999	31 December 2012
Revision	4	23 May 2001	31 December 2012
Review	5	25 May 2004	31 December 2014
Review	6	18 March 2011	31 December 2022
Review	7	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.