

<b>Title</b>	<b>Demonstrate knowledge of hydrostatic transmission drives, and testing and diagnosing faults, on plant or machinery</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>2</b>

<b>Purpose</b>	This theory-based unit standard is for people in the automotive repair industry. People credited with this unit standard are able to demonstrate knowledge of hydrostatic transmission drives, and testing and diagnosing faults in hydrostatic transmission drives on plant or machinery.
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<b>Classification</b>	Motor Industry > Automotive Transmission Systems
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<b>Available grade</b>	Achieved
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<b>Recommended for entry</b>	Unit 23927, <i>Demonstrate knowledge of automotive hydraulic principles.</i>
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### Guidance Information

- 1 Legislation relevant to this unit standard includes but is not limited to – Health and Safety in Employment Act 1992.
- 2 Definitions  
*Service information* may include but is not limited to – technical information of a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; and detailed illustrations. This can be accessed in hard copy or electronic format and is normally sourced from the manufacturer.  
*Suitable tools and equipment* means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

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### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of hydrostatic transmission drives.

#### Performance criteria

- 1.1 Types of hydraulic transmission drive systems are identified in accordance with service information.

Range includes but is not limited to – hydrostatic, hydraulic drive.

- 1.2 Hydrostatic drive operation is described in accordance with service information.
- Range includes but is not limited to – variable displacement, fixed displacement, open and closed circuits.
- 1.3 Hydrostatic drive system components are identified in accordance with service information.
- Range includes but is not limited to – variable displacement pumps and motors, charge pumps, servos, fixed displacement motors and pumps, cooling and lubrication circuits.
- 1.4 Control system operation is described in accordance with service information.
- Range includes but is not limited to – fixed, manual, hydraulic, electronic, variable.
- 1.5 Hydraulic lines and valves used in circuits are identified in accordance with service information.
- Range includes but is not limited to – relief valves, non-return valve, pressure control valve, volume control valve, pilot valve.
- 1.6 The importance of clean oil and good filtration is explained in relation to system faults resulting from contamination.
- 1.7 The transmission of power through the hydraulic system in all gears is plotted in accordance with service information.

## **Outcome 2**

Demonstrate knowledge of testing and diagnosing faults in hydrostatic transmission drives on plant or machinery.

### **Performance criteria**

- 2.1 Safe working practices when testing and diagnosing faults are described in accordance with service information and legislative requirements.
- Range personal safety, safety of others, plant or machinery safety, workshop safety, environmental safety, tools and equipment safety.
- 2.2 Suitable tools and equipment are identified that enable hydrostatic transmission drives to be tested, and faults diagnosed, in accordance with service information.

2.3 Procedures for testing and diagnosing transmission drives for faults are described in accordance with service information.

Range includes but is not limited to – oil level, oil condition, oil leaks, damage to hydraulic hoses, hydraulic lines and hydraulic components, operation of the pump(s) and motors, machine movement and operation, oil pressures, flow rates, critical adjustments.

<b>Replacement information</b>	<p>This unit standard was replaced by unit standard 31276 and unit standard 31277.</p> <p>This unit standard and unit standard 24320 replaced unit standard 2342.</p>
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**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	25 February 2008	31 December 2020
Review	2	26 July 2018	31 December 2020

<b>Consent and Moderation Requirements (CMR) reference</b>	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.