

Title	Diagnose faults and repair heavy equipment clutch steering systems		
Level	4	Credits	4

Purpose	This unit standard is for people in the automotive heavy repair industry. People credited with this unit standard are able to diagnose heavy equipment clutch steering faults, and repair heavy equipment steering clutches.
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Classification	Motor Industry > Vehicle Steering and Suspension
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Available grade	Achieved
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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
Company requirements refer to instructions to staff on policy and procedures which are documented in memo or manual format and are available in the workplace. These requirements include but are not limited to – company specifications and procedures, work instructions, manufacturer specifications, product quality specifications, and legislative requirements.
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.
- 3 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.
- 4 Recommended entry information: Unit 24436, *Demonstrate knowledge of heavy equipment clutch steering systems and fault diagnosis and repair procedures.*

Outcomes and performance criteria

Outcome 1

Diagnose heavy equipment clutch steering faults.

Performance criteria

- 1.1 Safe working practices are observed throughout the task in accordance with legislative requirements.
- Range personal safety, safety of others, heavy equipment safety, workshop safety, environmental safety, tools and equipment safety.
- 1.2 Suitable tools and equipment are selected and used that enable clutch steering faults to be diagnosed in accordance with service information.
- 1.3 The heavy equipment is operated to enable the steering to be tested. The test results are compared with manufacturer performance requirements.
- Range may include but is not limited to – will not turn, will not turn in one direction, turns in either direction with both clutches engaged-steering control released, slow steering, will not pivot turn, parking brakes ineffective.
- 1.4 A decision is made and recorded on the action needed to rectify steering fault(s) found by the tests carried out in accordance with company requirements.

Outcome 2

Repair heavy equipment steering clutches.

Performance criteria

- 2.1 Safe working practices are observed throughout the task in accordance with legislative requirements.
- Range personal safety, safety of others, heavy equipment safety, workshop safety, environmental safety, tools and equipment safety.
- 2.2 Suitable tools and equipment are selected and used that enable steering clutches to be dismantled and repaired in accordance with service information.
- 2.3 The transmission is drained of oil and the steering clutches removed from the transmission case in accordance with service information.
- 2.4 The brake assembly is removed in accordance with service information.
- 2.5 Steering clutches are dismantled, cleaned, examined for wear and damage, and the parts stored to maintain positional integrity, in accordance with service information.
- 2.6 Serviceable parts are reused and those found to be unserviceable through wear and damage replaced in accordance with service information.

- 2.7 The brake assembly is dismantled and the linings examined for wear. Where the wear is found to be beyond the limit prescribed by the manufacturer the linings are replaced in accordance with service information.
- 2.8 The brake bands and linkage are examined for wear and damage and restored to full serviceability in accordance with manufacturer instructions.
- 2.9 The brake and clutch assemblies are reinstalled in accordance with service information.
- 2.10 The transmission case is filled with oil of the type and to the level determined by the manufacturer.
- 2.11 The operation of the steering system is retested to ensure repairs carried out are within manufacturer specifications.

Replacement information	This unit standard and unit standard 24436 replaced unit standard 2346.
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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 January 2008	31 December 2020
Review	2	26 April 2018	31 December 2020

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