

<b>Title</b>	<b>Maintain and repair heavy trailers and semi-trailers</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>13</b>

<b>Purpose</b>	<p>This unit standard is intended for people in the automotive heavy repair industry.</p> <p>People credited with this unit standard are able to: determine the need for service and repair of drawbar trailer and semi-trailer air braking and steering systems; rectify drawbar trailer and semi-trailer air braking system faults; service and repair trailer and semi-trailer suspensions; and check and adjust trailer wheel alignment.</p>
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<b>Classification</b>	Motor Industry > Automotive Trailers
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 It is recommended that people hold credit for Unit 23931, *Demonstrate knowledge of heavy trailer systems* before being assessed against this unit standard.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Performance of the outcomes of this unit standard must comply with the following:
  - Health and Safety at Work Act 2015;
  - Vehicle Inspection Requirements Manual (VIRM) In-service Certification;
  - Goods-service Vehicle (Constructional) Regulations 1936;
  - Traffic Regulations 1976;
  - Heavy Motor Vehicle Regulations 1974;
  - Land Transport Rule: Heavy Vehicle Brakes 2006;
  - Land Transport Rule: Heavy Vehicles 2004;
  - Land Transport Rule: Vehicle Repair 1998;
  - Land Transport Rule: Vehicle Standards Compliance 2002;
  - New Zealand Standard AS/NZS 2980:2018 *Qualification of welders for fusion welding of steels*;
  - New Zealand Standard NZS 5446:2007 *Heavy vehicle towing connections - Drawbeams and drawbars*.
- 4 The VIRM is available online at <http://vehicleinspection.nzta.govt.nz/>.

- 5 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.
- 6 **Definitions**  
*Company requirements* refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.  
*Service information* refers to information such as technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.  
*Suitable tools and equipment* refer to 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.
- 7 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

## Outcomes and performance criteria

### Outcome 1

Determine the need for service and repair of drawbar trailer and semi-trailer air braking and steering systems.

### Performance criteria

- 1.1 The operation of the trailer and semi-trailer air braking system are checked, and any faults found are noted.
- 1.2 The brake shoes, springs, backplates, operating mechanisms, brake drums, slack adjusters, and brake chambers are inspected, and any faults found are noted.
- Range includes but is not limited to – wear, scoring, runout, distortion, condition of friction linings, spring brake operation.
- 1.3 The air brake components are inspected in-situ, and any signs of air leaks and damage are noted.
- Range includes but is not limited to – condition of pipes and hoses, joints, cylinders and valves.
- 1.4 Drawbar steering and turntable self-steering system maintenance schedules are checked. The steering systems are inspected for wear and damage, and the results are noted.
- Range drawbar coupling, turntables, friction plates, steering links, turntable kingpins, locking device.

- 1.5       Castering axle self-steering is checked for wear and damage, and any faults found are noted.

Range       includes but is not limited to – king pins, tie rod, damping control, reverse lock, wheel alignment.

## **Outcome 2**

Rectify drawbar trailer and semi-trailer air braking system faults.

### **Performance criteria**

- 2.1       Faults noted in the air-operated brake equipment are rectified.

Range       spring brake, tractor protection valve, relay-breakaway valve, drain valve, air hoses and lines.

- 2.2       The wheel stations are disassembled, repaired, and reassembled to full serviceability.

- 2.3       The brake shoes and slack adjusters are adjusted.

- 2.4       The braking system is tested to ensure no faults remain.

## **Outcome 3**

Service and repair trailer and semi-trailer suspensions.

### **Performance criteria**

- 3.1       The trailer and semi-trailer suspensions are checked for misalignment and wear and damage, and any faults are noted.

Range       leaf springs or air springs.

- 3.2       Any misalignment, wear and damage to the suspension system is repaired by replacement with manufacturer approved replacement parts.

Range       may include but is not limited to – spring leaves, shackles, hangers, equaliser bars, torque rods, air springs, levelling valve and associated equipment, shock absorbers.

## **Outcome 4**

Check and adjust trailer wheel alignment.

### **Performance criteria**

- 4.1       Trailer wheel alignment is checked, and any misalignment is noted.

- 4.2       Adjustments are made to the wheel alignment to return it to full serviceability.

<b>Replacement information</b>	This unit standard and unit standard 23931 replaced unit standard 2341.
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<b>Planned review date</b>	31 December 2025
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	21 September 2007	31 December 2022
Review	2	27 May 2021	N/A

<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>.

#### Comments on this unit standard

Please contact MITO New Zealand Incorporated [info@mito.org.nz](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.